10.0 APPENDICES

10.1 FEDERAL PERMIT APPLICATIONS OR APPROVALS

10.1.1 316(b) Demonstration

There are no 316(b) Demonstrations for the Repowering Project.

10.1.2 NPDES Permit

(Application for Modification of Existing Wastewater Facility Permit)

APPLICATION FOR A MINOR REVISION TO A WASTEWATER FACILITY OR ACTIVITY PERMIT

1. Instructions

a. In accordance with Rule 62-620.325, F.A.C., this form must be submitted to the appropriate Department district office or approved local program when requests for minor revisions to a permit or minor modifications to a facility are made by a permittee, except for transfer of a permit to a new permittee and addition of a major user of reclaimed water to a Part III reuse system. Application for transfer of a permit to a new permittee shall be made on DEP Form 62-620.910(11). Application for addition of a major user of reclaimed water shall be made on DEP Form 62-610.300(4)(a)1.
b. Each applicable item must be completed in full in order to avoid delay in processing of this form. Where attached sheets or other technical documentation are provided, indicate appropriate cross-references.
c. Three (3) copies of this application with supporting documentation shall be submitted with this form.
d. All information is to be typed or printed in ink. Dates are to be entered in MM/DD/YR format.
e. This application and attachments shall be signed in accordance with Rule 62-620.305, F.A.C. Also, as applicable, this application and all attachments shall be signed and sealed by a professional engineer registered in Florida in accordance with Rule 62-620.310, F.A.C.

2. Facility Information

a. Permit Number: FL0025518 b. Facility Identification Number: _____
c. Project/Facility Name: Arvah Hopkins Generating Station
d. Contact Name: Mr. John Powell
Number and Street: 300 S. Adams Street
City/State/Zip Code: Tallahassee, Florida 32301
Telephone (850) 891-8851

3. Type of Revision

☐ **Correct Typographical Errors**[1] - Submit one copy of each page of the permit showing revisions being requested.

☐ **Change Improvement Schedule**[1] - Provide a description of the improvement, a list of the dates to be revised, and a reason for the proposed change in each date.

☐ **Change Expiration Date of Permit**[1] - Provide the current and proposed expiration dates for the permit and the reasons for the proposed change.

☐ **Change Staffing Requirements**[2] - Describe the proposed change and submit justification for the change in accordance with Chapter 62-699, F.A.C.

[1]A processing fee is not required.
[2]A processing fee is required with the application in accordance with Rule 62-4.050, F.A.C.

☐ **Change Monitoring and Reporting Requirements**[2] - Describe the proposed change and submit justification for the change in accordance with Chapter 62-601, F.A.C.

☐ **Modify Approved Pretreatment Program**[1] - Describe the proposed modification and provide the information required by Rule 62-625.540, F.A.C.

☐ **Delete Point Source Outfall**[1] - Identify the outfall and explain why the outfall is being eliminated.

☐ **Modify or Expand Approved Residuals Land Application Sites**[2] - Attach a new or updated Agricultural Use or Dedicated Site Plan as required by Chapter 62-640, F.A.C.

☒ **Minor Modification to the Facility**[2] - Provide a description of the proposed modification. If applicable, attach any reports, plans, and specifications which have been developed to implement this modification.

☐ **Other**[2] - Provide appropriate documentation. Describe.

4. Certifications

a. Applicant or Authorized Representative

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

_____ April 24, 2006
(Signature of Applicant or Authorized Representative[3]) (Date)

Name (please type) John K. Powell Company Name City of Tallahassee
Title Environmental and Safety Manager Company Address: 300 S. Adams Street
Phone: (850) 891-8851 City/State/Zip Code: Tallahassee, Florida 32301

b. Professional Engineer Registered in Florida

I certify that the engineering features of this project have been (designed) (examined) by me and found to conform to engineering principles applicable to such projects. In my professional judgement, this facility, when properly constructed, operated, and maintained, will comply with all applicable statutes of the State of Florida and rules of the Department.

Name (please type): John K. Powell
Florida Registration Number: 58737
Company Name: City of Tallahassee
Company Address: 300 S. Adams Street
City/State/Zip Code: Tallahassee, Florida 32301
Phone Number: (850) 891-8851

_____
(Seal, Signature, Date, and Registration Number)

[3]If signed by the authorized representative, attach a letter of authorization in accordance Rule 62-620.305, F.A.C.

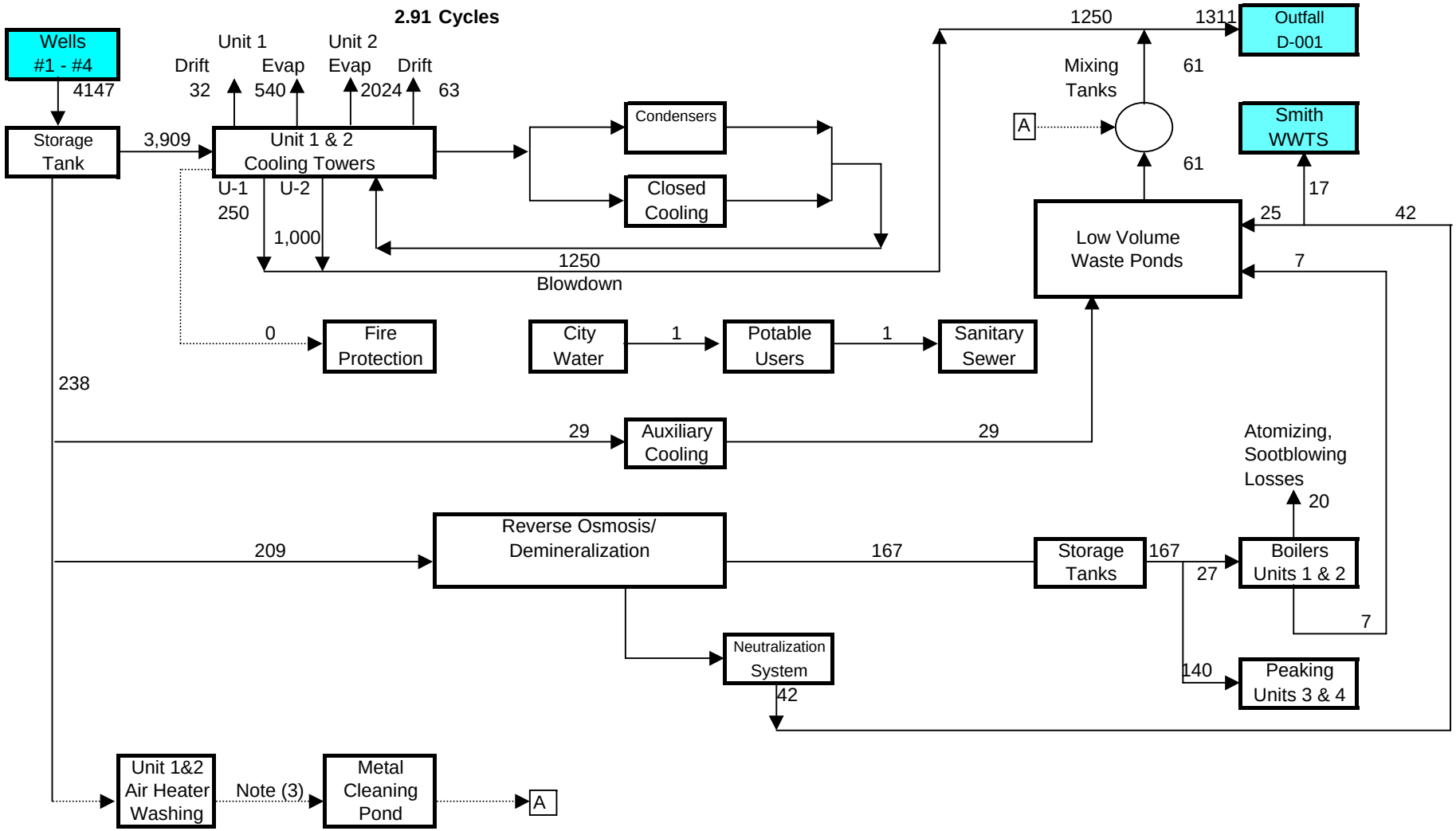
A. B. HOPKINS GENERATING STATION
MINOR NPDES PERMIT REVISION

The City is proposing to convert the existing Unit 2 to a combined cycle unit. This conversion will remove the existing Unit 2 boiler and add a combustion turbine and a heat recovery steam generator (HRSG). The combustion turbine will utilize demineralized water injection for control of nitrogen oxides while firing liquid fuel and a small amount of demineralized water for evaporative cooling of combustion air for ambient temperatures above 59°F. The HRSG will require demineralized water for make-up. The existing demineralizer and reverse osmosis units do not have sufficient capacity to meet the demineralized water demand when firing liquid fuel for water injection to control air emissions.

The City is proposing to replace the existing 80-gpm reverse osmosis unit with a 200-gpm-demineralizer unit. The flow from the new demineralizer regeneration to the low volume waste (LVW) pond will be limited to approximately 7,520 gallons per day. Any amount above this volume will be sent to the T.P. Smith Wastewater Treatment Facility, as stipulated in Wastewater Discharge Permit # 39, issued on 9/6/05.

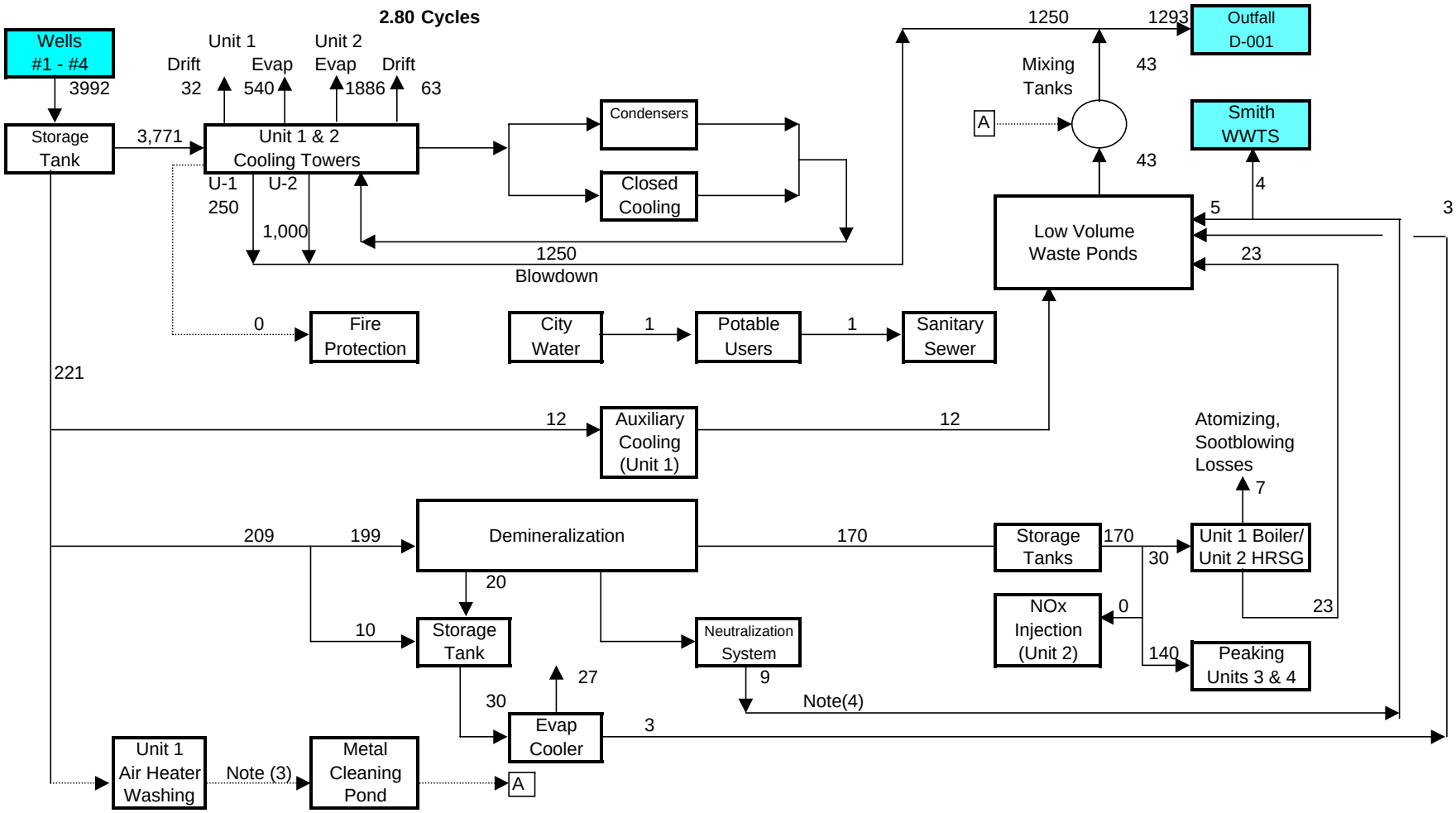
Water balances of the existing system and under various proposed operating scenarios after the conversion are shown in Figures 1a through 1g.

City of Tallahassee
Hopkins Generating Station
Figure 1a - Existing Plant Water Balance - Peak Demand (100% Load)



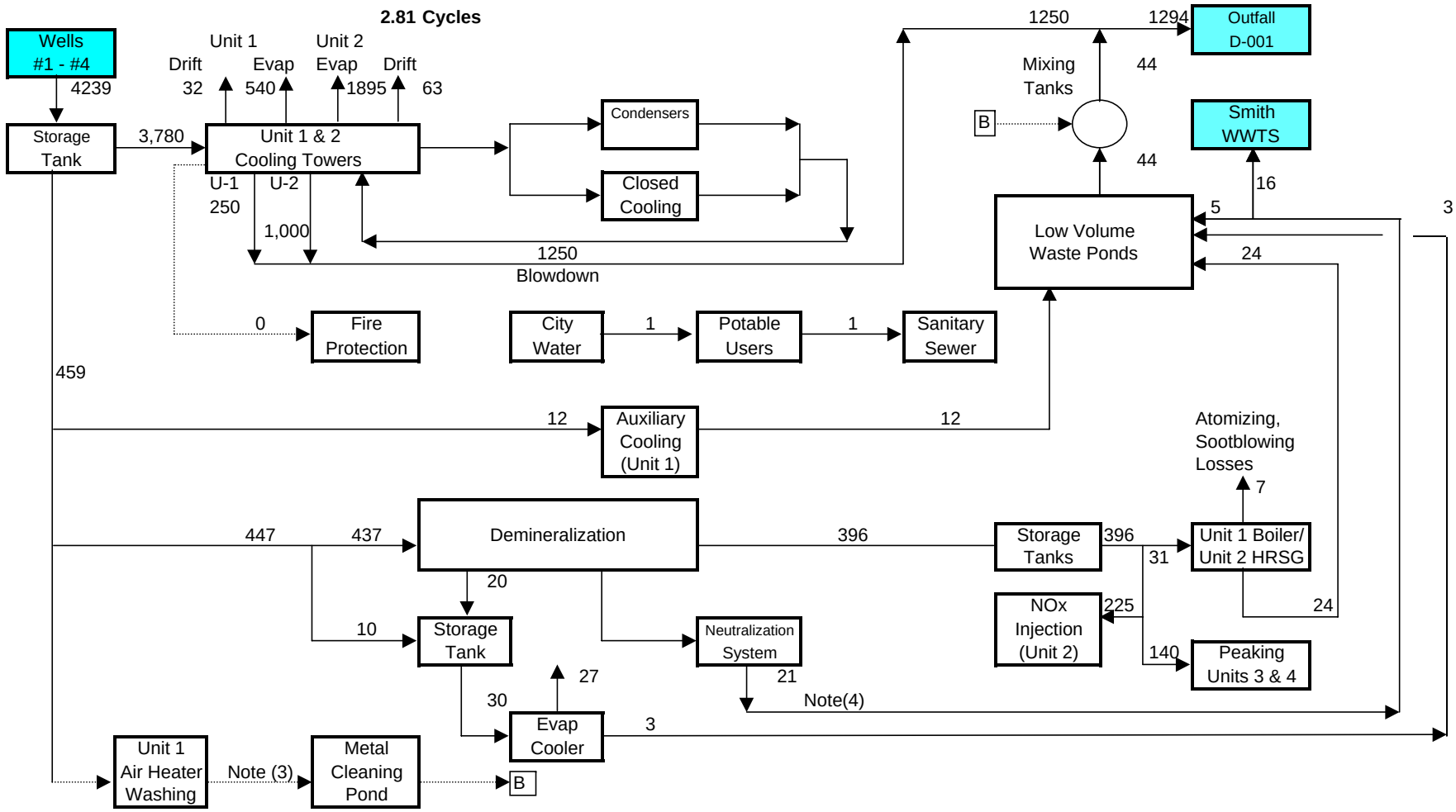
Notes: 1. All flows in gpm
2. Flows based on operation at 100% load
3. Intermittent flow

City of Tallahassee
Hopkins Unit 2 Repowering Project
Figure 1b - Plant Water Balance (Existing Unit 1 + 1x1 Gas-Fired Unit 2) - Peak Demand (100% Load)



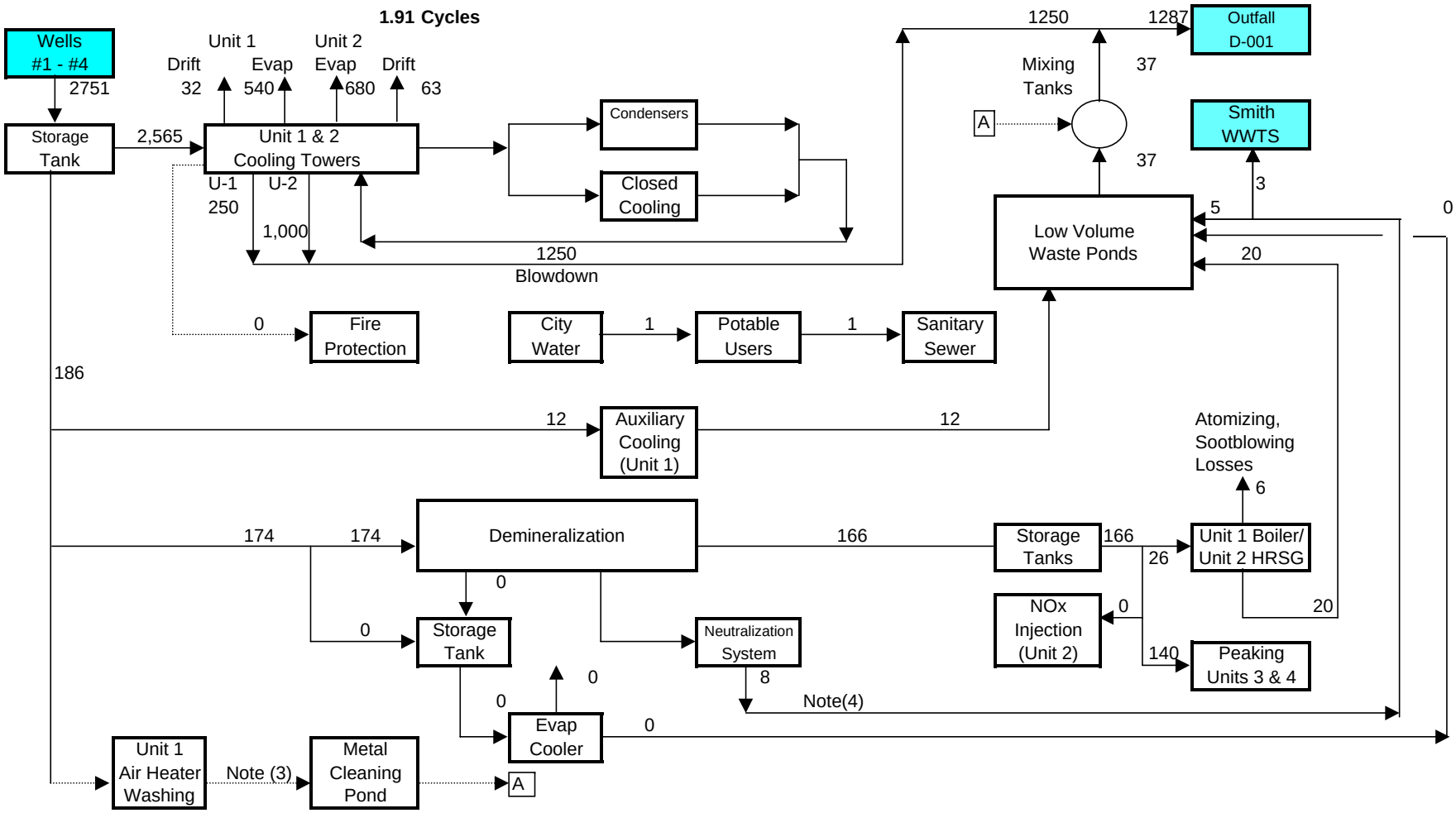
Notes: 1. All flows in gpm
2. Flows based on operation at 100% load and 95 deg F per S&L heat balances for repowered Unit 2
3. Intermittent flow
4. 7520 gal per day or ~5.2 gpm to LVW. Additional waste to Smith WWTS

City of Tallahassee
Hopkins Unit 2 Repowering Project
Figure 1c - Plant Water Balance (Existing Unit 1 + 1x1 Oil-Fired Unit 2) - Peak Demand (100% Load)



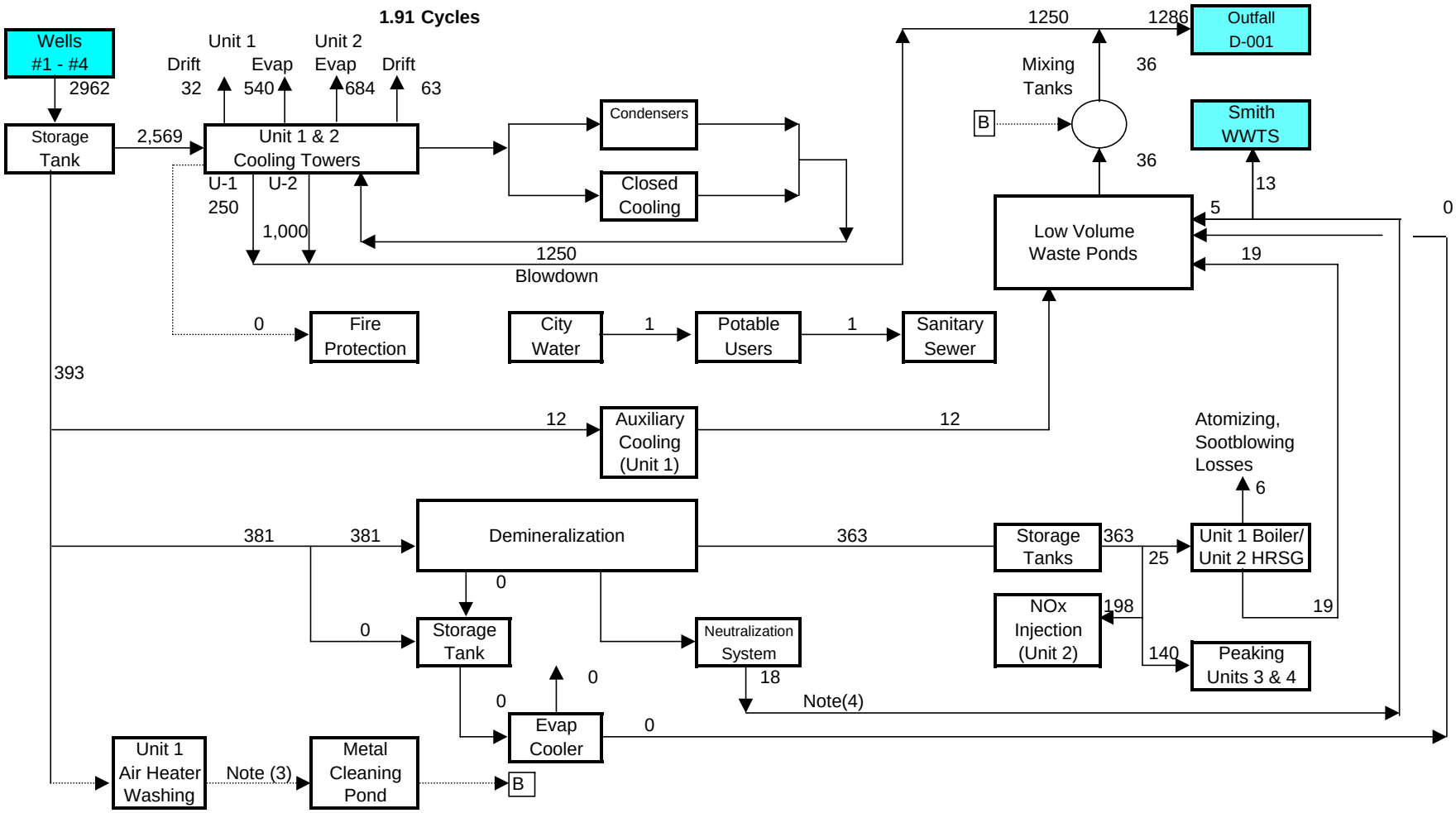
Notes: 1. All flows in gpm
2. Flows based on operation at 100% load and 95 deg F per S&L heat balances for repowered Unit 2
3. Intermittent flow
4. 7520 gal per day or ~5.2 gpm to LVW. Additional waste to Smith WWTS

City of Tallahassee
Hopkins Unit 2 Repowering Project
Figure 1d - Plant Water Balance (Existing Unit 1+1x1 Gas-Fired Unit 2) - Annual Average Demand (75% Load)
(water demand is representative of Winter/Summer conditions)



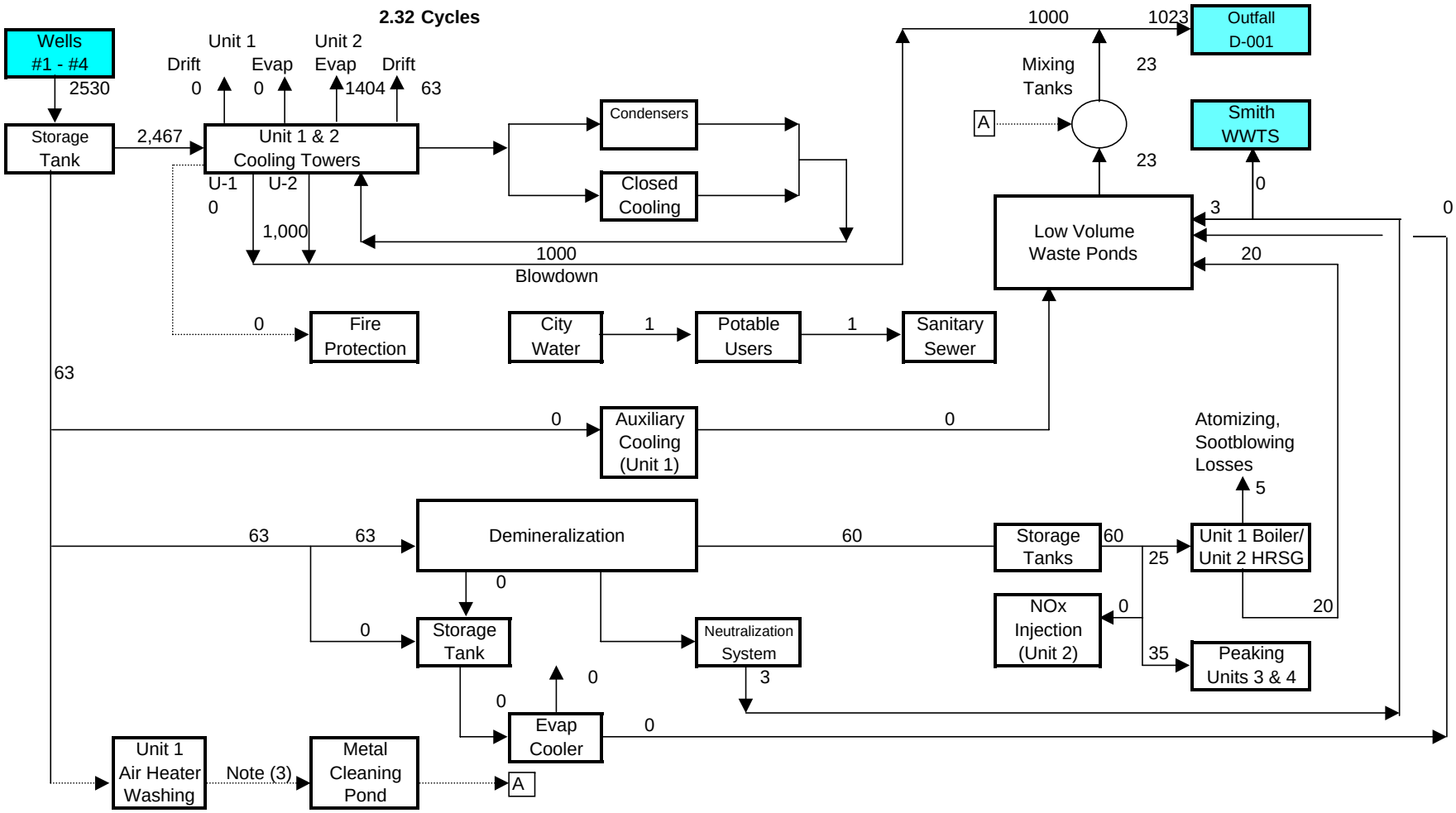
Notes: 1. All flows in gpm
2. Flows based on operation at 75% load and 59 deg F per S&L heat balances for repowered Unit 2
3. Intermittent flow
4. 7520 gal per day or ~5.2 gpm to LVW. Additional waste to Smith WWTS

City of Tallahassee
Hopkins Unit 2 Repowering Project
Figure 1e - Plant Water Balance (Existing Unit 1+1x1 Oil-Fired Unit 2) - Annual Average Demand (75% Load)
(water demand is representative of Winter/Summer conditions)



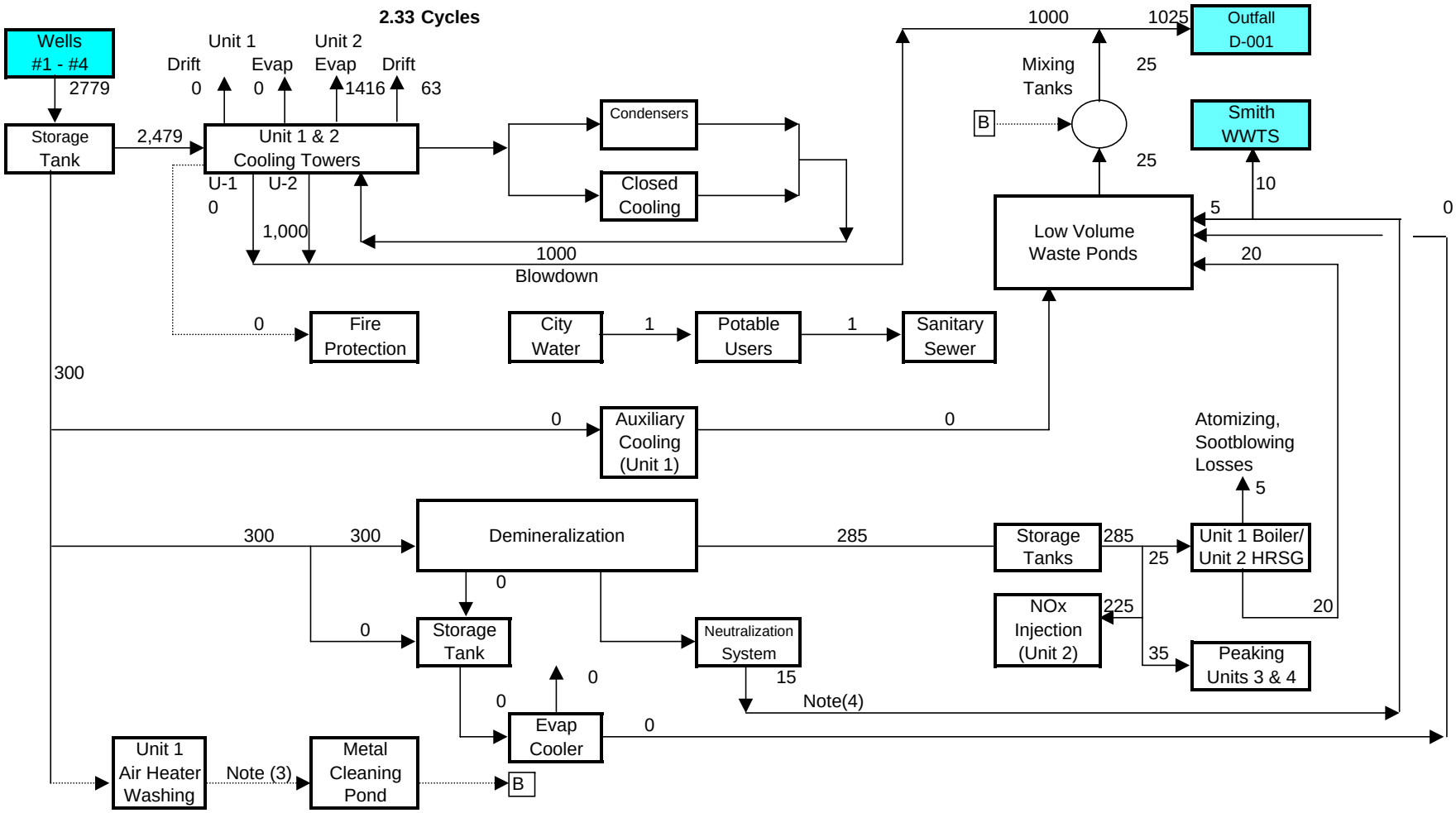
Notes: 1. All flows in gpm
2. Flows based on operation at 75% load and 59 deg F per S&L heat balances for repowered Unit 2
3. Intermittent flow
4. 7520 gal per day or ~5.2 gpm to LVW. Additional waste to Smith WWTS

City of Tallahassee
Hopkins Unit 2 Repowering Project
Figure 1f - Plant Water Balance (Existing Unit 1 off + 1x1 Gas-Fired Unit 2 at 100% Load)
(water demand is representative of Fall/Spring conditions)



Notes: 1. All flows in gpm
2. Flows based on operation at 100% load and 59 deg F per S heat balances for repowered Unit 2
3. Intermittent flow

City of Tallahassee
Hopkins Unit 2 Repowering Project
Figure 1g - Plant Water Balance (Existing Unit 1 off + 1x1 Oil-Fired Unit 2 at 100% Load)
(water demand is representative of Fall/Spring conditions)



Notes: 1. All flows in gpm
2. Flows based on operation at 100% load and 59 deg F per S heat balances for repowered Unit 2
3. Intermittent flow
4. 7520 gal per day or ~5.2 gpm to LVW. Additional waste to Smith WWTS

10.1.3 Hazardous Waste Disposal Permit

There are no Hazardous Waste Disposal Permits for the Repowering Project.

10.1.4 Section 10 or 404 Permit

There are no Section 10 or 404 Permits for the Repowering Project.

10.1.5 Air Construction Permit Application

AIR PERMIT APPLICATION FOR THE CITY OF TALLAHASSEE ARVAH B. HOPKINS GENERATING STATION UNIT NO. 2 REPOWERING PROJECT LEON COUNTY, FLORIDA

Prepared For:
City of Tallahassee
300 South Adams Street
Tallahassee, Florida

Prepared By:
Golder Associates Inc.
6241 NW 23rd Street, Suite 500
Gainesville, Florida 32653-1500

May 2006
063-7522

DISTRIBUTION:
4 Copies – FDEP
3 Copies – City of Tallahassee
2 Copies – Golder Associates Inc.

APPLICATION FOR AIR PERMIT – LONG FORM

Department of
Environmental Protection

Division of Air Resource Management

APPLICATION FOR AIR PERMIT - LONG FORM

I. APPLICATION INFORMATION

Air Construction Permit – Use this form to apply for an air construction permit at a facility operating under a federally enforceable state air operation permit (FESOP) or Title V air permit. Also use this form to apply for an air construction permit:

- For a proposed project subject to prevention of significant deterioration (PSD) review, nonattainment area (NAA) new source review, or maximum achievable control technology (MACT) review; or
- Where the applicant proposes to assume a restriction on the potential emissions of one or more pollutants to escape a federal program requirement such as PSD review, NAA new source review, Title V, or MACT; or
- Where the applicant proposes to establish, revise, or renew a plantwide applicability limit (PAL).

Air Operation Permit – Use this form to apply for:

- An initial federally enforceable state air operation permit (FESOP); or
- An initial/revised/renewal Title V air operation permit.

Air Construction Permit & Revised/Renewal Title V Air Operation Permit (Concurrent Processing Option) – Use this form to apply for both an air construction permit and a revised or renewal Title V air operation permit incorporating the proposed project.

To ensure accuracy, please see form instructions.

Identification of Facility

1. Facility Owner/Company Name: **City of Tallahassee, Electric Utilities**	
2. Site Name: **Arvah B. Hopkins Generating Station**	
3. Facility Identification Number: **0730003**	
4. Facility Location...: Street Address or Other Locator: **Route 4, Box 450, 1125 Geddie Road (County Road 1585)** City: **Tallahassee** County: **Leon** Zip Code: **32304**	
5. Relocatable Facility? ☐ Yes ☒ No	6. Existing Title V Permitted Facility? ☒ Yes ☐ No

Application Contact

1. Application Contact Name: **John K. Powell, J.D., P.E., Environmental Resources**
2. Application Contact Mailing Address... Organization/Firm: **City of Tallahassee, Environmental Resources** Street Address: **City Hall, 300 South Adams Street** City: **Tallahassee** State: **Florida** Zip Code: **32301-1731**
3. Application Contact Telephone Numbers... Telephone: **(850) 891-8851** ext. Fax: **(850) 891-8277**
4. Application Contact Email Address: **powellj@talgov.com**

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	3. PSD Number (if applicable):
2. Project Number(s):	4. Siting Number (if applicable):

APPLICATION INFORMATION

Purpose of Application

This application for air permit is submitted to obtain: (Check one)

Air Construction Permit

☒ Air construction permit.
☐ Air construction permit to establish, revise, or renew a plantwide applicability limit (PAL).
☐ Air construction permit to establish, revise, or renew a plantwide applicability limit (PAL), and separate air construction permit to authorize construction or modification of one or more emissions units covered by the PAL.

Air Operation Permit

☐ Initial Title V air operation permit.
☐ Title V air operation permit revision.
☐ Title V air operation permit renewal.
☐ Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is required.
☐ Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is not required.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit (Concurrent Processing)

☐ Air construction permit and Title V permit revision, incorporating the proposed project.
☐ Air construction permit and Title V permit renewal, incorporating the proposed project.

Note: By checking one of the above two boxes, you, the applicant, are requesting concurrent processing pursuant to Rule 62-213.405, F.A.C. In such case, you must also check the following box:

☐ I hereby request that the department waive the processing time requirements of the air construction permit to accommodate the processing time frames of the Title V air operation permit.

Application Comment

This application is for repowering of Unit No. 2 with a new GE 7FA combined-cycle combustion turbine (CT). City of Tallahassee proposes to permanently shut down the boiler associated with Unit No. 2 and construct a new GE 7FA CT. The CT can operate in combined cycle mode, with and without a duct burner, and simple cycle mode firing natural gas and distillate fuel oil with exhaust gases routed to the heat recovery steam generator (HRSG) and selective catalytic reduction (SCR) system. The duct burner will be fired with natural gas. In addition, the CT can operate in simple cycle mode firing natural gas only with exhaust gases routed to an emergency bypass stack, instead of the HRSG and SCR system. Emission netting results in pollutant emission increases below the PSD significant thresholds. See Part B.

APPLICATION INFORMATION

Scope of Application

Emissions Unit ID Number	Description of Emissions Unit	Air Permit Type	Air Permit Proc. Fee
CT2A	GE 7FA Combined-Cycle Combustion Turbine and Duct Burner	AC1A	N/A

Application Processing Fee

Check one: ☐ Attached - Amount: $_____ ☒ Not Applicable

APPLICATION INFORMATION

Owner/Authorized Representative Statement

Complete if applying for an air construction permit or an initial FESOP.

1. Owner/Authorized Representative Name :

   Robert E. McGarrah, Production Superintendent

2. Owner/Authorized Representative Mailing Address...
   Organization/Firm: **City of Tallahassee, Electric Utilities**
   Street Address: **2602 Jackson Bluff Road**
   City: **Tallahassee** State: **Florida** Zip Code: **32304**

3. Owner/Authorized Representative Telephone Numbers...
   Telephone: **(850) 891-5534** ext. Fax: **(850) 891-5162**

4. Owner/Authorized Representative Email Address: **McGarraR@talgov.com**

5. Owner/Authorized Representative Statement:

   I, the undersigned, am the owner or authorized representative of the facility addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other requirements identified in this application to which the facility is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility or any permitted emissions unit.

   Signature: _____ Date: 6/1/06

APPLICATION INFORMATION

Application Responsible Official Certification

Complete if applying for an initial/revised/renewal Title V permit or concurrent processing of an air construction permit and a revised/renewal Title V permit. If there are multiple responsible officials, the "application responsible official" need not be the "primary responsible official."

1. Application Responsible Official Name:

2. Application Responsible Official Qualification (Check one or more of the following options, as applicable):
   - ☐ For a corporation, the president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit under Chapter 62-213, F.A.C.
   - ☐ For a partnership or sole proprietorship, a general partner or the proprietor, respectively.
   - ☐ For a municipality, county, state, federal, or other public agency, either a principal executive officer or ranking elected official.
   - ☐ The designated representative at an Acid Rain source.

3. Application Responsible Official Mailing Address...
   Organization/Firm:
   Street Address:
   City: State: Zip Code:

4. Application Responsible Official Telephone Numbers...
   Telephone: ( ) - ext. Fax: ( ) -

5. Application Responsible Official Email Address:

6. Application Responsible Official Certification:

   I, the undersigned, am a responsible official of the Title V source addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other applicable requirements identified in this application to which the Title V source is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility or any permitted emissions unit. Finally, I certify that the facility and each emissions unit are in compliance with all applicable requirements to which they are subject, except as identified in compliance plan(s) submitted with this application.

   _____ _____
   Signature Date

APPLICATION INFORMATION

Professional Engineer Certification

1. Professional Engineer Name: **Kennard F. Kosky**
   Registration Number: **14996**
2. Professional Engineer Mailing Address...
   Organization/Firm: **Golder Associates Inc.****
   Street Address: **6241 NW 23rd Street, Suite 500**
   City: **Gainesville** State: **FL** Zip Code: **32653**
3. Professional Engineer Telephone Numbers...
   Telephone: **(352) 336-5600** ext.**516** Fax: **(352) 336-6603**
4. Professional Engineer Email Address: **kkosky@golder.com**
5. Professional Engineer Statement:

I, the undersigned, hereby certify, except as particularly noted herein, that:*

(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this application for air permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and

(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.

(3) If the purpose of this application is to obtain a Title V air operation permit (check here ☐, if so), I further certify that each emissions unit described in this application for air permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance plan and schedule is submitted with this application.

(4) If the purpose of this application is to obtain an air construction permit (check here ☒, if so) or concurrently process and obtain an air construction permit and a Title V air operation permit revision or renewal for one or more proposed new or modified emissions units (check here ☐, if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.

(5) If the purpose of this application is to obtain an initial air operation permit or operation permit revision or renewal for one or more newly constructed or modified emissions units (check here ☐, if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.

Kennard F. Kosky — 5/31/06

Signature — Date

(seal)

* Attach any exception to certification statement.

** **Board of Professional Engineers Certificate of Authorization #00001670**

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates... Zone **16** East (km) **749.53** North (km) **3371.7**		2. Facility Latitude/Longitude... Latitude (DD/MM/SS) **30/27/08** Longitude (DD/MM/SS) **84/24/00**	
3. Governmental Facility Code: **4**	4. Facility Status Code: **A**	5. Facility Major Group SIC Code: **49**	6. Facility SIC(s): **4911**
7. Facility Comment :			

Facility Contact

1. Application Contact Name: **John K. Powell, J.D., P.E., Environmental Resources**
2. Application Contact Mailing Address... Organization/Firm: **City of Tallahassee, Environmental Resources** Street Address: **City Hall, 300 South Adams Street** City: **Tallahassee** State: **Florida** Zip Code: **32301-1731**
3. Application Contact Telephone Numbers... Telephone: (**850**) **891-8851** ext. Fax: (**850**) **891-8277**
4. Application Contact Email Address: **powellj@talgov.com**

Facility Primary Responsible Official

Complete if an "application responsible official" is identified in Section I. that is not the facility "primary responsible official."

1. Facility Primary Responsible Official Name:
2. Facility Primary Responsible Official Mailing Address... Organization/Firm: Street Address: City: State: Zip Code:
3. Facility Primary Responsible Official Telephone Numbers... Telephone: ( ) - ext. Fax: ( ) -
4. Facility Primary Responsible Official Email Address:

FACILITY INFORMATION

Facility Regulatory Classifications

Check all that would apply *following* completion of all projects and implementation of all other changes proposed in this application for air permit. Refer to instructions to distinguish between a "major source" and a "synthetic minor source."

1. ☐ Small Business Stationary Source	☐ Unknown
2. ☐ Synthetic Non-Title V Source	
3. ☒ Title V Source	
4. ☒ Major Source of Air Pollutants, Other than Hazardous Air Pollutants (HAPs)	
5. ☐ Synthetic Minor Source of Air Pollutants, Other than HAPs	
6. ☒ Major Source of Hazardous Air Pollutants (HAPs)	
7. ☐ Synthetic Minor Source of HAPs	
8. ☒ One or More Emissions Units Subject to NSPS (40 CFR Part 60)	
9. ☐ One or More Emissions Units Subject to Emission Guidelines (40 CFR Part 60)	
10. ☒ One or More Emissions Units Subject to NESHAP (40 CFR Part 61 or Part 63)	
11. ☐ Title V Source Solely by EPA Designation (40 CFR 70.3(a)(5))	
12. Facility Regulatory Classifications Comment: **NSPS - 40 CFR Part 60, Subpart GG, applies to the proposed turbine and Subpart Da applies to the HRSG duct burner. However, the proposed 40 CFR Part 60, Subpart KKKK, eventually will replace Subpart GG. Under Subpart KKKK, the duct burner would be exempt from meeting the requirements of Subpart Da. NESHAP- 40 CFR Part 63, Subpart YYYY may apply based on actual oil fuel used in a calendar year.**	

FACILITY INFORMATION

List of Pollutants Emitted by Facility

1. Pollutant Emitted	2. Pollutant Classification	3. Emissions Cap [Y or N]?
Particulate Matter - PM	**A**	**No**
Particulate Matter with an aerodynamic diameter less than 10 microns - PM_{10}	**A**	**No**
Sulfur Dioxide - SO_2	**A**	**No**
Nitrogen Oxides - NO_x	**A**	**No**
Carbon Monoxide - CO	**A**	**No**
Volatile Organic Compounds - VOCs	**A**	**No**
Total Hazardous Air Pollutants – HAPs	**A**	**No**
Sulfuric Acid Mist – SAM	**A**	**No**

B. EMISSIONS CAPS

Facility-Wide or Multi-Unit Emissions Caps

1. Pollutant Subject to Emissions Cap	2. Facility Wide Cap [Y or N]? (all units)	3. Emissions Unit ID No.s Under Cap (if not all units)	4. Hourly Cap (lb/hr)	5. Annual Cap (ton/yr)	6. Basis for Emissions Cap
7. Facility-Wide or Multi-Unit Emissions Cap Comment:					

C. FACILITY ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1.	Facility Plot Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) ☒ Attached, Document ID: **Part B** ☐ Previously Submitted, Date:____
2.	Process Flow Diagram(s): (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) ☒ Attached, Document ID: **Part B** ☐ Previously Submitted, Date:_____
3.	Precautions to Prevent Emissions of Unconfined Particulate Matter: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) ☐ Attached, Document ID:_____ ☐ Previously Submitted, Date:_____

Additional Requirements for Air Construction Permit Applications

1.	Area Map Showing Facility Location: ☐ Attached, Document ID:_____ ☒ Not Applicable (existing permitted facility)
2.	Description of Proposed Construction, Modification, or Plantwide Applicability Limit (PAL): ☒ Attached, Document ID: **Part B**
3.	Rule Applicability Analysis: ☒ Attached, Document ID: **Part B**
4.	List of Exempt Emissions Units (Rule 62-210.300(3)(a) or (b)1., F.A.C.): ☒ Attached, Document ID: **Part B** ☐ Not Applicable (no exempt units at facility)
5.	Fugitive Emissions Identification (Rule 62-212.400(2), F.A.C.): ☐ Attached, Document ID:_____ ☒ Not Applicable
6.	Air Quality Analysis (Rule 62-212.400(7), F.A.C.): ☐ Attached, Document ID:_____ ☒ Not Applicable
7.	Ambient Impact Analysis (Rule 62-212.400(5)(d), F.A.C.): ☐ Attached, Document ID:_____ ☒ Not Applicable
8.	Air Quality Impact since 1977 (Rule 62-212.400(5)(h)5., F.A.C.): ☐ Attached, Document ID:_____ ☒ Not Applicable
9.	Additional Impact Analyses (Rules 62-212.400(5)(e)1. and 62-212.500(4)(e), F.A.C.): ☐ Attached, Document ID:_____ ☒ Not Applicable
10.	Alternative Analysis Requirement (Rule 62-212.500(4)(g), F.A.C.): ☐ Attached, Document ID:_____ ☒ Not Applicable

FACILITY INFORMATION

Additional Requirements for FESOP Applications

1. List of Exempt Emissions Units (Rule 62-210.300(3)(a) or (b)1., F.A.C.): ☐ Attached, Document ID:_____ ☒ Not Applicable (no exempt units at facility)

Additional Requirements for Title V Air Operation Permit Applications

1. List of Insignificant Activities (Required for initial/renewal applications only): ☐ Attached, Document ID:_____ ☒ Not Applicable (revision application)
2. Identification of Applicable Requirements (Required for initial/renewal applications, and for revision applications if this information would be changed as a result of the revision being sought): ☐ Attached, Document ID:_____ ☒ Not Applicable (revision application with no change in applicable requirements)
3. Compliance Report and Plan (Required for all initial/revision/renewal applications): ☐ Attached, Document ID:_____ Note: A compliance plan must be submitted for each emissions unit that is not in compliance with all applicable requirements at the time of application and/or at any time during application processing. The department must be notified of any changes in compliance status during application processing.
4. List of Equipment/Activities Regulated under Title VI (If applicable, required for initial/renewal applications only): ☐ Attached, Document ID:_____ ☐ Equipment/Activities On site but Not Required to be Individually Listed ☒ Not Applicable
5. Verification of Risk Management Plan Submission to EPA (If applicable, required for initial/renewal applications only) : ☐ Attached, Document ID:_____ ☒ Not Applicable
6. Requested Changes to Current Title V Air Operation Permit: ☐ Attached, Document ID:_____ ☒ Not Applicable

Additional Requirements Comment

III. EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Application - For Title V air operation permitting only, emissions units are classified as regulated, unregulated, or insignificant. If this is an application for Title V air operation permit, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each regulated and unregulated emissions unit addressed in this application for air permit. Some of the subsections comprising the Emissions Unit Information Section of the form are optional for unregulated emissions units. Each such subsection is appropriately marked. Insignificant emissions units are required to be listed at Section II, Subsection C.

Air Construction Permit or FESOP Application - For air construction permitting or federally enforceable state air operation permitting, emissions units are classified as either subject to air permitting or exempt from air permitting. The concept of an "unregulated emissions unit" does not apply. If this is an application for air construction permit or FESOP, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit subject to air permitting addressed in this application for air permit. Emissions units exempt from air permitting are required to be listed at Section II, Subsection C.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit Application – Where this application is used to apply for both an air construction permit and a revised/renewal Title V air operation permit, each emissions unit is classified as either subject to air permitting or exempt from air permitting for air construction permitting purposes and as regulated, unregulated, or insignificant for Title V air operation permitting purposes. **The air construction permitting classification must be used to complete the Emissions Unit Information Section of this application for air permit.** A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit subject to air permitting addressed in this application for air permit. Emissions units exempt from air construction permitting and insignificant emissions units are required to be listed at Section II, Subsection C.

If submitting the application form in hard copy, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application must be indicated in the space provided at the top of each page.

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)

   ☒ The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.
   ☐ The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in this Section: (Check one)

   ☐ This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

   ☒ This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

   ☐ This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Description of Emissions Unit Addressed in this Section:
   One nominal 188-MW GE 7-FA Combined-Cycle Combustion Turbine with HRSG Duct Firing.

3. Emissions Unit Identification Number: **009**

4. Emissions Unit Status Code: **C**	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code: **49**	8. Acid Rain Unit? ☒ Yes ☐ No

9. Package Unit:
   Manufacturer: **General Electric** Model Number: **7-FA**

10. Generator Nameplate Rating: **188** MW

11. Emissions Unit Comment:
    Based on natural gas-firing at 25°F for CT only. For distillate oil-firing, rating is 199 MW at 25°F.

EMISSIONS UNIT INFORMATION
Section [1]
GE 7FA and Duct Burner

Emissions Unit Control Equipment

1. Control Equipment/Method(s) Description: **025 – Staged Combustion [Dry Low-NO_x (DLN) Burners]** **028 – Water Injection** **139 – Selective Catalytic Reduction (SCR)**
2. Control Device or Method Code(s): **025, 028, 139**

B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate:		
2. Maximum Production Rate: **188 MW (nominal)**		
3. Maximum Heat Input Rate: **2,664** million Btu/hr **(HHV)**		
4. Maximum Incineration Rate:	pounds/hr tons/day	
5. Requested Maximum Operating Schedule:	hours/day weeks/year	days/week **8,760** hours/year
6. Operating Capacity/Schedule Comment: **Maximum heat input for natural gas-firing at 25 ^{o}F, includes 1,899 MMBtu/hr (HHV) heat input from the combustion turbine and 765 MMBtu/hr (HHV) heat input from duct firing. Maximum heat input from oil firing is 2,079 MMBtu/hr (HHV) heat input from the combustion turbine plus 765 MMBtu/hr (HHV) heat input from duct firing natural gas. Heat input varies based on inlet temperature and performance. See Part B.**		

C. EMISSION POINT (STACK/VENT) INFORMATION
(Optional for unregulated emissions units.)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: **Part B**		2. Emission Point Type Code: **1**
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking:		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:		
5. Discharge Type Code: **V**	6. Stack Height: **150** feet	7. Exit Diameter: **18** feet
8. Exit Temperature: **188** °F	9. Actual Volumetric Flow Rate: **1,016,100** acfm	10. Water Vapor: **11.2** %
11. Maximum Dry Standard Flow Rate: dscfm		12. Nonstack Emission Point Height: feet
13. Emission Point UTM Coordinates... Zone: **16** East (km): **749.7** North (km): **3371.7**		14. Emission Point Latitude/Longitude… Latitude (DD/MM/SS) Longitude (DD/MM/SS)
15. Emission Point Comment: **Information at baseload conditions for natural gas-firing with the duct burner at 59°F ambient temperature. See Part B, Appendix A of the Air Permit Application for performance at various ambient temperatures and loads. The design includes a simple cycle emergency bypass stack with a stack height of 150 feet and a diameter of 18 feet.**		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment **1** of **2**

1. Segment Description (Process/Fuel Type): **Internal Combustion Engine – Electric Generation; Turbine, Natural Gas**		
2. Source Classification Code (SCC): **2-01-002-01**	3. SCC Units: **Million Cubic Feet**	
4. Maximum Hourly Rate: **2.571**	5. Maximum Annual Rate: **18,323**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **1,036**
10. Segment Comment: **Maximum hourly rate is for one turbine at 25°F ambient and includes duct firing. Maximum annual rate is based on total of 8,760 hours of operation at 59°F, with 2,598,800 MMBtu/yr of duct firing. See Part B, Appendix A, of the Air Permit Application for performance at various ambient temperatures and loads.**		

Segment Description and Rate: Segment **2** of **2**

1. Segment Description (Process/Fuel Type): **Internal Combustion Engine – Electric Generation; Turbine, Distillate Oil**		
2. Source Classification Code (SCC): **2-01-001-01.**	3. SCC Units: **1,000 gallons**	
4. Maximum Hourly Rate: **16.0**	5. Maximum Annual Rate: **53,276**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **130**
10. Segment Comment: **Maximum hourly rate is for one turbine at 25°F ambient and includes maximum duct firing. Maximum annual rate is based on maximum heat input rate of 6,926,500 MMBtu/yr (equivalent to 3,500 hours of operation) at 59°F ambient temperature for the CT. See Part B, Appendix A, of the Air Permit Application for performance at various ambient temperatures, loads, and duct firing.**		

E. EMISSIONS UNIT POLLUTANTS

List of Pollutants Emitted by Emissions Unit

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM/PM_{10}			**EL**
SO_2			**EL**
NO_x	**028**	**139**	**EL**
CO			**EL**
VOCs			**EL**

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: **PM/PM_{10}**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **48.7** lb/hour **111.8** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: Reference: **See Part B, Air Permit Application Report.**	7. Emissions Method Code: **0**
8.a. Baseline Actual Emissions (if required): **97.5** tons/year	8.b. Baseline 24-month Period: From: **1/1/2004** To: **12/31/2005**
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **Maximum hourly rate based on full-load oil firing in CT and duct burner firing gas at 59°F. Annual emissions based on an equivalent 5,260 hours of natural gas firing with maximum heat input rate of 2,598,800 MMBtu/yr for duct firing at full load and maximum heat input rate of 6,926,500 MMBtu/yr (equivalent to 3,500 hours) of distillate oil-firing of the CT at full load and 59°F. Refer to Part B.**	
11. Pollutant Potential/Estimated Fugitive Emissions Comment: **See Section 2.0 of Part B and Appendix A for performance at various ambient temperatures and loads.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions **1** of **2**

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **10% Opacity**	4. Equivalent Allowable Emissions: **21.1** lb/hour **65.2** tons/year
5. Method of Compliance: **EPA Method 9; Initial and once annually.**	
6. Allowable Emissions Comment (Description of Operating Method): **Maximum hourly rate based on natural gas-firing in CT and duct burner at 25°F and full load. Annual emission rate based on natural gas-firing with a maximum heat input rate of 2,598,800 MMBtu/yr of duct firing at 59°F and full load. Refer to Part B.**	

Allowable Emissions Allowable Emissions **2** of **2**

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **10% Opacity**	4. Equivalent Allowable Emissions: **38.7** lb/hour **65.8** tons/year
5. Method of Compliance: **EPA Method 9; Initial; Annual, if >400 hr/yr.**	
6. Allowable Emissions Comment (Description of Operating Method): **Maximum hourly rate based on distillate oil-firing in CT at 59°F and full load. Annual emission rate based on maximum heat input rate of 6,926,500 MMBtu/yr (equivalent to 3,500 hours) of distillate oil-firing of CT at 59°F and full load. Refer to Part B.**	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: **SO_2**	2. Total Percent Efficiency of Control:	
3. Potential Emissions: **111** lb/hour **211.7** tons/year		4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year		
6. Emission Factor: Reference: **See Part B, Air Permit Application Report.**		7. Emissions Method Code: **0**
8.a. Baseline Actual Emissions (if required): **1,642** tons/year	8.b. Baseline 24-month Period: From: **2/1/2004** To: **1/31/2006**	
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years	
10. Calculation of Emissions: **Maximum hourly rate based on full-load oil firing in CT and duct burner firing gas at 25°F. Annual emissions based on an equivalent 5,260 hours of natural gas firing with maximum heat input rate of 2,598,800 MMBtu/yr for duct firing at full load and 6,926,500 MMBtu/yr (equivalent to 3,500 hours) of distillate oil-firing of the CT at full load and 59°F. Refer to Part B.**		
11. Pollutant Potential/Estimated Fugitive Emissions Comment: **See Section 2.0 of Part B and Appendix A for performance at various ambient temperatures and loads.**		

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions **1** of **2**

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **2 grains S/100 SCF**	4. Equivalent Allowable Emissions: **14.7** lb/hour **50.5** tons/year
5. Method of Compliance: **Fuel analysis**	
6. Allowable Emissions Comment (Description of Operating Method): **Maximum hourly rate based on natural gas-firing in CT and duct burner at 25°F and full load. Annual emission rate based on natural gas-firing with a maximum heat input rate of 2,598,800 MMBtu/yr of duct firing at 59°F and full load. Refer to Part B.**	

Allowable Emissions Allowable Emissions **2** of **2**

1. Basis for Allowable Emissions Code: **Other**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.05% Sulfur**	4. Equivalent Allowable Emissions: **107** lb/hour **178.5** tons/year
5. Method of Compliance: **Fuel analysis**	
6. Allowable Emissions Comment (Description of Operating Method): **Maximum hourly rate based on distillate oil-firing in CT at 25°F and full load. Annual emission rate based on maximum heat input rate of 6,926,500 MMBtu/yr (equivalent to 3,500 hours) of distillate oil-firing of CT at 59°F and full load. Refer to Part B.**	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: **NO_x**	2. Total Percent Efficiency of Control:	
3. Potential Emissions: **108.4** lb/hour **265.7** tons/year		4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year		
6. Emission Factor: Reference: **See Part B, Air Permit Application Report.**		7. Emissions Method Code: **0**
8.a. Baseline Actual Emissions (if required): **843.3** tons/year	8.b. Baseline 24-month Period: From: **5/1/2003** To: **4/30/2005**	
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years	
10. Calculation of Emissions: **Maximum hourly rate based on full-load oil firing in CT and duct burner firing gas at 25°F. Annual emissions based on an equivalent 8,760 hours of natural gas firing for simple cycle operation at full load and 59°F with exhaust gases routed to emergency bypass stack. Potential annual emissions for combined cycle operation are based on an equivalent 5,260 hours of natural gas firing with maximum heat input rate of 2,598,800 MMBtu/yr for duct firing at full load and 6,926,500 MMBtu/yr (equivalent to 3,500 hours) of distillate oil-firing at full load and 59°F. Refer to Part B.**		
11. Pollutant Potential/Estimated Fugitive Emissions Comment: **See Section 2.0 of Part B and Appendix A for performance at various ambient temperatures and loads.**		

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions **1** of **1**

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **5 ppmvd @ 15% O_2**	4. Equivalent Allowable Emissions: **47.8** lb/hour **164.9** tons/year
5. Method of Compliance: **CEMS 30-day rolling average**	
6. Allowable Emissions Comment (Description of Operating Method): **Maximum hourly rate based on natural gas-firing in CT and duct burner at 25°F and full load. Annual emission rate based on natural gas-firing with a maximum heat input rate of 2,598,800 MMBtu/yr of duct firing at 59°F and full load. Refer to Part B**	

Allowable Emissions Allowable Emissions **2** of **2**

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **10 ppmvd @ 15% O_2 for CT**	4. Equivalent Allowable Emissions: **108.4** lb/hour **135.6** tons/year
5. Method of Compliance: **CEMS 30-day rolling average.**	
6. Allowable Emissions Comment (Description of Operating Method): **Maximum hourly rate based on distillate oil-firing in CT and duct burner(gas) at 25°F and full load. Annual emission rate based on maximum heat input rate of 6,926,500 MMBtu/yr (equivalent to 3,500 hours) of distillate oil-firing of CT at 59°F and full load.**	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **9 ppmvd @ 15% O_2**	4. Equivalent Allowable Emissions: **61.8** lb/hour **255.6** tons/year
5. Method of Compliance: **CEMS (see Part B)**	

6. Allowable Emissions Comment (Description of Operating Method):
For simple cycle operation with emergency bypass stack. Maximum hourly rate based on natural gas-firing in CT at 25°F and full load. Annual emission rate based on an equivalent 8,760 hours of operation at 59°F and full load. Refer to Part B

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: **CO**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **142.9** lb/hour **340.1** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: Reference: **See Part B, Air Permit Application Report.**	7. Emissions Method Code: **0**
8.a. Baseline Actual Emissions (if required): **241.1** tons/year	8.b. Baseline 24-month Period: From: **1/1/2001** To: **12/31/2002**
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **Maximum hourly rate based on full-load oil firing in CT and duct burner firing gas at 25°F. Annual emissions based on an equivalent 5,260 hours of natural gas firing with maximum heat input rate of 2,598,800 MMBtu/yr for duct firing at full load and 6,926,500 MMBtu/yr (equivalent to 3,500 hours) of distillate oil-firing in the CT burner at full load and 59°F. Refer to Part B.**	
11. Pollutant Potential/Estimated Fugitive Emissions Comment: **See Section 2.0 of Part B and Appendix A for performance at various ambient temperatures and loads.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions **1** of **2**

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **16.8 ppmvd @ 15% O_2**	4. Equivalent Allowable Emissions: **96.8** lb/hour **264.6** tons/year
5. Method of Compliance: **EPA Method 10**	
6. Allowable Emissions Comment (Description of Operating Method): **Maximum hourly rate based on natural gas-firing in CT and duct burner (gas) at 25°F and full load. Annual emission rate based on natural gas-firing with a maximum heat input rate of 2,598,800 MMBtu/yr of duct firing at 59°F and full load. 10 ppmvd at 15% O_2 for CT only. Refer to Part B.**	

Allowable Emissions Allowable Emissions **2** of **2**

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **21.4 ppmvd @ 15% O_2 with duct firing.**	4. Equivalent Allowable Emissions: **142.9** lb/hour **143.9** tons/year
5. Method of Compliance: **EPA Method 10; Initial; Annual >400 hr/yr.**	
6. Allowable Emissions Comment (Description of Operating Method): **Maximum hourly rate based on distillate oil-firing in CT and duct burner (gas) at 25°F and full load. Annual emission rate based on maximum heat input rate of 6,926,500 MMBtu/yr (equivalent to 3,500 hours) of distillate oil-firing of CT at 59°F and full load. 17.7 ppmvd at 15% O_2 for CT only. Refer to Part B.**	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: **VOCs**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **17.1** lb/hour **47.4** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: Reference: **See Part B, Air Permit Application Report.**	7. Emissions Method Code: **0**
8.a. Baseline Actual Emissions (if required): **19.7** tons/year	8.b. Baseline 24-month Period: From: **1/1/2004** To: **12/31/2005**
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **Maximum hourly rate based on full-load oil firing in CT and duct burner firing gas at 25°F. Annual emissions based on an equivalent 5,260 hours of natural gas firing with maximum heat input rate of 2,598,800 MMBtu/yr for duct firing at full load and 6,926,500 MMBtu/yr (equivalent to 3,500 hours) of distillate oil-firing in the CT at full load and 59°F. Refer to Part B.**	
11. Pollutant Potential/Estimated Fugitive Emissions Comment: **See Section 2.0 of Part B and Appendix A for performance at various ambient temperatures and loads.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions **1** of **2**

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **5.7 ppmvd @ 15% O_2 for CT and HRSG**	4. Equivalent Allowable Emissions: **16.7** lb/hour **46.8** tons/year
5. Method of Compliance: **EPA Method 25A, Initial performance test only.**	
6. Allowable Emissions Comment (Description of Operating Method): **Maximum hourly rate based on natural gas-firing in CT and duct burner at 25°F and full load. Annual emission rate based on natural gas-firing with a maximum heat input rate of 2,598,800 MMBtu/yr of duct firing at 59°F and full load. 3.2 ppmvd at 15% O_2 for CT only. Refer to Part B.**	

Allowable Emissions Allowable Emissions **2** of **2**

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **5.3 ppmvd @ 15% O_2 for CT and DB**	4. Equivalent Allowable Emissions: **17.1** lb/hour **13.1** tons/year
5. Method of Compliance: **EPA Method 25A, Initial performance test only**	
6. Allowable Emissions Comment (Description of Operating Method): **Maximum hourly rate based on distillate oil-firing in CT and duct burner (gas) at 25°F and full load. Annual emission rate based on maximum heat input rate of 6,926,500 MMBtu/yr (equivalent to 3,500 hours) of distillate oil-firing of CT at 59°F and full load. Refer to Part B.**	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

G. VISIBLE EMISSIONS INFORMATION

Complete if this emissions unit is or would be subject to a unit-specific visible emissions limitation.

Visible Emissions Limitation: Visible Emissions Limitation **1** of **1**

1. Visible Emissions Subtype: **VE10**	2. Basis for Allowable Opacity: ☒ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: **10** % Exceptional Conditions: **100** % Maximum Period of Excess Opacity Allowed: **60** min/hour	
4. Method of Compliance: **EPA Method 9**	
5. Visible Emissions Comment: **Rule 62-296.320 (4) (b). Excess emissions. Refer to Part B.**	

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: ☐ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment:	

H. CONTINUOUS MONITOR INFORMATION

Complete if this emissions unit is or would be subject to continuous monitoring.

Continuous Monitoring System: Continuous Monitor **1** of **2**

1. Parameter Code: **EM**	2. Pollutant(s): **NO_x**
3. CMS Requirement:	☒ Rule ☐ Other
4. Monitor Information... Manufacturer: **TBD** Model Number: **TBD**	Serial Number: **TBD**
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: **TBD = To be determined. CEM required pursuant to 40 CFR Part 75.**	

Continuous Monitoring System: Continuous Monitor **2** of **2**

1. Parameter Code: **O_2 or CO_2**	2. Pollutant(s): **Oxygen or Carbon Dioxide**
3. CMS Requirement:	☒ Rule ☐ Other
4. Monitor Information... Manufacturer: **TBD** Model Number: **TBD**	Serial Number: **TBD**
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: **Diluent monitor required pursuant to 40 CFR Part 75 for NO_x monitoring.**	

I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1.	Process Flow Diagram (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) ☒ Attached, Document ID: **Part B** ☐ Previously Submitted, Date _____
2.	Fuel Analysis or Specification (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) ☒ Attached, Document ID: **Part B** ☐ Previously Submitted, Date _____
3.	Detailed Description of Control Equipment (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) ☒ Attached, Document ID: **Part B** ☐ Previously Submitted, Date _____
4.	Procedures for Startup and Shutdown (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date _____ ☒ Not Applicable (construction application)
5.	Operation and Maintenance Plan (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date _____ ☒ Not Applicable
6.	Compliance Demonstration Reports/Records ☐ Attached, Document ID: _____ Test Date(s)/Pollutant(s) Tested: _____ ☐ Previously Submitted, Date: _____ Test Date(s)/Pollutant(s) Tested: _____ ☐ To be Submitted, Date (if known): _____ Test Date(s)/Pollutant(s) Tested: _____ ☒ Not Applicable Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.
7.	Other Information Required by Rule or Statute ☐ Attached, Document ID: _____ ☒ Not Applicable

EMISSIONS UNIT INFORMATION
Section [1]
GE 7FA and Duct Burner

Additional Requirements for Air Construction Permit Applications

1. Control Technology Review and Analysis (Rules 62-212.400(6) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e)) ☐ Attached, Document ID: **Part B** ☒ Not Applicable
2. Good Engineering Practice Stack Height Analysis (Rule 62-212.400(5)(h)6., F.A.C., and Rule 62-212.500(4)(f), F.A.C.) ☐ Attached, Document ID: **Part B** ☒ Not Applicable
3. Description of Stack Sampling Facilities (Required for proposed new stack sampling facilities only) ☒ Attached, Document ID: **Part B** ☐ Not Applicable

Additional Requirements for Title V Air Operation Permit Applications

1. Identification of Applicable Requirements ☐ Attached, Document ID: _____ ☒ Not Applicable
2. Compliance Assurance Monitoring ☐ Attached, Document ID: _____ ☒ Not Applicable
3. Alternative Methods of Operation ☐ Attached, Document ID: _____ ☒ Not Applicable
4. Alternative Modes of Operation (Emissions Trading) ☐ Attached, Document ID: _____ ☒ Not Applicable
5. Acid Rain Part Application ☐ Certificate of Representation (EPA Form No. 7610-1) ☐ Copy Attached, Document ID: _____ ☒ Acid Rain Part (Form No. 62-210.900(1)(a)) ☐ Attached, Document ID:___ ☒ Previously Submitted, Date: _____ ☐ Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date: _____ ☐ New Unit Exemption (Form No. 62-210.900(1)(a)2.) ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date: _____ ☐ Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date: _____ ☐ Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.) ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date: _____ ☐ Phase II NOx Averaging Plan (Form No. 62-210.900(1)(a)5.) ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date: _____ ☐ Not Applicable

Additional Requirements Comment

PART B

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Appendix A EXPECTED PERFORMANCE AND EMISSION INFORMATION FOR THE COMBUSTION TURBINE AND DUCT BURNER

1.0 INTRODUCTION

The City of Tallahassee proposes to repower the Arvah B. Hopkins Generating Station Unit No. 2, located in Leon County, Florida (see Figure 2.1-1 of the Report for the modification to the Site Certification). The repowering of Unit No. 2 will include the addition of one nominal 188-megawatt (MW) combustion turbine and the permanent shut down of the fossil fuel steam generator for Unit 2. The repowering will enhance the City's electric system reliability and help the City meet the current forecasts of growth in population and electric demand.

The Arvah B. Hopkins Generating Station is an existing generating facility presently comprised of two steam electric generating units (Units 1 and 2), two Westinghouse combustion turbines (CTs) (referred to as GT-1 and GT -2), and two General Electric (GE) LM6000 CTs (referred to as GT -3 and GT -4). GT -3 and GT -4 began operation in 2005.

The proposed combined cycle unit will consist of one GE 7FA CT and associated electric generator, heat recovery steam generator (HRSG), and the existing steam turbine-electric generator. The unit will be equipped with a bypass stack that will be used with natural gas firing only. Together, these facilities are referred to as the "Project".

The proposed CT will use dry low-nitrogen oxides [(NO_x) DLN] combustion technology when operating on natural gas and water injection for NO_x control when operating on distillate fuel oil. The CT/HRSG will be installed with selective catalytic reduction (SCR) to further reduce emissions of NO_x. The HRSG will be equipped with duct burners that will fire natural gas.

The CT will operate a maximum of 8,760 hours per year. The CT will operate up to an equivalent of 3,500 hours per year on distillate fuel oil at full-load operating. Existing transmission and fuel supply facilities are adjacent to the proposed location of the new CT.

The Project will be a minor modification to an existing major air pollution source and requires review under the Department's air construction permit rules. Because the Project is being constructed at a certified site under the Florida Power Plant Siting Act (PPSA), a modification to the site certification is also required. The U.S. Environmental Protection Agency (EPA) and the Florida Department of Environmental Protection (FDEP) have implemented regulations requiring a Prevention of Significant Deterioration (PSD) review for new major sources or major modifications at major sources that increase air emissions above certain threshold amounts. Because the proposed modification will not exceed the major modification threshold amounts, the Project is not subject to PSD review.

Leon County, Florida, has been designated as an attainment or unclassifiable area for all criteria pollutants [i.e., attainment: ozone (O_3); sulfur dioxide (SO_2); carbon monoxide (CO); and nitrogen dioxide (NO_2); unclassifiable: particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}) and lead] and is a PSD Class II area for PM_{10}, SO_2, and NO_2. Therefore, the preconstruction minor modification review will follow regulations pertaining to such designations.

The air permit application is divided into three major sections:

- Section 1.0 is an introduction to the Project.
- Section 2.0 presents a description of the Project, including air emissions and stack parameters.
- Section 3.0 provides a review of the regulatory requirements applicable to the Project.

2.0 PROJECT DESCRIPTION

2.1 Site Description

The Arvah B. Hopkins Generating Station consists of approximately 232 acres and is presently comprised of two steam electric generating units (Units 1 and 2), two Westinghouse CTs (GT -1 and GT -2), and two GE LM6000 CTs (GT -3 and GT -4). The steam electric units and the CTs use oil, natural gas, and/or liquefied petroleum gas as fuel. Unit 1, which went into service in 1971, is a nominal 75-MW unit. Unit 2, which went into service in 1977, is a nominal 238-MW unit. The existing CT, HC-1, went into service in 1970 and has a nominal generating capacity of approximately 16.5 MW (nominal). The existing CT, GT -2, went into service in 1972 and has a generating capacity of approximately 25 MW (nominal). The LM6000 CTs, GT-3 and GT-4, use natural gas and distillate fuel oil. Both GT-3 and GT-4 went into service in 2005 and have a total generating capacity of approximately 94 MW (net summer rating).

The plant site is bounded by Geddie Road to the west, CSX railroad to the east, State Road 20 to the south and U.S. Highway 90. The plant elevation will be approximately 136 feet above mean sea level (ft-msl). The terrain surrounding the site is gently rolling hills.

2.2 Unit No. 2 Repowering Project

2.2.1 Shutdown of Existing Unit No. 2 Boiler

The City of Tallahassee proposes to repower existing Unit No. 2 with one combined-cycle CT with a duct burner. The repowering Project will result in the permanent shutdown of the Unit No. 2 boiler and replaced with a new combined cycle unit.

2.2.2 Proposed Unit

The proposed CT will be configured as a combined-cycle unit. The combined cycle unit will consist of one GE Frame 7FA CT with an associated HRSG, and the existing Unit 2 steam turbine-electric generator. The CT will use DLN combustion technology when firing natural gas and water injection when firing light oil to minimize NO_x formation. SCR will be installed in the HRSG to further reduce emissions of NO_x. The unit may operate in simple cycle mode; however, the exhaust gases will be routed through the HRSG and SCR system, with the same emissions achieved as those for the combined cycle mode. Natural gas and light oil will be used an alternative fuels.

In the event of a major unplanned forced outage of the HRSG or to the steam turbine, the electrical output associated with the CT would not be available to meet system reliability needs without an alternative to routing steam through the HRSG. To mitigate the system reliability impacts from such a major unplanned forced outage event, an emergency HRSG bypass system be installed as a part of the Project. The bypass stack would be physically inoperable during combined cycle operations. To utilize the bypass stack, the unit would have to be removed from service, a "blanking plate" in the duct would have to be physically removed, and a HRSG blanking plate would have to be installed. Since this would be for emergency bypass use only, the bypass stack would not be equipped with a SCR. During these emergency situations, the City would propose that the unit operate on natural gas only. Compliance with this mode of operation would be demonstrated using the NO_x CEMs without the SCR operating.

Plant performance for the GE 7FA CT was developed for natural gas and oil at 100-, 75-, and 60-percent load and 25, 59, and 95 degrees Fahrenheit (°F) ambient dry bulb temperatures, respectively. Nominal part load percentages herein are relative to 100-percent load without evaporative cooling.

For the CT, the maximum heat input is 1,899 MMBtu/hr (HHV) or 1,711 MMBtu/hr (LHV) when firing natural gas (100-percent capacity, 25°F). For fuel oil firing, the maximum heat input is 2,079 MMBtu/hr (HHV) or 1,961 MMBtu/hr (LHV) (100-percent capacity, 25°F).

The HRSG will be equipped with a duct burner with a maximum heat input of 712 MMBtu/hr (HHV) when firing natural gas at 59 ^{o}F. The duct burner has a maximum heat input of 765 MMBtu/hr (HHV) when firing natural gas at 25°F.

The CT will use DLN combustion technology (when firing natural gas) and water injection (when firing distillate oil) to minimize NO_x formation. SCR will be installed in the HRSG to further reduce emissions of NO_x.

The SO_2 emissions will be controlled by the use of low-sulfur fuels. Good combustion practices and clean fuels will also minimize potential emissions of PM, CO, volatile organic compounds (VOC), and other pollutants (e.g., trace metals).

SCR reactors for the unit will be located in the HRSG to provide the proper operating temperature range for the required reaction between ammonia and NOx to achieve the proposed emission rate and to assure the economical operation of the system. The NO_x is reduced by a chemical reaction with the

ammonia in the presence of the catalyst. Ammonia is carried by a diluent and injected into the exhaust gas upstream of the catalyst modules. The ammonia reacts with NO_x on the surface of the catalyst to form nitrogen and water.

Natural gas is currently available at the Hopkins facility. As such, there will be minimal additional infrastructure required to support additional natural gas delivery to the site. The Hopkins facility currently has two existing 10,000 bbl diesel storage tanks and two #6 fuel oil tanks (55,000 bbl and 180,000 bbl). The City plans on converting the 180,000 bbl tank to diesel storage. The existing diesel storage tanks and the converted #6 fuel oil tank will be used for the Project, and no new fuel oil tanks will be required.

2.3 Proposed Source Emissions and Stack Parameters

2.3.1 Shutdown of Existing Unit No. 2

The permanent shutdown of the Unit No. 2 boiler will result in emission reductions. These emission reductions are used in the netting analysis for determination of PSD applicability of the Project (see Section 3.0).

To determine the baseline past actual emissions for the existing Unit No. 2, the highest emissions over a consecutive 24-month period in the last 5 years were utilized. This analysis was conducted on a pollutant-by-pollutant basis and is presented in Tables 2-1 through 2-3. The PM/PM_{10}, CO, VOC, and lead emissions are presented in Table 2-1 and are based on fuel usage from the annual operating reports (AORs) reported to the FDEP and the latest AP-42 emission factors for natural gas and fuel oil combustion. These data are presented from 2001 to 2005 and are based on annual emissions estimated for each calendar year. The SO_2 and NO_x emissions are presented in Tables 2-2 and 2-3, respectively, and are based on data recorded by the continuous emission monitor system (CEMS). These data are presented on a monthly basis from March 2001 to February 2006 since the CEMS data are available monthly.

For PM/PM_{10}, VOC, lead, and mercury emissions, the highest annual average emissions occurred over the 24-month period from 2004 to 2005. For CO emissions, the highest annual average emissions occurred over the 24-month period from 2001 to 2002. For SO_2 emissions, the highest annual average emissions from the CEM data occurred over the 24-month period from February 2004 to January 2006. For NO_x emissions, the highest annual average emissions from the CEM data

occurred over the 24-month period from May 2003 to April 2005. The annual average emission rates for those years were used to represent the actual annual average emissions for those pollutants.

2.3.2 Proposed Unit

The maximum estimated hourly emission rates of regulated pollutants for combined cycle operation for the CT/HRSG with and without the duct burner when firing natural gas and distillate oil at baseload conditions are presented in Tables 2-4 and 2-5, respectively. The maximum estimated hourly emission rates when the CT is firing distillate oil and the duct burner is firing natural gas are also presented in Table 2-5. The same emission rates will be achieved during simple cycle operation when the exhaust gases are routed through the HRSG and SCR system. The maximum estimated hourly emission rates of regulated pollutants for simple cycle operation when the exhaust gases are routed through the emergency bypass stack, instead of the HRSG and SCR system, are presented in Table 2-6. Only natural gas will be fired when the emergency bypass stack is used. The primary pollutants emitted by the CT/HRSG will be NO_x, CO, SO_2, PM, and VOC.

The maximum estimated hourly emission rates and exhaust information representative of the CT/HRSG and duct burner were determined using the manufacturer's information for the equipment proposed for the Project. The design parameters were provided for operating loads of 100- (baseload), 75-, and 60-percent capacity and for ambient temperatures of 25, 59, and 95°F, respectively. The performance and emissions data for the operating conditions are given in Appendix A for turbine inlet temperatures of 25, 59, and 95°F and various operating conditions (100-percent load and low-load operation applicable for the CT).

As shown in Tables 2-4 through 2-6, the maximum short-term emission rates [pounds per hour (lb/hr)] for base load conditions occur at 25°F operations when the CT has the greatest output and greatest fuel consumption.

The maximum potential annual emissions for the repowered unit are presented in Table 2-7. Annual emissions were based on emissions expected for baseload and ambient temperatures of 59°F. The maximum annual emissions are based on the range of operations that could occur with operating the CT on natural gas and distillate oil and the CT, operating with the duct burners firing natural gas. In addition, the maximum annual emissions were estimated for the CT operating in simple cycle mode with the exhaust to an emergency bypass stack (bypass stack would not be equipped with a SCR).

The annual operation of the repowered unit will be limited so that the net emission increase of all pollutants will be less than the PSD significant emission rates. The allowable annual operation was

determined from an analysis of the emissions for various operating scenarios. These scenarios are reflected in the range of operating hours and fuels (natural gas and distillate oil) shown in Table 2-7 for CT operating alone and the CT operating with maximum duct firing. The operating envelope being proposed consists of four parts that are discussed below:

1. CT operation mode when firing natural gas in combined cycle or simple cycle mode with the exhaust gases routed through the HRSG and SCR system is not limited (see Operating Scenarios A and E in Table 2-7). CT operation in simple cycle mode with the emergency bypass stack will be limited to natural gas firing. The emissions during this operational mode are not higher than those in the combined cycle mode for any pollutant except for NO_x. NO_x emissions in this mode are not limiting based on the netting analysis described in Section 3.0 and shown as Operating Scenario E in Table 2-7.
2. Duct firing with natural gas is proposed to be limited to 2,598,800 MMBtu/yr (HHV), which is equivalent to 3,650 hours at the maximum duct firing rate of 712 MMBtu/hr (see Operating Scenario B).
3. The maximum amount of distillate oil firing in the CT is proposed to be limited to 6,926,500 MMBtu/yr, which is equivalent to 3,500 hours at full load as shown in Table 2-7 as Operating Scenarios C and D.

The potential annual emissions are based on the 59°F turbine inlet temperature at 100-percent load condition, which is conservative since the annual average temperatures for the Tallahassee area are slightly higher than 70°F. Higher turbine inlet temperatures result in lower turbine performance and lower mass emissions. The conservative nature of the turbine inlet temperature combined with a 100-percent capacity factor (i.e., 8,760 hours per year at full load) result in worst-case emissions estimates.

Emission factors for hazardous air pollutants (HAPs) were evaluated based on the revised AP-42 emission factors, the EPA Combustion Turbine Emissions Database, and the CT Maximum Achievable Control Technology (MACT) standards. The HAP emissions are based on emission factors from the April 2000 revision of EPA's AP-42 emission factors for large stationary CTs. Summaries of the emission factors and emissions for light oil-firing and gas-firing are presented in Appendix A.

The MACT standard in 40 CFR, Subpart YYYY, is potentially applicable to the Project. The HAPs emissions from the Project will be less than 10 tons per year (TPY) for any single HAP and less than

25 TPY for all HAPs. However, the Hopkins Plant is a major source of HAP emissions since emissions exceed 10 TPY of a single HAP and exceed 25 TPY for all HAPs and will remain a major source of HAPs after the repowering project. Since low-sulfur light oil is proposed to be fired in the proposed CT, the proposed CT is defined as "stationary diffusion flame oil-fired combustion turbines" under the Subpart YYYY requirements. The Project, combined with two other CTs at the Hopkins facility, would have the potential for an aggregate total potential of 1,000 hours or more of oil firing during any calendar year. Actual applicability of Subpart YYYY is based on actual oil fuel used in a calendar year. The proposed Project will be required to demonstrate compliance with the CT MACT of 91-parts per billion by volume, dry (ppbvd) formaldehyde, corrected to 15-percent oxygen, if the aggregate 1,000 hours per year is exceeded. Based on the applicability of Subpart YYYY, compliance will be determined upon initial operation and annually (40 CFR Part 63, Section 63.6120, Table 3).

An emission factor for toluene of 33 pounds (lb)/10^{12} British thermal units (Btu) for natural gas firing, was developed from the data in the EPA Combustion Turbine Emissions Database. This factor is based on the median value for loads greater than 80 percent. Similar to formaldehyde emission factors, there are no confirmed test data of toluene emissions from F Class turbines. The recent EPA emission factor, which is based on much smaller turbines than those proposed for the Project, suggests toluene emissions from gas turbines of 130 lb/10^{12} Btu when firing natural gas at loads greater than 80 percent. For all loads, the average and median EPA factors are 94 and 19 lb/10^{12} Btu, respectively. Since the median emission factor is about 4 to 5 times lower than the average factor, this clearly points to the large range in toluene emissions and how the individual CT characteristics can influence the results.

The emission factors for many of the other HAPs were developed by EPA in a manner similar to toluene. For these HAPs, fewer data are available and are also considered not representative of state-of-the-art DLN combustion systems. The use of AP-42 emission factors for HAPs is considered to provide conservative estimates of emissions.

The GE 7FA CT with SCR will experience excess emissions during the short startup and shutdown periods for NO_x and may experience excess emissions for other pollutants. The conservative turbine inlet temperature combined with the assumption of 100-percent capacity factor provides maximum potential emissions that would envelope operation including any excess emissions from startups and shutdowns.

2.4 Site Layout, Structures, and Stack Sampling Facilities

A site plan of the proposed Project is presented in Figure 2.1-2 (see the Report for the modification to the Site Certification) and a process flow diagram is presented in Figure 2-1. Stack sampling facilities will be constructed in accordance to Rule 62-297.310(6), F.A.C.

TABLE 2-1
ESTIMATED ACTUAL ANNUAL PM/PM_{10}, CO, VOC, LEAD, AND MERCURY EMISSIONS
FOR THE EXISITNG HOPKINS UNIT 2 WITH LATEST AP-42 EMISSION FACTORS

		Emissions					
Pollutant	**Units**	**2001**	**2002**	**2003**	**2004**	**2005**	**Maximum 2-year Period**
Total Emissions							
PM	TPY	32.2	26.3	111.1	126.2	146.5	136.3
PM_{10}	TPY	24.3	20.2	79.2	90.4	104.7	97.5
CO	TPY	233.8	248.4	181.2	252.8	194.1	241.1
VOC	TPY	16.3	17.0	16.6	21.7	17.7	19.7
Lead	TPY	0.0046	0.0040	0.017	0.019	0.018	0.019
Mercury	TPY	0.00032	0.00026	0.00127	0.00140	0.00135	0.0014
Residual Oil (Grade 6) [a]							
PM	TPY	27.2	20.9	108.2	121.8	143.4	
PM_{10}	TPY	19.3	14.8	76.4	86.0	101.6	
CO	TPY	11.0	8.4	54.5	59.1	57.8	
VOC	TPY	1.7	1.3	8.3	9.0	8.8	
Lead	TPY	0.0033	0.0025	0.016	0.018	0.017	
Mercury	TPY	0.00025	0.00019	0.00123	0.00134	0.00131	
S content	percent	1	1	0.73	0.77	1	
Fuel usage	1,000 gal/yr	4,383.20	3,367.20	21,799.08	23,658.40	23,109.50	
Natural Gas [b]							
PM	TPY	5.0	5.4	2.9	4.4	3.1	
PM_{10}	TPY	5.0	5.4	2.9	4.4	3.1	
CO	TPY	222.9	239.9	126.7	193.7	136.3	
VOC	TPY	14.6	15.7	8.3	12.7	8.9	
Lead	TPY	0.0013	0.0014	0.0008	0.0012	0.0008	
Mercury	TPY	0.00007	0.00007	0.00004	0.00006	0.00004	
Fuel usage	million cubic ft/yr	5,306.81	5,712.80	3,016.04	4,611.60	3,245.20	

[a] Emission factors for residual fuel oil (AP-42, Section 1.3, 9/98)

PM	lb/1,000 gal	(9.19 x S) + 3.22	(Filterable only)
PM_{10}	lb/1,000 gal	5.9 x [(1.12 x S) + 0.37]	(Filterable only)
CO	lb/1,000 gal	5.0	
VOC	lb/1,000 gal	0.76	
Lead	lb/1,000 gal	0.00151	
Mercury	lb/1,000 gal	0.000113	

[b] Emission factors for natural gas (AP-42, Section 1.4, 3/98)

PM	lb/mmcf	1.9	(Filterable only)
PM_{10}	lb/mmcf	1.9	(Filterable only)
CO	lb/mmcf	84	
VOC	lb/mmcf	5.5	
Lead	lb/mmcf	0.0005	
Mercury	lb/mmcf	0.000026	

TABLE 2-2
ACTUAL SO_2 EMISSIONS FOR THE EXISTING HOPKINS UNIT 2
BASED ON CEMS DATA

		SO_2 Emissions			
		Tons/month (TPM)			Tons/year (TPY) Average 24 months Consecutive
Year	Month	Oil	Gas	TOTAL	
Maximum				438	1642
2001	Mar	0	0	0	NA
	Apr	0	0.06	0.06	NA
	May	0	0.28	0.28	NA
	Jun	0	0.27	0.27	NA
	Jul	0	0.31	0.31	NA
	Aug	15.93	0.28	16.21	NA
	Sep	13.64	0.23	13.87	NA
	Oct	0	0	0	NA
	Nov	0	0	0	NA
	Dec	0	0.03	0.03	NA
2002	Jan	36.95	0.07	37.02	NA
	Feb	0	0	0	NA
	Mar	0	0.03	0.03	NA
	Apr	0	0.22	0.22	NA
	May	87.61	0.13	87.74	NA
	Jun	4.42	0.22	4.64	NA
	Jul	0	0.26	0.26	NA
	Aug	0	0.26	0.26	NA
	Sep	4.9	0.2	5.1	NA
	Oct	51.44	0.07	51.51	NA
	Nov	24.64	0.17	24.81	NA
	Dec	0	0.18	0.18	NA
2003	Jan	90.14	0.07	90.21	NA
	Feb	2.31	0.01	2.32	168
	Mar	84.51	0.11	84.62	210
	Apr	0	0.03	0.03	210
	May	189.66	0.08	189.74	305
	Jun	181.58	0.09	181.67	395
	Jul	183.92	0.1	184.02	487
	Aug	212.51	0.08	212.59	585
	Sep	112.8	0.14	112.94	635
	Oct	59.11	0.2	59.31	665
	Nov	0	0.01	0.01	665
	Dec	194.67	0.02	194.69	762
2004	Jan	135.3	0.04	135.34	811
	Feb	70.44	0.16	70.6	846
	Mar	84.04	0.17	84.21	889
	Apr	66.43	0.17	66.6	922
	May	123.79	0.19	123.98	940
	Jun	134.84	0.16	135	1005
	Jul	155.65	0.12	155.77	1083
	Aug	170.1	0.11	170.21	1168
	Sep	183.31	0.08	183.39	1257
	Oct	194.54	0.09	194.63	1328
	Nov	44.04	0.08	44.12	1338
	Dec	128.77	0.03	128.8	1402
2005	Jan	115.66	0.02	115.68	1415
	Feb	150.79	0.01	150.8	1489
	Mar	29.15	0.01	29.16	1462
	Apr	265.29	0	265.29	1594
	May	12.7	0.21	12.91	1506
	Jun	34.93	0.18	35.11	1433
	Jul	101.54	0.18	101.72	1391
	Aug	276.69	0.09	276.78	1424
	Sep	103.71	0.14	103.85	1419
	Oct	-	-	97.0	1438
	Nov	-	-	29.7	1453
	Dec	-	-	438.4	1575
2006	Jan	-	-	270.2	1642
	Feb	-	-	14.2	1614

TABLE 2-3
ACTUAL NO_x EMISSIONS FOR THE EXISTING HOPKINS UNIT 2
BASED ON CEMS DATA

		NO_x Emissions	
Year	**Month**	**Tons/month (TPM) TOTAL**	**Tons/year (TPY) Average 24 months Consecutive**
Maximum		131	843
	Mar	0.00	NA
	Apr	22.43	NA
	May	91.98	NA
	Jun	83.45	NA
	Jul	99.49	NA
	Aug	131.33	NA
	Sep	70.79	NA
	Oct	0.93	NA
	Nov	0.00	NA
	Dec	7.62	NA
2002	Jan	36.00	NA
	Feb	0.00	NA
	Mar	11.55	NA
	Apr	99.18	NA
	May	71.81	NA
	Jun	56.04	NA
	Jul	73.79	NA
	Aug	75.77	NA
	Sep	60.50	NA
	Oct	39.19	NA
	Nov	45.23	NA
	Dec	30.12	NA
2003	Jan	52.94	NA
	Feb	3.40	582
	Mar	52.18	608
	Apr	3.72	599
	May	76.00	591
	Jun	96.32	597
	Jul	88.72	592
	Aug	99.95	576
	Sep	79.38	580
	Oct	72.05	616
	Nov	1.31	616
	Dec	81.19	653
2004	Jan	60.74	666
	Feb	60.16	696
	Mar	79.11	729
	Apr	78.72	719
	May	124.15	745
	Jun	101.11	768
	Jul	79.76	771
	Aug	79.86	773
	Sep	85.54	785
	Oct	95.74	814
	Nov	24.06	803
	Dec	44.57	810
2005	Jan	48.36	808
	Feb	47.05	830
	Mar	10.67	809
	Apr	72.16	843
	May	44.70	828
	Jun	46.56	803
	Jul	81.39	799
	Aug	114.19	806
	Sep	46.85	790
	Oct	2.07	755
	Nov	0.61	755
	Dec	14.10	721
2006	Jan	1.32	691
	Feb	0.67	662

TABLE 2-4
STACK, OPERATING, AND EMISSION DATA FOR THE PROPOSED HOPKINS UNIT 2 REPOWERING PROJECT FOR NATURAL GAS-FIRING FOR BASELOAD COMBINED CYCLE OPERATIONS

		Natural Gas-Firing[a]					
		CT Only			CT with Duct Burner on Gas		
Parameter	**Units**	**25 °F**	**59 °F**	**95 °F**	**25 °F**	**59 °F**	**95 °F**
Combustion Turbine Performance							
Net power output (MW)	MW	187.8	174.4	160.3	187.8	174.4	160.3
Net heat rate	Btu/kWh, LHV	9,110	9,270	9,495	9,110	9,270	9,495
	Btu/kWh, HHV	10,112	10,290	10,539	10,112	10,290	10,539
Heat Input	MMBtu/hr, LHV	1,711	1,617	1,522	1,711	1,617	1,522
	MMBtu/hr, HHV	1,899	1,795	1,689	1,899	1,795	1,689
Relative Humidity	%	87	78	50	87	78	50
Fuel heating value	Btu/lb, LHV	20,714	20,714	20,714	20,714	20,714	20,714
	Btu/lb, HHV	22,993	22,993	22,993	22,993	22,993	22,993
Duct Burner							
Heat Input	MMBtu/hr, LHV	0.0	0.0	0.0	765	712	663
	MMBtu/hr, HHV	0.0	0.0	0.0	689	641	597
CT/HRSG Stack Data							
Height	ft	150	150	150	150	150	150
Diameter	ft	18	18	18	18	18	18
100 Percent Load							
Temperature (^oF)	^oF	203	202	201	189	188	190
Velocity (ft/sec)	ft/sec	70.9	67.0	63.2	70.4	66.5	63.0
Maximum Hourly Emissions							
SO_2	lb/hr	10.47	9.90	9.32	14.7	13.8	13.0
PM/PM_{10}	lb/hr	11.1	11.0	10.9	21.1	20.3	19.6
NO_x	lb/hr	34.3	32.4	30.5	47.8	45.0	42.2
	ppmvd @ 15% O_2	5	5	5	5	5	5
CO	lb/hr	41.7	39.1	36.2	96.8	90.3	83.9
	ppmvd	12.0	12.0	12.0	28.6	28.5	28.6
	ppmvd @ 15% O_2	10.0	9.9	9.7	16.8	16.7	16.5
VOC (as methane)	lb/hr	7.52	7.12	6.72	16.70	15.66	14.67
	ppmvw	3.50	3.50	3.50	8.64	8.66	8.76
	ppmvd @ 15% O_2	3.15	3.16	3.16	5.67	5.71	5.80
Lead	lb/hr	NA	NA	NA	NA	NA	NA
Sulfuric Acid Mist	lb/hr	1.05	0.99	0.93	1.89	1.77	1.66

[a] Refer to Appendix A for detailed information on basis of pollutant emission rates and operating data.
Includes simple cycle operation with exhaust gases routed to the HRSG and SCR system.

Source: GE, 2006.

TABLE 2-5
STACK, OPERATING, AND EMISSION DATA FOR THE PROPOSED HOPKINS UNIT 2 REPOWERING PROJECT FOR DISTILLATE OIL-FIRING FOR BASELOAD COMBINED CYCLE OPERATIONS WITH NATURAL GAS DUCT FIRING

		Distillate Oil-Firing [a]					
		CT Only			CT with Duct Burner on Gas		
Parameter	**Units**	**25 °F**	**59 °F**	**95 °F**	**25 °F**	**59 °F**	**95 °F**
Combustion Turbine Performance							
Power output (MW)	MW	198.9	187.9	172.4	198.9	187.9	172.4
Heat rate	Btu/kWh, LHV	9,860	9,935	10,090	9,860	9,935	10,090
	Btu/kWh, HHV	10,452	10,531	10,695	10,452	10,531	10,695
Heat Input	MMBtu/hr, LHV	1,961	1,867	1,740	1,961	1,867	1,740
	MMBtu/hr, HHV	2,079	1,979	1,844	2,079	1,979	1,844
Relative Humidity	%	87	78	50	87	78	50
Fuel heating value	Btu/lb, LHV	18,300	18,300	18,300	18,300	18,300	18,300
	Btu/lb, HHV	19,398	19,398	19,398	19,398	19,398	19,398
Duct Burner							
Heat Input	MMBtu/hr, LHV	0.0	0.0	0.0	765	712	663
	MMBtu/hr, HHV	0.0	0.0	0.0	689	641	597
CT/HRSG Stack Data							
Height	ft	150	150	150	150	150	150
Diameter	ft	18	18	18	18	18	18
100 Percent Load							
Temperature (oF)	^{o}F	248	248	247	206	204	201
Velocity (ft/sec)	ft/sec	79.5	75.1	70.3	75.8	71.4	66.6
Maximum Hourly Emissions							
SO_2	lb/hr	107	102	95	111	106	99
PM/PM_{10}	lb/hr	38.7	37.6	36.2	48.7	47.0	44.9
NOx	lb/hr	81.4	77.5	72.2	108.4	102.6	95.6
	ppmvd @ 15% O2	10.0	10.0	10.0	10.0	10.0	10.0
CO	lb/hr	87.8	82.2	76.1	142.9	133.4	123.8
	ppmvd	25.0	25.0	25.0	41.9	41.8	41.9
	ppmvd @ 15% O2	17.7	17.4	17.3	21.4	21.2	21.1
VOC (as methane)	lb/hr	7.89	7.46	6.99	17.1	16.0	14.9
	ppmvw	3.5	3.5	3.5	7.6	7.5	7.5
	ppmvd @ 15% O2	2.8	2.8	2.8	5.2	5.2	5.3
Lead	lb/hr	0.029	0.028	0.026	0.029	0.028	0.026
Sulfuric Acid Mist	lb/hr	21.4	20.4	19.0	22.3	21.2	19.7

[a] Refer to Air Construction Permit Application (Appendix 10.1.5) for detailed information on basis of pollutant emission rates and operating data. Includes simple cycle operation with exhaust gases routed to the HRSG and SCR system.

Source: GE, 2006

TABLE 2-6
STACK, OPERATING, AND EMISSION DATA FOR THE PROPOSED HOPKINS UNIT 2 REPOWERING PROJECT
FOR NATURAL GAS-FIRING FOR BASELOAD SIMPLE CYCLE OPERATIONS

		Natural Gas-Firing[a]		
		CT Only		
Parameter	**Units**	**25 °F**	**59 °F**	**95 °F**
Combustion Turbine Performance				
Net power output (MW)	MW	187.8	174.4	160.3
Net heat rate	Btu/kWh, LHV	9,110	9,270	9,495
	Btu/kWh, HHV	10,112	10,290	10,539
Heat Input	MMBtu/hr, LHV	1,711	1,617	1,522
	MMBtu/hr, HHV	1,899	1,795	1,689
Relative Humidity	%	87	78	50
Fuel heating value	Btu/lb, LHV	20,714	20,714	20,714
	Btu/lb, HHV	22,993	22,993	22,993
CT/Bypass Stack Data				
Height	ft	150	150	150
Diameter	ft	18	18	18
100 Percent Load				
Temperature (^oF)	^oF	1,081	1,114	1,144
Velocity (ft/sec)	ft/sec	164.9	159.4	153.3
Maximum Hourly Emissions				
SO_2	lb/hr	10.5	9.90	9.32
PM/PM_{10}	lb/hr	9.0	9.0	9.0
NO_x	lb/hr	61.8	58.4	55.0
	ppmvd @ 15% O2	9.0	9.0	9.0
CO	lb/hr	41.7	39.1	36.2
	ppmvd	12.0	12.0	12.0
	ppmvd @ 15% O2	10.0	9.9	9.7
VOC (as methane)	lb/hr	7.52	7.12	6.72
	ppmvw	3.50	3.50	3.50
	ppmvd @ 15% O2	3.15	3.16	3.16
Lead	lb/hr	NA	NA	NA
Sulfuric Acid Mist	lb/hr	1.05	0.99	0.93

[a] Refer to Appendix A for detailed information on basis of pollutant emission rates and operating data.

Source: GE, 2006.

TABLE 2-7
SUMMARY OF MAXIMUM POTENTIAL ANNUAL EMISSIONS
FOR THE PROPOSED HOPKINS UNIT 2 REPOWERING PROJECT

Pollutant	Maximum Potential Annual Emissions (TPY) for CT and Duct Burner Operating Scenarios [a]				
	A	B	C	D	E
SO_2	43	51	211.7	211.7	43.4
PM	48	65	111.8	111.8	39.4
PM_{10}	48	65	111.8	111.8	39.4
NO_x	142	165	244	266	256
CO	171	265	340	340	171
VOC (as methane)	31.2	46.8	47.4	47.4	31.2
Sulfuric Acid Mist	4.3	5.8	39.7	39.7	4.3
Lead	0.00E+00	0.00E+00	4.85E-02	4.85E-02	0.00E+00
Mercury	0.00E+00	0.00E+00	4.16E-03	4.16E-03	0.00E+00

[a] Based on the following hours of operation for each operating scenario:

	A	B	C	D	E
Combined Cycle Operation					
CT, natural gas-firing	8,760	5,110	1,610	5,110	0
CT and duct burner, natural gas-firing	0	3,650	3,650	150	0
CT, fuel oil-firing	0	0	3,500	0	0
CT, fuel oil-firing; duct burner, natural gas-firing	0	0	0	3,500	0
Simple Cycle Operation					
CT, natural gas-firing	0	0	0	0	8,760

3.0 AIR QUALITY REVIEW REQUIREMENTS AND APPLICABILITY

The following discussion pertains to the federal, State, and local air regulatory requirements and their applicability to the Hopkins Unit 2 Repowering Project. These requirements must be satisfied before the proposed facility can begin operation.

3.1 National and State Aaqs

The existing applicable national and State of Florida local AAQS are presented in Table 3-1. Primary national AAQS were promulgated to protect the public health with an adequate margin of safety, and secondary national AAQS were promulgated to protect the public welfare from any known or anticipated adverse effects associated with the presence of pollutants in the ambient air. Areas of the country in compliance with AAQS are designated as attainment areas. New sources to be located in or near these areas may be subject to more stringent air permitting requirements.

3.2 New Source Review Requirements

3.2.1 General Requirements

Under federal and State of Florida PSD review requirements, all major new or modified sources of air pollutants regulated under the Clean Air Act (CAA) must be reviewed, and a pre-construction permit issued. Florida's State Implementation Plan (SIP), which contains PSD regulations, has been approved by EPA; therefore, PSD approval authority has been granted to FDEP.

A "major facility" is defined as any one of 28 named source categories that have the potential to emit 100 TPY or more or any other stationary facility that has the potential to emit 250 TPY or more of any pollutant regulated under CAA. "Potential to emit" means the capability, at maximum design capacity, to emit a pollutant after the application of control equipment.

PSD review is used to determine whether significant air quality deterioration will result from the new or modified facility. The State of Florida's PSD regulations are found in Rule 62-212.400, F.A.C. Major new facilities are required to undergo the following analysis related to PSD for each pollutant emitted in significant amounts (see Table 3-2):

1. Control technology review,
2. Source impact analysis,
3. Air quality analysis (monitoring),

4. Source information, and
5. Additional impact analyses.

In addition to these analyses, a new facility also must be reviewed with respect to GEP stack height regulations.

For new minor sources or minor modification made at a major source, the new source review requirements under the PSD regulations do not apply. Instead, an air construction permit must be obtained under the general preconstruction review requirements in Rule 62-212.300, F.A.C., and for units added at a certified site for which conditions of certification are issued under the Power Plant Siting Act.

EPA has promulgated regulations providing that certain increases above an air quality baseline concentration level of SO_2, PM_{10}, and NO_2 concentrations that would constitute significant deterioration. The EPA class designations and allowable PSD increments are presented in Table 3-1. The State of Florida has adopted the EPA class designations and allowable PSD increments for SO_2, PM_{10}, and NO_2.

Because this Project will be a minor modification at a major source, the new source review requirements under the PSD regulations do not apply. As a result, the Project will not be required to undergo PSD review. The Project is still obligated to comply with FDEP regulations in submitting an air construction permit application.

3.2.2 Nonattainment Rules

FDEP has nonattainment provisions (Rule 62-212.500, F.A.C.) that apply to all major new sources facilities located in a nonattainment area. In addition, for major facilities that are located in an attainment or unclassifiable area, the nonattainment review procedures apply if the source or modification is located within the area of influence of a nonattainment area. The Hopkins Plant is located in Leon County, which is classified as an attainment or unclassifiable area for all criteria pollutants. Therefore, nonattainment new source review requirements are not applicable.

3.3 Emission Standards

3.3.1 New Source Performance Standards

The NSPS are a set of national emission standards that apply to specific categories of new sources. As stated in the 1977 CAA Amendments, these standards “shall reflect the degree of emission

limitation and the percentage reduction achievable through application of the best technological system of continuous emission reduction the Administrator determines has been adequately demonstrated."

The Hopkins Unit 2 Repowering Project will be subject to one or more NSPS. The following sections describe NSPS potentially applicable to the project.

Combustion Turbine

The existing applicable federal New Source Performance Standards (NSPS) for the combustion turbine are those promulgated by EPA for stationary gas turbines. These NSPS (40 CFR Part 60, Subpart GG) establish emission-limiting standards for NO_x and SO_2. The applicable NSPS are:

- NO_x - 75 ppmvd corrected to 15-percent O_2 and heat rate plus adjustment to fuel-bound nitrogen, and
- SO_2 - no more than 0.8-percent sulfur in the fuel.

However, on February 18, 2005, EPA proposed new NSPS for Stationary Combustion Turbines that will commence construction after February 18, 2005. These NSPS, Subpart KKKK, eventually will replace Subpart GG and Da for combustion turbines in combined cycle mode with duct burners. When finalized, the Subpart KKKK requirements will supersede the Subpart GG requirements and apply to units with a gross capacity of greater than 1 MW. The proposed Subpart KKKK requirements that would apply to the Project when finalized by EPA are applicable to combustion turbines greater than 30 MW. The NOx emissions are limited to 0.39 lb/MW-hr for gas-firing and 1.2 lb/MW-hr for light oil firing. Based on a typical simple cycle CT efficiency, these emission rates are approximately equivalent to 10 ppmvd corrected to 15-percent O_2 when firing natural gas and 30 ppmvd corrected to 15-percent O2 when firing light oil. For SO_2 emissions, the proposed Subpart KKKK requirements limit emissions to 0.58 lb/MW-hr or a fuel sulfur content of 0.05 percent. There are no emission limits in Subpart KKKK for particulate matter.

Duct Burner

The applicable federal NSPS for the duct burner are those promulgated by EPA on February 27, 2006 under 40 CFR Part 60, Subpart Da, for electric utility steam generating units capable of combusting more than 250 MMBtu/hr of fossil fuel for which construction is commenced after September 18, 1978. EPA finalized new NSPS for these units that establish emission-limiting standards for PM, NO_x and SO_2 (PM- 0.015 lb/MMBtu; NO_x- 1.0 lb/MW-hr; SO_2- 1.4 lb/MW-hr; regardless of the type

of fuel burned). However, HRSG and duct burners subject to the proposed NSPS, Subpart KKKK, would be exempt from the requirements of NSPS, Subpart Da.

3.3.2 National Emission Standards for Hazardous Air Pollutants

As discussed in Section 2.3, EPA has promulgated MACT standards for combustion turbines. The MACT standard limits formaldehyde emissions to 91 ppbvd corrected to 15-percent O_2, which is equivalent to about 220 lb/10^{12} Btu when firing natural gas and about 240 lb/10^{12} Btu when firing light oil (see Appendix A). The MACT standard could potentially apply to the Project, if during any calendar year oil use exceeds an aggregate of 1,000 hours for all turbines on the site.

3.3.3 Florida Rules

The FDEP has adopted the EPA NSPS by reference in Rule 62-204.800(8): Subsection (b)39 for stationary gas turbines and Subsection (b)2 for the duct burners. Therefore, the facility is required to meet the same emissions, performance testing, monitoring, reporting, and record keeping as those described in Subsection 3.3.1. FDEP periodically updates the NSPS that are adopted by reference. FDEP has authority for implementing NSPS requirements in Florida.

3.3.4 Florida Air Permitting Requirements

The FDEP regulations require any new source to obtain an air permit prior to construction. Minor modifications to major sources must comply with NSPS, National Emission Standards for Hazardous Air Pollutants (NESHAP), Permit to Construct, and Permit to Operate. The requirements for construction permits and approvals are contained in Rules 62-4.030, 62-4.050, 62-4.210, and 62-210.300(1), F.A.C. Specific emission standards are set forth in Chapter 62-296, F.A.C.

3.4 Source Applicability

3.4.1 Area Classification

The Project is located in Leon County, which has been designated by EPA and FDEP as an attainment area (includes unclassifiable) for all criteria pollutants. Leon County and surrounding counties are designated as PSD Class II areas for SO_2, PM_{10}, and NO_2. The site is located approximately 28 kilometers (km) from the PSD Class I area of the Bradwell Bay National Wilderness Area (NWA) and 38 km from the closest part of the PSD Class I area of the St. Marks NWA.

3.4.2 New Source Review

Pollutant Applicability

The existing Hopkins Generating Station is considered to be a major facility because the emissions of several regulated pollutants are estimated to exceed 100 TPY, and the emissions units are one of the 28 listed major source categories under the PSD rules.

The City of Tallahassee proposes to repower the existing 238-MW Unit No. 2 with the addition of one nominal 188-MW combined-cycle unit and the permanent shut down of the fossil fuel steam generator for Unit 2. The emissions of each unit have been previously described. A summary of the maximum potential annual emissions for the repowered Unit 2 with the emission reductions due to the shutdown of the existing Unit 2 boiler is presented in Table 3-3.

The PSD definition of a net emission increase consists of two additive components as follows:

- Any increase in actual emissions from a particular physical change or change in method of operation at a stationary source; and
- Any other increase and decreases in actual emissions at the source that are contemporaneous with the particular change and are otherwise creditable.

The first component narrowly includes only the emissions increases associated with a particular change at the source (the proposed CT emission). The second component more broadly includes all contemporaneous, source-wide (occurring anywhere at the entire source), creditable emission increases and decreases. For the Project, the shutdown of Unit No. 2 represents creditable emission decreases.

As shown in Table 3-3, potential annual emissions from the Hopkins Unit 2 Repowering Project, together with the emissions reductions due to the shutdown of the existing Unit 2 boiler, will not trigger PSD review for any regulated pollutant.

The maximum potential annual emissions were based the following operational scenarios at a turbine inlet temperature of 59 ^{o}F:

- CT operation when firing natural gas in combined cycle or simple cycle mode with exhaust gases routed through the HRSG and SCR system for 8,760 hours per year operation of the CT at full load for all pollutants except NO_x. For NO_x, the maximum annual emissions were based on the CT operation in simple cycle mode with exhaust gases routed through the

emergency bypass stack for 8,760 hours per year operation of the CT at full load at full load. Only natural gas will be fired in this mode.

- Maximum duct firing with natural gas of 2,598,800 MMBtu/yr (HHV), which is equivalent to 3,650 hours/year operation at the maximum hourly duct firing rate.
- Maximum distillate oil-firing in the CT of 6,926,500 MMBtu/yr (HHV), which is equivalent to 3,500 hours of the CT at full load.

A summary of the maximum short-term emission proposed for the repowered unit is presented in Table 3-4.

Therefore, under PSD regulations, the Project is classified as a minor modification at a major source. As a result, the new source review requirements under the PSD regulations do not apply and the Project will not be required to undergo PSD review. Instead, the Project will be required to be reviewed under the general preconstruction review requirements in Rule 62-212.300, F.A.C., and subject to a final order issued pursuant to the PPSA.

Emission Standards

The applicable NSPS for the CTs is 40 CFR Part 60, Subpart GG, and the applicable NSPS for the duct burner is 40 CFR Part 60, Subpart Da. These NSPS are being replaced by Subpart KKKK.

For this Project, the NO_x emissions from the CT will be less than 0.2 lb/MW-hr for gas-firing and 0.42 lb/MW-hr for light oil firing for the combined cycle and simple cycle operations when the exhaust gases are routed to the HRSG and SCR system. For simple cycle operation when the exhaust gases are routed to the bypass stack, the NOx emissions from combustion turbine will be approximately 0.3 lb/MW-hr for gas-firing. For SO_2, the Project's emissions will be limited to a fuel sulfur content of 0.05 percent.

The NESHAPs Subpart YYYY may potentially apply to the Project. Information available from the EPA's emission database indicate that the Project will meet the proposed MACT of 91 ppbvd corrected to 15-percent O_2 for formaldehyde.

As previously discussed, the applicable federal NSPS for the duct burner are those promulgated by EPA on February 27, 2006, under 40 CFR Part 60, Subpart Da, which establish emission-limiting standards for PM, NO_x, and SO_2. EPA finalized new NSPS for these units that establish emission-limiting standards for PM, NO_x, and SO_2. However, HRSG and duct burners subject to the proposed

NSPS, Subpart KKKK, such as the duct burner proposed for this Project would be exempt from the requirements of NSPS, Subpart Da. The emission limits proposed for the Project will be well less than the limits in Subpart Da.

Excess Emissions

The start-up and shutdown and fuel changes in combined cycle operation will require an excess emission allowance greater than 2 hours provided under the FDEP rules. During cold start-up, the operating load of the CTs is limited by the amount of steam that can be accepted by the steam turbine requiring low-load operation for longer than 2 hours and resulting in excess emissions during these periods. Major tuning sessions of the DLN combustors will also result in conditions where excess emissions may occur. An excess emission allowance is requested for this Project similar to the allowance authorized by the FDEP for the City's Purdom Repowering Project. The combined cycle unit associated with this facility has a similar steam turbine that receives steam during start-up. The proposed condition follows:

> Excess emissions resulting from startup, shutdown, malfunction, or fuel switching shall be permitted providing best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized but in no case exceed the following in any 24-hour period: a total of six hours during any day including a cold startup; a total of four hours during any day that includes a hot startup; and a total of two hours during days not including a hot or cold startup. A cold startup is startup after the combined cycle unit has been down for more than 48 hours. A hot startup is startup after the combined cycle unit has been down for 48 hours or less.
>
> In addition, excess emissions resulting from a major DLN/water injection tuning session without SCR operation shall be permitted provided the tuning session is performed in accordance with the manufacturer's specifications and in no case shall exceed 72 hours in any calendar year. A "major tuning session" would occur after a combustor change-out, a major repair to a combustor, or other similar circumstances. Prior to performing any major tuning session, the permittee shall provide the Compliance Authority with an advance notice that details the activity and proposed

tuning schedule. The notice may be made by telephone, facsimile transmittal, or electronic mail.

3.4.3 Other Clean Air Act Requirements

The 1990 CAA Amendments established a program to reduce potential precursors of acidic deposition. The Acid Rain Program was delineated in Title IV of the CAA Amendments and required EPA to develop the program. EPA's final regulations were promulgated on January 11, 1993, and included permit provisions (40 CFR Part 72), allowance system (Part 73), continuous emission monitoring (Part 75), excess emission procedures (Part 77), and appeal procedures (Part 78).

EPA's Acid Rain Program applies to all existing and new utility units except those serving a generator less than 25 MW, existing simple cycle CTs, and certain non-utility facilities; units that fall under the program are referred to as affected units. The EPA regulations are applicable to the Project for the purposes for obtaining a permit and allowances, as well as emission monitoring. New units are required to obtain permits under the program by submitting a complete application 24 months before the date on which the unit commences operation (e.g., first fire). (Rule 62-210.370). The City has submitted the Acid Rain Program application for this project.

The permit would require the units to hold SO_2 emission allowances. An allowance is a market-based financial instrument that is equivalent to 1 ton of SO_2 emissions. Allowances can be sold, purchased, or traded.

CEM for SO_2 and NO_x is required for gas-fired and oil-fired affected units. When an SO_2 CEM is selected to monitor SO_2 mass emissions, a flow monitor is also required. Alternately, SO_2 emissions may be determined using procedures established in Appendix D, 40 CFR Part 75 (flow proportional oil sampling or manual daily oil sampling). CO_2 emissions must also be determined either through a CEM (e.g., as a diluent for NO_x monitoring) or calculation. Alternate procedures, test methods, and quality assurance/quality control (QA/QC) procedures for CEM are specified (Part 75, Appendices A through I). The acid rain CEM requirements including QA/QC procedures are, in general, more stringent than those specified in the NSPS for Subpart GG. New units are required to meet the requirements by the later of January 1, 1995, or not later than 90 days after the unit commences commercial operation. The City will install a NOx CEMS and utilize the alternative procedures for SO_2 and CO_2 in accordance with the applicable Title IV appendixes.

TABLE 3-1
NATIONAL AND STATE AAQS, ALLOWABLE PSD INCREMENTS, AND SIGNIFICANT IMPACT LEVELS

Pollutant	Averaging Time	AAQS ($\mu g/m^3$)[a] Primary Standard	AAQS ($\mu g/m^3$)[a] Secondary Standard	AAQS ($\mu g/m^3$)[a] Florida	PSD Increments ($\mu g/m^3$)[a] Class I	PSD Increments ($\mu g/m^3$)[a] Class II	PSD Class II Significant Impact Levels ($\mu g/m^3$)[b]
Particulate Matter[c] (PM_{10})	Annual Arithmetic Mean	50	50	50	4	17	1
	24-Hour Maximum	150	150	150	8	30	5
Sulfur Dioxide	Annual Arithmetic Mean	80	NA	60	2	20	1
	24-Hour Maximum	365	NA	260	5	91	5
	3-Hour Maximum	NA	1,300	1,300	25	512	25
Carbon Monoxide	8-Hour Maximum	10,000	10,000	10,000	NA	NA	500
	1-Hour Maximum	40,000	40,000	40,000	NA	NA	2,000
Nitrogen Dioxide	Annual Arithmetic Mean	100	100	100	2.5	25	1
Ozone[c]	1-Hour Maximum	235	235	235	NA	NA	NA
Lead	Calendar Quarter Arithmetic Mean	1.5	1.5	1.5	NA	NA	NA

Note: Particulate matter (PM_{10}) = particulate matter with aerodynamic diameter less than or equal to 10 micrometers.
NA = Not applicable, i.e., no standard exists.

[a] Short-term maximum concentrations are not to be exceeded more than once per year except for the PM_{10} and ozone AAQS. The 24-hour PM_{10} AAQS is attained when the expected number of days per year with a 24-hour concentration above 150 μ/m^3 is equal to or less than 1. For modeling purposes, compliance is based on the sixth highest 24-hour concentration over a 5-year period. For ozone, the daily maximum 1-hour concentration cannot be exceeded an average of more than one per year.

[b] Maximum concentrations are not to be exceeded.

[c] On July 18, 1997, EPA promulgated revised AAQS for particulate matter and ozone. For particulate matter, $PM_{2.5}$ standards were introduced with a 24-hour standard of 65 g/m^3 (3-year average of 98th percentile) and an annual standard of 15 g/m^3 (3-year average at community monitors).
The ozone standard was modified to be 0.08 ppm; achieved when 3-year average of 99th percentile is 0.08 ppm 157 μ/m^3 or less. FDEP has not yet adopted these standards.

Sources: Federal Register, Vol. 43, No. 118, June 19, 1978.
40 CFR 50; 40 CFR 52.21.
Chapter 62-204, F.A.C.

TABLE 3-2
PSD SIGNIFICANT EMISSION RATES

Pollutant	Regulated Under	Significant Emission Rate (TPY)
Sulfur Dioxide	NAAQS, NSPS	40
Particulate Matter [PM(TSP)]	NSPS	25
Particulate Matter (PM_{10})	NAAQS	15
Nitrogen Dioxide	NAAQS, NSPS	40
Carbon Monoxide	NAAQS, NSPS	100
Volatile Organic Compounds (Ozone)	NAAQS, NSPS	40
Lead	NAAQS	0.6
Sulfuric Acid Mist	NSPS	7
Total Fluorides	NSPS	3
Total Reduced Sulfur	NSPS	10
Reduced Sulfur Compounds	NSPS	10
Hydrogen Sulfide	NSPS	10
Mercury	NESHAP	0.1

NAAQS = National Ambient Air Quality Standards.
NSPS = New Source Performance Standards.
NESHAP = National Emission Standards for Hazardous Air Pollutants.

Sources: 40 CFR 52.21; Rule 62-212.400.

TABLE 3-3
SUMMARY OF MAXIMUM POTENTIAL ANNUAL EMISSIONS FOR THE PROPOSED HOPKINS UNIT 2 REPOWERING PROJECT COMPARED TO THE PSD SIGNIFCANT EMISSION RATES

	Annual Emissions (TPY)								
	Maximum Potential Annual Emissions (TPY) for CT and DB Operating Scenarios [a]					Actual Emissions from Existing Unit 2 [b]	Emission Changes-Proposed Project with Existing Unit 2 Shutdown	PSD Significant Emission Rate (tons/year)	PSD Review Required?
Pollutant	**A**	**B**	**C**	**D**	**E**				
SO_2	43.4	50.5	211.7	211.7	43.4	1642.0	-1,430	40	No
PM	48.2	65.2	111.8	111.8	39.4	136.3	-25	25	No
PM_{10}	48.2	65.2	111.8	111.8	39.4	97.5	14	15	No
NO_x	142.0	164.9	243.7	265.7	255.6	843.3	-578	40	No
CO	171.1	264.6	340.1	340.1	171.1	241.1	99	100	No
VOC (as methane)	31.2	46.8	47.4	47.4	31.2	19.7	28	40	No
Sulfuric Acid Mist	4.3	5.8	39.7	39.7	4.3	73.0	-33	7	No
Lead	0.000	0.000	0.05	0.05	0.00	0.019	0	0.6	No
Mercury	0.0000	0.0000	0.00	0.00	0.00	0.0014	0	0.1	No

[a] Based on the following hours of operation for each operating scenario:

	A	B	C	D	E
Combined Cycle Operation					
CT, natural gas-firing	8,760	5,110	1,610	5,110	0
CT and duct burner, natural gas-firing	0	3,650	3,650	150	0
CT, fuel oil-firing	0	0	3,500	0	0
CT, fuel oil-firing; duct burner, natural gas-firing	0	0	0	3,500	0
CT, fuel oil-firing; duct burner, natural gas-firing					
Simple Cycle Operation	0	0	0	0	8,760

[b] Based on maximum annual average PM, PM10, CO, VOC, lead, and mercury emissions based on AOR data for the 24-month consecutive period from 2001 to 2005. For SO_2 and NO_x, based on the maximum annual average emissions from monthly CEM data from March 2001 to February 2006.

TABLE 3-4
SUMMARY OF MAXIMUM SHORT-TERM EMISSIONS
FOR THE PROPOSED HOPKINS UNIT 2 REPOWERING PROJECT

		CT Natural Gas-Firing		CT Distillate Oil-Firing	
Pollutant		**Emission Rate**	**Basis**	**Emission Rate**	**Basis**
Combined Cycle Operation					
		No Duct Firing		***No Duct Firing***	
SO_2		9.9 lb/hr	2 gr S/100 scf	102.0 lb/hr	0.05% S
PM/PM_{10}	CT	9.0 lb/hr	filterable	37.6 lb/hr	filterable
PM/PM_{10}	CT/SCR	11.0 lb/hr	filterable	37.6 lb/hr	filterable
NO_x	CT/SCR	32.4 lb/hr	5 ppmvd@15%O2	77.5 lb/hr	10 ppmvd@15%O2
CO		39.1 lb/hr	9.9 ppmvd@15%O2	82.2 lb/hr	17.4 ppmvd@15%O2
VOC		7.1 lb/hr	3.16 ppmvd@15%O2	7.5 lb/hr	2.77 ppmvd@15%O2
		Duct Firing with Gas [a]		***Duct Firing with Gas*** [a]	
SO_2		13.8 lb/hr	2 gr S/100 scf	105.9 lb/hr	2 gr S/100 scf (DB)
PM/PM_{10}	CT/SCR	20.3 lb/hr	filterable	47.0 lb/hr	filterable
NO_x	CT/SCR	45.0 lb/hr	5 ppmvd@15%O2	102.6 lb/hr	10 ppmvd@15%O2
CO		90.3 lb/hr	16.7 ppmvd@15%O2	133.4 lb/hr	21.2 ppmvd@15%O2
VOC		15.7 lb/hr	5.7 ppmvd@15%O2	16.0 lb/hr	5.2 ppmvd@15%O2
Simple Cycle Operation					
SO_2		9.9 lb/hr	2 gr S/100 scf	NA	
PM/PM_{10}		9.0 lb/hr	filterable	NA	
NO_x		58.4 lb/hr	9 ppmvd@15%O2	NA	
CO		39.1 lb/hr	9.9 ppmvd@15%O2	NA	
VOC		7.1 lb/hr	3.2 ppmvd@15%O2	NA	

Note: Based on 59 ^{o}F ambient inlet air temperature.
NA= not applicable

[a] Basis of duct burner emissions :

Pollutant	Natural Gas-Firing	Oil-Firing
PM_{10}	0.0120 lb/MMBtu	0.0150 lb/MMBtu
NO_x	0.10 lb/MMBtu	0.15 lb/MMBtu
CO	0.072 lb/MMBtu	0.10 lb/MMBtu
VOC	0.012 lb/MMBtu	0.012 lb/MMBtu

APPENDIX A

EXPECTED PERFORMANCE AND EMISSIONS INFORMATION FOR THE COMBUSTION TURBINE AND DUCT BURNER

TABLE A-SUM-1
SUMMARY OF MAXIMUM SHORT-TERM EMISSIONS FOR THE HOPKINS 2 REPOWERING PROJECT

		Maximum Hourly Emissions (lb/hr)[a, b]				
		Combined Cycle (CC)				Simple Cycle (SC)
	CT Fuel:	NG	NG	FO	FO	NG
	Load:	100%	100% w/DB on NG	100%	100% w/DB on NG	100%
Pollutant						
Combustion Turbine						
SO_2		9.90	13.8	102.0	105.9	9.90
PM		11.0	20.3	37.6	47.0	9.00
PM_{10}		11.0	20.3	37.6	47.0	9.00
NO_x		32.4	45.0	77.5	102.6	58.4
CO		39.1	90.3	82.2	133.4	39.1
VOC (as methane)		7.12	15.7	7.5	16.0	7.12
Sulfuric Acid Mist		0.99	1.77	20.4	21.2	0.99
Lead		0.00	0.00	0.028	0.028	0.00
Mercury		0.00	0.00	0.0024	0.0024	0.00
HAPs		0.78	1.09	2.45	2.45	0.78
Combustion Turbines:	2					
SO_2		19.8	27.6	204.0	211.9	19.8
PM		22.0	40.7	75.2	93.9	18.0
PM_{10}		22.0	40.7	75.2	93.9	18.0
NO_x		64.8	89.9	154.9	205.1	117
CO		78.1	181	164	266.9	78.1
VOC (as methane)		14.24	31.3	14.9	32.0	14.24
Sulfuric Acid Mist		1.98	3.55	40.80	42.4	1.98
Lead		0.00	0.00	0.055	0.055	0.00
Mercury		0.00	0.00	0.0047	0.0047	0.00
HAPs		1.56	2.17	4.91	4.9	1.56

[a] Based on 59 °F ambient inlet air temperature.
Source: GE, 2005 - CT Performance Data;
Golder, 2005

TABLE A-SUM-1
SUMMARY OF MAXIMUM SHORT-TERM EMISSIONS FOR THE HOPKINS 2 REPOWERING PROJECT

	Maximum Hourly Emissions (lb/hr)[a, b]				
	Combined Cycle (CC)				Simple Cycle (SC)
CT Fuel:	NG	NG	FO	FO	NG
Load:	100%	100%	100%	100%	100%
		w/DB on NG		w/DB on NG	
Pollutant					

TABLE A-SUM-2
SUMMARY OF MAXIMUM ANNUAL EMISSIONS FOR THE HOPKINS 2 REPOWERING PROJECT

Operating Scenario	HP2 Repowering- Maximum Emissions (TPY) based on hours for						Net Emissions (Maximum Future Potential - Actual) based on hours for					
	A	B	C	D	E		A	B	C	D	E	
CC/ CT-NG	8,760	5,110	1,610	5,110	0		8,760	5,110	1,610	5,110	0	
CC/ CT & DB- NG	0	3,650	3,650	150	0		0	3,650	3,650	150	0	
CC/ CT -FO	0	0	3,500	0	0		0	0	3,500	0	0	PSD
	0	0	0	0	0	Actual [c]	0	0	0	0	0	Significant
CC/ CT -FO; DB -NG	0	0	0	3,500	0	Emissions-	0	0	0	3,500	0	Emission
						2-yr Average						Rate
SC/ NG	0	0	0	0	8,760	(TPY)	0	0	0	0	8,760	(TPY)
TOTAL	8,760	8,760	8,760	8,760	8,760		8,760	8,760	8,760	8,760	8,760	

TABLE A-SUM-2
SUMMARY OF MAXIMUM ANNUAL EMISSIONS FOR THE HOPKINS 2 REPOWERING PROJECT

Operating Scenario	HP2 Repowering- Maximum Emissions (TPY) based on hours for						Net Emissions (Maximum Future Potential - Actual) based on hours for					
	A	B	C	D	E		A	B	C	D	E	
CC/ CT-NG	8,760	5,110	1,610	5,110	0		8,760	5,110	1,610	5,110	0	
CC/ CT & DB- NG	0	3,650	3,650	150	0		0	3,650	3,650	150	0	
CC/ CT -FO	0	0	3,500	0	0		0	0	3,500	0	0	PSD
	0	0	0	0	0	Actual [c]	0	0	0	0	0	Significant
CC/ CT -FO; DB -NG	0	0	0	3,500	0	Emissions-	0	0	0	3,500	0	Emission
						2-yr Average						Rate
SC/ NG	0	0	0	0	8,760	(TPY)	0	0	0	0	8,760	(TPY)
TOTAL	8,760	8,760	8,760	8,760	8,760		8,760	8,760	8,760	8,760	8,760	
Combustion Turbine												
SO_2	43.4	50.5	211.7	211.7	43.4	1,642.0	-1,599	-1,591	-1,430	-1,430	-1,599	40
PM	48.2	65.2	111.8	111.8	39.4	136.3	-88	-71	-25	-25	-97	25
PM_{10}	48.2	65.2	111.8	111.8	39.4	97.5	-49	-32	14	14	-58	15
NO_x	142.0	164.9	243.7	265.7	255.6	843.3	-701	-678	-600	-578	-588	40
CO	171.1	264.6	340.1	340.1	171.1	241.1	-70	23	99	99	-70	100
VOC (as methane)	31.2	46.8	47.4	47.4	31.2	19.7	11	27	28	28	11	40
Sulfuric Acid Mist	4.3	5.8	39.7	39.7	4.3	73.0	-68.7	-67.3	-33.3	-33.3	-68.7	7
Lead	0.00	0.00	0.05	0.05	0.00	0.02	-0.019	-0.019	0.030	0.030	-0.019	0.6
Mercury	0.000	0.000	0.004	0.004	0.000	0.0014	-0.001	-0.001	0.003	0.003	-0.001	0.1
HAPs	3.4	4.0	6.9	6.4	3.4							
Combustion Turbines: 2												
SO_2	87	101	423	423	87	1,642.0	-1,555	-1,541	-1,219	-1,219	-1,555	40
PM	96	130	223.6	224	79	136.3	-40	-6	87	87	-57	25
PM_{10}	96	130	223.6	224	79	97.5	-1	33	126	126	-19	15
NO_x	284	330	487	531	511	843.3	-559	-514	-356	-312	-332	40
CO	342	529	680	680	342	241.1	101	288	439	439	101	100
VOC (as methane)	62.4	93.5	94.7	94.7	62.4	19.7	43	74	75	75	43	40
Sulfuric Acid Mist	8.7	11.5	79.5	79.5	8.7	73.0	-64.4	-61.5	6.5	6.5	-64.4	7
Lead	0.000	0.000	0.097	0.097	0.000	0.02	-0.019	-0.019	0.08	0.08	-0.02	0.6
Mercury	0.000	0.000	0.008	0.008	0.000	0.0014	-0.001	-0.001	0.007	0.007	-0.001	0.1
HAPs	6.83	7.95	13.81	12.7	6.8							

[b] Basis of Emissions for Hopkins 2 Repowering:

	Natural gas		Fuel oil				
SO2	2 gr S/100 scf		0.050%	S			
PM	filterable			filterable			(includes ammonium sulfate from SCR for CC operation)
PM10	filterable			filterable			(includes ammonium sulfate from SCR for CC operation)
NOx	5 ppmvd	(5	10	ppmvd	(10	w/DB)	CC operation (corrected to 15% oxygen)
NOx	9 ppmvd		NA				SC operation (corrected to 15% oxygen)
CO	12 ppmvd	(29	25	ppmvd	(50	w/DB)	
VOC	3.5 ppmvw	(8.7	3.5	ppmvw	(7.9	w/DB)	(assumes 50% UHC)

[c] Actual emissions based on CEMS for SO_2 and NO_x; AP-42 factors for other pollutants.
CEMS data used from March 2001 to February 2006. AOR data used 2001 to 2005.
Emission factors based on latest factors from AP-42 and used for all years (AOR emissions adjusted accordingly). PM/PM10 factors based on filterable PM.

TABLE A-2
MAXIMUM EMISSIONS FOR CRITERIA POLLUTANTS FOR THE HOPKINS UNIT 2 REPOWERING PROJECT
GE FRAME 7FA, DRY LOW NOX COMBUSTOR, NATURAL GAS, BASE LOAD, WITH NATURAL GAS DUCT FIRING

Parameter	CT Only Turbine Inlet Temperature 25 °F	59 °F	95 °F	CT with Duct Burner Turbine Inlet Temperature 25 °F w/DB	59 °F w/DB	95 °F w/DB
Particulate from CT, DB, and SCR						
Total PM_{10} = PM_{10} (front half) + PM_{10} ($(NH_4)_2SO_4$) from SCR only						
a. PM_{10} (front half) (lb/hr)						
CT- provided	9.0	9.0	9.0	9.0	9.0	9.0
DB (lb/hr) - calculated	0.0	0.0	0.0	9.2	8.5	8.0
Total CT/DB emission rate (lb/hr)	9.0	9.0	9.0	18.2	17.5	17.0
b. PM_{10} ($(NH_4)_2SO_4$) from SCR only = Sulfur trioxide from conversion of SO_2 converts to ammonium sulfate (= PM_{10})						
Particulate from conversion of SO_2 = SO_2 emissions (lb/hr) x conversion of SO_2 to SO_3 x lb SO_3/lb SO_2 x conversion of SO_3 to $(NH_4)_2SO_4$ x lb $(NH_4)_2SO_4$/ lb SO_3						
SO_2 emission rate (lb/hr)- calculated	10.5	9.9	9.3	14.7	13.8	13.0
Conversion (%) from SO_2 to SO_3	9.8	9.8	9.8	9.8	9.8	9.8
MW SO_3/ SO_2 (80/64)	1.3	1.3	1.3	1.3	1.3	1.3
Conversion (%) from SO_3 to $(NH_4)_2(SO_4)$	100	100	100	100	100	100
MW $(NH_4)_2$ SO_4/ SO_3 (132/80)	1.7	1.7	1.7	1.7	1.7	1.7
SCR Particulate (lb/hr)- calculated	2.12	2.00	1.88	2.97	2.79	2.62
CT emission rate (lb/hr) [a + b] assumes SCR	11.1	11.0	10.9	11.1	11.0	10.9
HRSG stack emission rate (lb/hr) [a + b]	11.1	11.0	10.9	21.1	20.3	19.6
(lb/mmBtu, HHV)	0.0059	0.0061	0.0064	0.0079	0.0081	0.0083
Sulfur Dioxide						
SO_2 (lb/hr)= Natural gas (scf/hr) x sulfur content(gr/100 scf) x 1 lb/7000 gr x (lb SO_2 /lb S) /100						
Fuel use (cf/hr)	1,832,961	1,732,040	1,630,584	2,570,901	2,418,878	2,270,068
Sulfur content (grains/ 100 cf)	2	2	2	2	2	2
lb SO_2 /lb S (64/32)	2	2	2	2	2	2
CT emission rate (lb/hr)	10.5	9.9	9.3	10.5	9.9	9.3
HRSG stack emission rate (lb/hr)	10.5	9.9	9.3	14.7	13.8	13.0
(lb/MW)	0.056	0.057	0.058			
Nitrogen Oxides						
NOx (lb/hr) = NOx (ppmvd@ 15% O_2) x {[20.9 x (1-Moisture (%)/100] - Oxygen, dry(%)} x 2116.8 lb/ft^2 x Volume flow (acfm) x 46 (mole. wgt NOx) x 60 min/hr / [1545 x (CT temp.(°F) + 460) x (20.9-15) x 1,000,000 (adj. for ppm)]						
CT/DB, ppmvd @15% O_2	9	9	9	14.5	14.4	14.4
Moisture (%)	7.54	8.55	10.28	10.26	11.21	12.88
Oxygen (%)	12.77	12.57	12.22	9.76	9.61	9.30
Turbine Flow (acfm)	2,517,808	2,433,691	2,341,021	2,553,753	2,468,107	2,373,678
Turbine Exhaust Temperature (°F)	1,081	1,114	1,144	1,081	1,114	1,144
CT emission rate (lb/hr)	61.8	58.4	55.0	61.8	58.4	55.0
(lb/MW)	0.3	0.3	0.3	NA	NA	NA
HRSG emission rate (lb/hr)	61.8	58.4	55.0	138.2	129.5	121.2
HRSG stack emission rate, ppmvd @ 15% O_2	5.0	5.0	5.0	5.0	5.0	5.0
HRSG Stack emission rate (lb/hr)	34.3	32.4	30.5	47.8	45.0	42.2
(lb/MW)	0.18	0.19	0.19			
Carbon Monoxide						
CO (lb/hr) = CO(ppm) x [1 - Moisture(%)/100] x 2116.8 lb/ft^2 x Volume flow (acfm) x 28 (mole. wgt CO) x 60 min/hr / [1545 x (CT temp.(°F) + 460°F) x 1,000,000 (adj. for ppm)]						
Basis, ppmvd	12	12	12	28.6	28.5	28.6
Basis, ppmvd @ 15% O2 - calculated	9.99	9.90	9.73	16.8	16.7	16.5
Moisture (%)	7.54	8.55	10.28	10.26	11.21	12.88
Oxygen (%)	12.77	12.57	12.22	9.76	9.61	9.30
Turbine Flow (acfm)	2,517,808	2,433,691	2,341,021	2,553,753	2,468,107	2,373,678
Turbine Exhaust Temperature (°F)	1,081	1,114	1,144	1,081	1,114	1,144
CT emission rate (lb/hr)	41.7	39.1	36.2	41.7	39.1	36.2
HRSG stack emission rate (lb/hr)	41.7	39.1	36.2	96.8	90.3	83.9

TABLE A-1
DESIGN INFORMATION AND STACK PARAMETERS FOR THE HOPKINS UNIT 2 REPOWERING PROJECT
GE FRAME 7FA, DRY LOW NO_X COMBUSTOR, NATURAL GAS, BASE LOAD, WITH NATURAL GAS DUCT FIRING

Parameter		CT Only Turbine Inlet Temperature 25 °F	59 °F	95 °F		CT with Duct Burner (Natural Gas) Turbine Inlet Temperature 25 °F w/DB	59 °F w/DB	95 °F w/DB
Combustion Turbine Performance								
Power output (MW)	p	187.8	174.40	160.3		187.8	174.4	160.3
Heat rate (Btu/kWh, LHV)	p	9,110	9,270	9,495		9,110	9,270	9,495
(Btu/kWh, HHV)		10,112	10,290	10,539		10,112	10,290	10,539
Heat Input (MMBtu/hr, LHV)	p	1,710.9	1,616.7	1,522		1,711	1,616.7	1,522
(MMBtu/hr, HHV)		1,899	1,795	1,689		1,899	1,795	1,689
Evaporative Cooler	p	Off	On	On		Off	On	On
Relative Humidity (%)	p	87	78	50		87	78	50
Natural gas								
Fuel heating value (Btu/lb, LHV)	p	20,714	20,714	20,714		20,714	20,714	20,714
(Btu/lb, HHV)		22,993	22,993	22,993		22,993	22,993	22,993
(HHV/LHV)		1.110	1.110	1.110		1.110	1.110	1.110
Duct Burner (DB)								
Heat input (MMBtu/hr, HHV)		0	0	0		765	712	663
(MMBtu/hr, LHV)		0	0	0		688.8	641.1	596.9
CT/DB Exhaust Flow								
Mass Flow (lb/hr)- with no margin		3,826,000	3,607,000	3,382,000	c	3,856,721.2	3,635,594	3,408,622
- provided	p	3,826,000	3,607,000	3,382,000				
Temperature (°F)	p	1,081	1,114	1,144		1,081	1,114	1,144
Moisture (% Vol.)	p	7.54	8.55	10.28	c	10.26	11.21	12.88
Oxygen (% Vol.)	p	12.77	12.57	12.22	c	9.76	9.61	9.30
Molecular Weight	c	28.49	28.38	28.19	c	28.31	28.20	28.02
	p	28.49	28.37	28.18				
Fuel Usage								
Natural Gas								
Fuel usage CT (lb/hr) = Heat Input (MMBtu/hr) x 1,000,000 Btu/MMBtu (Fuel Heat Content, Btu/lb (LHV))								
Heat input (MMBtu/hr, LHV)		1,711	1,617	1,522		1,711	1,617	1,522
Heat content (Btu/lb, LHV)		20,714	20,714	20,714		20,714	20,714	20,714
Fuel usage (lb/hr)- calculated	c	82,596	78,049	73,477		82,596	78,049	73,477
		1,036						
Heat content (Btu/cf, LHV)- assumed		933	933	933		933	933	933
Fuel density (lb/ft^3)		0.0451	0.0451	0.0451		0.0451	0.0451	0.0451
Fuel usage (cf/hr)- calculated		1,832,961	1,732,040	1,630,584		1,832,961	1,732,040	1,630,584
Fuel Usage - Duct Burner Only								
Fuel usage (lb/hr)- calculated		0	0	0	c	33,253	30,950	28,816
Fuel usage (cf/hr)- calculated		0	0	0		737,941	686,838	639,485
Bypass Stack and Flow Conditions								
Stack Height (ft)		150	150	150		150	150	150
Diameter (ft)		18	18	18		18	18	18
Velocity (ft/sec) = Volume flow (acfm) / [((diameter)^2 /4) x 3.14159] / 60 sec/min								
Mass flow (lb/hr)		3,826,000	3,607,000	3,382,000		NA	NA	NA
Stack Temperature (^{o}F)		1,081	1,114	1,144		NA	NA	NA
Molecular weight		28.49	28.38	28.19		NA	NA	NA
Volume flow (acfm)		2,517,808	2,433,691	2,341,021		NA	NA	NA
Diameter (ft)		18	18	18		NA	NA	NA
Velocity (ft/sec)- calculated		164.9	159.4	153.3		NA	NA	NA
HRSG Stack and Flow Conditions								
Stack Height (ft)		150	150	150		150	150	150
Diameter (ft)		18	18	18		18	18	18
Mass flow (lb/hr)		3,826,000	3,607,000	3,382,000		3,856,721	3,635,594	3,408,622
Stack Temperature (^{o}F)		203.0	202.0	201.0		189.0	188.0	190
Molecular weight		28.49	28.38	28.19		28.31	28.20	28.02
Volume flow (acfm)		1,083,262	1,023,573	964,723		1,075,526	1,016,095	961,902
Diameter (ft)		18	18	18		18	18	18
Velocity (ft/sec)- calculated		70.9	67.0	63.2		70.4	66.5	63.0

Note: Universal gas constant = 1,545 ft-lb(force)/°R; atmospheric pressure = 2,116.8 lb(force)/ft^2; 14.7 lb/ft ^{3}.

Source: GE, 2006 - CT Performance Data; Golder, 2006 - DB Calculations.

TABLE A-2
MAXIMUM EMISSIONS FOR CRITERIA POLLUTANTS FOR THE HOPKINS UNIT 2 REPOWERING PROJECT
GE FRAME 7FA, DRY LOW NOX COMBUSTOR, NATURAL GAS, BASE LOAD, WITH NATURAL GAS DUCT FIRING

Parameter	CT Only Turbine Inlet Temperature			CT with Duct Burner Turbine Inlet Temperature		
	25 °F	59 °F	95 °F	25 °F w/DB	59 °F w/DB	95 °F w/DB
Volatile Organic Compounds						
VOCs (lb/hr) = VOC(ppmvd) x [1-Moisture(%)/100] x 2116.8 lb/ft^2 x Volume flow (acfm) x 16 (mole. wgt as methane) x 60 min/hr / [1545 x (CT temp.(°F) + 460°F) x 1,000,000 (adj. for ppm)]						
Basis, ppmvw	3.50	3.50	3.50	8.6	8.7	8.8
Basis, ppmvd @ 15% O2 - calculated	3.15	3.16	3.16	5.67	5.71	5.80
Moisture (%)	7.54	8.55	10.28	10.26	11.21	12.88
Oxygen (%) wet	12.77	12.57	12.22	9.76	9.61	9.30
Oxygen (%) dry						
Turbine Flow (acfm)	2,517,808	2,433,691	2,341,021	2,553,753	2,468,107	2,373,678
Turbine Exhaust Temperature (°F)	1,081	1,114	1,144	1,081	1,114	1,144
CT emission rate (lb/hr)	7.52	7.12	6.72	7.52	7.12	6.72
HRSG stack Emission rate (lb/hr)	7.52	7.12	6.72	16.70	15.66	14.67
Sulfuric Acid Mist						
Sulfuric Acid Mist (lb/hr)= SO_2 emission (lb/hr) x Conversion to H_2SO_4 (% by weight)/100						
CT SO_2 emission rate (lb/hr) - provided	10.5	9.9	9.3	10.5	9.9	9.3
CT Conversion to H_2SO_4 (% by weight) - provided	10	10	10	10	10	10
DB SO_2 emission rate (lb/hr) - provided	0	0	0	4	4	4
DB Conversion to H_2SO_4 (%) - provided	20	20	20	20	20	20
CT emission rate (lb/hr)	1.05	0.99	0.93	1.05	0.99	0.93
HRSG stack Emission rate (lb/hr)	1.05	0.99	0.93	1.89	1.77	1.66
Lead						
Lead (lb/hr) = NA						
Emission Rate Basis	NA	NA	NA	NA	NA	NA
CT emission rate (lb/hr)	NA	NA	NA	NA	NA	NA
HRSG stack Emission rate (lb/hr)	NA	NA	NA	NA	NA	NA

Note: ppmvd= parts per million, volume dry; O_2= oxygen.

Source: GE, 2006 - CT Performance Data; Golder, 2006 - DB Calculations.

TABLE A-3
DESIGN INFORMATION AND STACK PARAMETERS FOR THE HOPKINS UNIT 2 REPOWERING PROJECT
GE FRAME 7FA, DRY LOW NO_X COMBUSTOR, NATURAL GAS, 75% LOAD

Parameter	Turbine Inlet Temperature 25 °F	59 °F	95 °F
Combustion Turbine Performance			
Power output (MW)	140.9	130.8	120.3
Heat rate (Btu/kWh, LHV)	9,840	10,080	10,410
(Btu/kWh, HHV)	10,923	11,189	11,555
Heat Input (MMBtu/hr, LHV)	1,387	1,319	1,252
(MMBtu/hr, HHV)	1,539	1,464	1,390
Relative Humidity (%)	87	78	50
Fuel heating value (Btu/lb, LHV)	20,714	20,714	20,714
(Btu/lb, HHV)	22,993	22,993	22,993
(HHV/LHV)	1.110	1.110	1.110
CT Exhaust Flow			
Mass Flow (lb/hr)- with no margin	3,019,000	2,905,000	2,798,000
- provided	3,019,000	2,905,000	2,798,000
Temperature (°F)	1,136	1,161	1,186
Moisture (% Vol.)	7.66	8.45	9.74
Oxygen (% Vol.)	12.64	12.57	12.43
Molecular Weight	28.48	28.39	28.24
Fuel Usage			
Fuel usage (lb/hr) = Heat Input (MMBtu/hr) x 1,000,000 Btu/MMBtu (Fuel Heat Content, Btu/lb (LHV))			
Heat input (MMBtu/hr, LHV)	1,387	1,319	1,252
Heat content (Btu/lb, LHV)	20,714	20,714	20,714
Fuel usage (lb/hr)- calculated	66,935	63,653	60,457
Heat content (Btu/cf, LHV)- assumed	933	933	933
Fuel density (lb/ft^3)	0.0450	0.0450	0.0450
Fuel usage (cf/hr)- calculated	1,485,951	1,413,074	1,342,125
Bypass Stack and Flow Conditions			
Stack Height (ft)	150	150	150
Diameter (ft)	18	18	18
Velocity (ft/sec) = Volume flow (acfm) / [((diameter)^2 /4) x 3.14159] / 60 sec/min			
Mass flow (lb/hr)	3,019,000	2,905,000	2,798,000
Stack Temperature (^{o}F)	1,136	1,161	1,186
Molecular weight	28.48	28.39	28.24
Volume flow (acfm)	2,058,166	2,017,660	1,983,749
Diameter (ft)	18	18	18
Velocity (ft/sec)- calculated	134.8	132.1	129.9
HRSG Stack and Flow Conditions			
Stack Height (ft)	150	150	150
Diameter (ft)	18	18	18
Mass flow (lb/hr)	3,019,000	2,905,000	2,798,000
Stack Temperature (^{o}F)	187	188	190
Molecular weight	28.48	28.39	28.24
Volume flow (acfm)	834,099	806,317	783,135
Diameter (ft)	18	18	18
Velocity (ft/sec)- calculated	54.6	52.8	51.3

Note: Universal gas constant = 1,545 ft-lb(force)/°R; atmospheric pressure = 2,116.8 lb(force)/ft^2; 14.7 lb/ft^3

Source: GE, 2006 - CT Performance Data; Golder, 2006.

TABLE A-4
MAXIMUM EMISSIONS FOR CRITERIA POLLUTANTS FOR THE HOPKINS UNIT 2 REPOWERING PROJECT
GE FRAME 7FA, DRY LOW NO_X COMBUSTOR, NATURAL GAS, 75% LOAD

Parameter	Turbine Inlet Temperature 25 °F	59 °F	95 °F
Particulate from CTand SCR			
Total PM_{10} = PM_{10} (front half) + PM_{10} ($(NH_4)_2SO_4$) from SCR only			
a. PM_{10} (front half) (lb/hr)			
CT- provided	9.0	9.0	9.0
b. PM_{10} ($(NH_4)_2SO_4$) from SCR only = Sulfur trioxide from conversion of SO_2 converts to ammonium sulfate (= PM_{10})			
Particulate from conversion of SO_2 = SO_2 emissions (lb/hr) x conversion of SO_2 to SO_3 x lb SO_3/lb SO_2 x conversion of SO_3 to $(NH_4)_2SO_4$ x lb $(NH_4)_2SO_4$/ lb SO_3			
SO_2 emission rate (lb/hr)- calculated	8.5	8.1	7.7
Conversion (%) from SO_2 to SO_3	9.8	9.8	9.8
MW SO_3/ SO_2 (80/64)	1.3	1.3	1.3
Conversion (%) from SO_3 to $(NH_4)_2(SO_4)$	100	100	100
MW $(NH_4)_2$ SO_4/ SO_3 (132/80)	1.7	1.7	1.7
SCR Particulate (lb/hr)- calculated	1.72	1.63	1.55
CT emission rate (lb/hr) [a]	9.0	9.0	9.0
HRSG stack emission rate (lb/hr) [a + b]	10.7	10.6	10.6
(lb/mmBtu, HHV)	0.0070	0.0073	0.0076
Sulfur Dioxide			
SO_2 (lb/hr)= Natural gas (scf/hr) x sulfur content(gr/100 scf) x 1 lb/7000 gr x (lb SO_2 /lb S) /100			
Fuel use (cf/hr)	1,485,951	1,413,074	1,342,125
Sulfur content (grains/ 100 cf)	2	2	2
lb SO_2 /lb S (64/32)	2	2	2
CT emission rate (lb/hr)	8.5	8.1	7.7
HRSG Stack emission rate (lb/hr)	8.5	8.1	7.7
Nitrogen Oxides			
NOx (lb/hr) = NOx (ppmvd@ 15% O_2) x {[20.9 x (1-Moisture (%)/100] - Oxygen, dry(%)} x 2116.8 lb/ft^2 x Volume flow (acfm) x 46 (mole. wgt NOx) x 60 min/hr / [1545 x (CT temp.(°F) + 460) x (20.9-15) x 1,000,000 (adj. for ppm)]			
CT / DB, ppmvd @15% O_2	9	9	9.0
Moisture (%)	7.66	8.45	9.74
Oxygen (%)	12.64	12.57	12.43
Turbine Flow (acfm)	2,058,166	2,017,660	1,983,749
Turbine Exhaust Temperature (°F)	1,136	1,161	1,186
CT Emission rate (lb/hr)	49.5	47.1	44.7
HRSG Stack emission rate, ppmvd @ 15% O_2	5	5	5.0
HRSG Stack emission rate (lb/hr)	27.5	26.2	24.9
Carbon Monoxide			
CO (lb/hr) = CO(ppm) x [1 - Moisture(%)/100] x 2116.8 lb/ft^2 x Volume flow (acfm) x 28 (mole. wgt CO) x 60 min/hr / [1545 x (CT temp.(°F) + 460°F) x 1,000,000 (adj. for ppm)]			
Basis, ppmvd	12	12	12
Moisture (%)	7.66	8.45	9.74
Turbine Flow (acfm)	2,058,166	2,017,660	1,983,749
Turbine Exhaust Temperature (°F)	1,136	1,161	1,186
HRSG Exhaust Temperature (°F)	187	188	190
CT Emission rate (lb/hr)	32.9	31.5	30.0
HRSG Stack emission rate (lb/hr)	32.9	31.5	30.0

TABLE A-4
MAXIMUM EMISSIONS FOR CRITERIA POLLUTANTS FOR THE HOPKINS UNIT 2 REPOWERING PROJECT
GE FRAME 7FA, DRY LOW NO_X COMBUSTOR, NATURAL GAS, 75% LOAD

	Turbine Inlet Temperature		
Parameter	**25 °F**	**59 °F**	**95 °F**
Volatile Organic Compounds			
VOCs (lb/hr) = VOC(ppmvd) x [1-Moisture(%)/100] x 2116.8 lb/ft^2 x Volume flow (acfm) x 16 (mole. wgt as methane) x 60 min/hr / [1545 x (CT temp.(°F) + 460°F) x 1,000,000 (adj. for ppm)]			
Basis, ppmvw	3.50	3.5	3.50
Moisture (%)	7.66	8.45	9.74
Turbine Flow (acfm)	2,058,166	2,017,660	1,983,749
Turbine Exhaust Temperature (°F)	1,136	1,161	1,186
HRSG Exhaust Temperature (°F)	186.8	186.8	186.8
CT Emission rate (lb/hr)	5.94	5.73	5.55
HRSG Stack emission rate (lb/hr)	5.94	5.73	5.55
Sulfuric Acid Mist			
Sulfuric Acid Mist (lb/hr)= SO_2 emission (lb/hr) x Conversion to H_2SO_4 (% by weight)/100			
CT SO_2 emission rate (lb/hr) - provided	8.5	8.1	7.7
CT Conversion to H_2SO_4 (% by weight) - provided	10	10	10
DB SO_2 emission rate (lb/hr) - provided	0	0	0
DB Conversion to H_2SO_4 (%) - provided	20	20	20
CT Emission rate (lb/hr)	0.85	0.81	0.77
HRSG Stack emission rate (lb/hr)	0.85	0.81	0.77
Lead			
Lead (lb/hr) = NA			
Emission Rate Basis	NA	NA	NA
CT Emission rate (lb/hr)	NA	NA	NA
HRSG Stack emission rate (lb/hr)	NA	NA	NA

Note: ppmvd= parts per million, volume dry; O_2= oxygen.

Source: GE, 2006 - CT Performance Data; Golder, 2006.

TABLE A-5
DESIGN INFORMATION AND STACK PARAMETERS FOR THE HOPKINS UNIT 2 REPOWERING PROJECT
GE FRAME 7FA, DRY LOW NO_X COMBUSTOR, NATURAL GAS, 60% LOAD

Parameter	Turbine Inlet Temperature 25 °F	59 °F	95 °F
Combustion Turbine Performance			
Power output (MW)	112.7	104.6	96.2
Heat rate (Btu/kWh, LHV)	10,880	11,160	11,460
(Btu/kWh, HHV)	12,077	12,387	12,721
Heat Input (MMBtu/hr, LHV)	1,226	1,167	1,103
(MMBtu/hr, HHV)	1,361	1,296	1,224
Relative Humidity (%)	87	78	50
Fuel heating value (Btu/lb, LHV)	20,714	20,714	20,714
(Btu/lb, HHV)	22,993	22,993	22,993
(HHV/LHV)	1.110	1.110	1.110
CT Exhaust Flow			
Mass Flow (lb/hr)- with no margin	2,707,000	2,608,000	2,523,000
- provided	2,707,000	2,608,000	2,523,000
Temperature (°F)	1,167	1,190	1,200
Moisture (% Vol.)	7.52	8.32	9.54
Oxygen (% Vol.)	12.80	12.73	12.66
Molecular Weight	28.49	28.40	28.25
Fuel Usage			
Fuel usage (lb/hr) = Heat Input (MMBtu/hr) x 1,000,000 Btu/MMBtu (Fuel Heat Content, Btu/lb (LHV))			
Heat input (MMBtu/hr, LHV)	1,226	1,167	1,103
Heat content (Btu/lb, LHV)	20,714	20,714	20,714
Fuel usage (lb/hr)- calculated	59,197	56,353	53,225
Heat content (Btu/cf, LHV)- assumed	933	933	933
Fuel density (lb/ft^3)	0.0450	0.0450	0.0450
Fuel usage (cf/hr)- calculated	1,314,153	1,251,028	1,181,580
Bypass Stack and Flow Conditions			
Stack Height (ft)	150	150	150
Diameter (ft)	18	18	18
Velocity (ft/sec) = Volume flow (acfm) / [((diameter)^2 /4) x 3.14159] / 60 sec/min			
Mass flow (lb/hr)	2,707,000	2,608,000	2,523,000
Stack Temperature (^{o}F)	1,167	1,190	1,200
Molecular weight	28.49	28.40	28.25
Volume flow (acfm)	1,880,545	1,843,332	1,803,432
Diameter (ft)	18	18	18
Velocity (ft/sec)- calculated	123.2	120.7	118.1
HRSG Stack and Flow Conditions			
Stack Height (ft)	150	150	150
Diameter (ft)	18	18	18
Mass flow (lb/hr)	2,707,000	2,608,000	2,523,000
Stack Temperature (^{o}F)	175	178	182
Molecular weight	28.49	28.40	28.25
Volume flow (acfm)	734,303	712,196	697,689
Diameter (ft)	18	18	18
Velocity (ft/sec)- calculated	48.1	46.6	45.7

Note: Universal gas constant = 1,545 ft-lb(force)/°R; atmospheric pressure = 2,116.8 lb(force)/ft^2; 14.7 lb/ft^3.

Source: GE, 2006 - CT Performance Data; Golder, 2006.

TABLE A-6
MAXIMUM EMISSIONS FOR CRITERIA POLLUTANTS FOR THE HOPKINS UNIT 2 REPOWERING PROJECT
GE FRAME 7FA, DRY LOW NO_X COMBUSTOR, NATURAL GAS, 60% LOAD

Parameter	Turbine Inlet Temperature 25 °F	59 °F	95 °F
Particulate from CTand SCR			
Total PM_{10} = PM_{10} (front half) + PM_{10} ($(NH_4)_2SO_4$) from SCR only			
a. PM_{10} (front half) (lb/hr)			
CT- provided	9.0	9.0	9.0
b. PM_{10} ($(NH_4)_2SO_4$) from SCR only = Sulfur trioxide from conversion of SO_2 converts to ammonium sulfate (= PM_{10})			
Particulate from conversion of SO_2 = SO_2 emissions (lb/hr) x conversion of SO_2 to SO_3 x lb SO_3/lb SO_2 x conversion of SO_3 to $(NH_4)_2SO_4$ x lb $(NH_4)_2SO_4$/ lb SO_3			
SO_2 emission rate (lb/hr)- calculated	7.5	7.1	6.8
Conversion (%) from SO_2 to SO_3	9.8	9.8	9.8
MW SO_3/ SO_2 (80/64)	1.3	1.3	1.3
Conversion (%) from SO_3 to $(NH_4)_2(SO_4)$	100	100	100
MW $(NH_4)_2$ SO_4/ SO_3 (132/80)	1.7	1.7	1.7
SCR Particulate (lb/hr)- calculated	1.52	1.44	1.36
CT emission rate (lb/hr) [a]	9.0	9.0	9.0
HRSG stack emission rate (lb/hr) [a + b]	10.5	10.4	10.4
(lb/mmBtu, HHV)	0.0077	0.0081	0.0085
Sulfur Dioxide			
SO_2 (lb/hr)= Natural gas (scf/hr) x sulfur content(gr/100 scf) x 1 lb/7000 gr x (lb SO_2 /lb S) /100			
Fuel use (cf/hr)	1,314,153	1,251,028	1,181,580
Sulfur content (grains/ 100 cf)	2	2	2
lb SO_2 /lb S (64/32)	2	2	2
CT emission rate (lb/hr)	7.5	7.1	6.8
HRSG Stack emission rate (lb/hr)	7.5	7.1	6.8
Nitrogen Oxides			
NOx (lb/hr) = NOx (ppmvd@ 15% O_2) x {[20.9 x (1-Moisture (%)/100] - Oxygen, dry(%)} x 2116.8 lb/ft^2 x Volume flow (acfm) x 46 (mole. wgt NOx) x 60 min/hr / [1545 x (CT temp.(°F) + 460) x (20.9-15) x 1,000,000 (adj. for ppm)]			
CT / DB, ppmvd @15% O_2	9	9	9
Moisture (%)	7.52	8.32	9.54
Oxygen (%)	12.80	12.73	12.66
Turbine Flow (acfm)	1,880,545	1,843,332	1,803,432
Turbine Exhaust Temperature (°F)	1,167	1,190	1,200
CT Emission rate (lb/hr)	43.5	41.4	39.1
HRSG Stack emission rate, ppmvd @ 15% O_2	5	5	5
HRSG Stack emission rate (lb/hr)	24.2	23.0	21.7

TABLE A-6
MAXIMUM EMISSIONS FOR CRITERIA POLLUTANTS FOR THE HOPKINS UNIT 2 REPOWERING PROJECT
GE FRAME 7FA, DRY LOW NO_X COMBUSTOR, NATURAL GAS, 60% LOAD

Parameter	Turbine Inlet Temperature		
	25 °F	**59 °F**	**95 °F**
Carbon Monoxide			
CO (lb/hr) = CO(ppm) x [1 - Moisture(%)/100] x 2116.8 lb/ft^2 x Volume flow (acfm) x 28 (mole. wgt CO) x 60 min/hr / [1545 x (CT temp.(°F) + 460°F) x 1,000,000 (adj. for ppm)]			
Basis, ppmvd	12	12	12
Moisture (%)	7.52	8.32	9.54
Turbine Flow (acfm)	1,880,545	1,843,332	1,803,432
Turbine Exhaust Temperature (°F)	1,167	1,190	1,200
HRSG Exhaust Temperature (°F)	175	178	182
CT Emission rate (lb/hr)	29.5	28.3	27.1
HRSG Stack emission rate (lb/hr)	29.5	28.3	27.1
Volatile Organic Compounds			
VOCs (lb/hr) = VOC(ppmvd) x [1-Moisture(%)/100] x 2116.8 lb/ft^2 x Volume flow (acfm) x 16 (mole. wgt as methane) x 60 min/hr / [1545 x (CT temp.(°F) + 460°F) x 1,000,000 (adj. for ppm)]			
Basis, ppmvw	3.50	3.5	3.50
Moisture (%)	7.52	8.32	9.54
Turbine Flow (acfm)	1,880,545	1,843,332	1,803,432
Turbine Exhaust Temperature (°F)	1,167	1,190	1,200
HRSG Exhaust Temperature (°F)	175	175	175
CT Emission rate (lb/hr)	5.32	5.14	5.00
HRSG Stack emission rate (lb/hr)	5.32	5.14	5.00
Sulfuric Acid Mist			
Sulfuric Acid Mist (lb/hr)= SO_2 emission (lb/hr) x Conversion to H_2SO_4 (% by weight)/100			
CT SO_2 emission rate (lb/hr) - provided	7.5	7.1	6.8
CT Conversion to H_2SO_4 (% by weight) - provided	10	10	10
DB SO_2 emission rate (lb/hr) - provided	0	0	0
DB Conversion to H_2SO_4 (%) - provided	20	20	20
CT Emission rate (lb/hr)	0.75	0.71	0.68
HRSG Stack emission rate (lb/hr)	0.75	0.71	0.68
Lead			
Lead (lb/hr) = NA			
Emission Rate Basis	NA	NA	NA
CT Emission rate (lb/hr)	NA	NA	NA
HRSG Stack emission rate (lb/hr)	NA	NA	NA

Note: ppmvd= parts per million, volume dry; O_2= oxygen.

Source: GE, 2006 - CT Performance Data; Golder, 2006.

TABLE A-7
DESIGN INFORMATION AND STACK PARAMETERS FOR THE HOPKINS UNIT 2 REPOWERING PROJECT
GE FRAME 7FA, DRY LOW NO_X COMBUSTOR, DISTILLATE OIL, BASE LOAD, WITH NATURAL GAS DUCT FIRING

Parameter		CT Only Turbine Inlet Temperature			CT with Duct Burner (Natural Gas) Turbine Inlet Temperature		
		25 °F	59 °F	95 °F	25 °F w/DB	59 °F w/DB	95 °F w/DB
Combustion Turbine Performance							
Power output (MW)	p	198.9	187.9	172.4	198.9	187.9	172.4
Heat rate (Btu/kWh, LHV)	p	9,860	9,935	10,090	9,860	9,935	10,090
(Btu/kWh, HHV)		10,452	10,531	10,695	10,452	10,531	10,695
Heat Input (MMBtu/hr, LHV)	p	1,961.2	1,866.8	1,739.5	1,961.2	1,866.8	1,739.5
(MMBtu/hr, HHV)		2,079	1,979	1,844	2,079	1,979	1,844
Evaporative Cooler		Off	On	On	Off	On	On
Relative Humidity (%)	p	87	78	50	87.0	78.0	50.0
Fuel oil							
Fuel heating value (Btu/lb, LHV)	p	18,300	18,300	18,300	18,300	18,300	18,300
(Btu/lb, HHV)		19,398	19,398	19,398	19,398	19,398	19,398
(HHV/LHV)		1.060	1.060	1.060	1.060	1.060	1.060
Fuel heating value (Btu/lb, LHV)		NA	NA	NA	18,300	18,300	18,300
(Btu/lb, HHV)		NA	NA	NA	19,398	19,398	19,398
(HHV/LHV)		NA	NA	NA	1.11	1.11	1.11
Duct Burner (DB)							
Heat input (MMBtu/hr, HHV)		0	0	0	764.6	711.6	662.6
(MMBtu/hr, LHV)		0	0	0	688.8	641.1	596.9
CT Exhaust Flow							
Mass Flow (lb/hr)- with no margin		3,995,000	3,764,000	3,512,000	4,025,724	3,792,596	3,538,625
- provided	p	3,995,000	3,764,000	3,512,000			
Temperature (°F)	p	1,059	1,096	1,130	1,059	1,096	1,130
Moisture (% Vol.)	p	10.95	11.82	12.96	13.50	14.32	15.43
Oxygen (% Vol.)	p	11.20	10.97	10.77	8.35	8.16	7.98
Molecular Weight	c	28.36	28.26	28.13	28.19	28.10	27.97
	p	28.35	28.26	28.13			
Fuel Usage							
Fuel oil							
Fuel usage CT (lb/hr) = Heat Input (MMBtu/hr) x 1,000,000 Btu/MMBtu (Fuel Heat Content, Btu/lb (LHV))							
Heat input (MMBtu/hr, LHV)		1,961	1,867	1,740	NA	NA	NA
Heat content (Btu/lb, LHV)		18,300	18,300	18,300	NA	NA	NA
Fuel usage (lb/hr)- calculated	c	107,169	102,011	95,055	NA	NA	NA
Natural gas							
Fuel usage DB (lb/hr) = Heat Input (MMBtu/hr) x 1,000,000 Btu/MMBtu (Fuel Heat Content, Btu/lb (LHV))							
Heat input (MMBtu/hr, LHV)		NA	NA	NA	688.8	641.1	596.9
Heat content (Btu/lb, LHV)		NA	NA	NA	20,714	20,714	20,714
Fuel usage (lb/hr)- calculated		NA	NA	NA	33,253	30,950	28,816
Heat content (Btu/cf, LHV)- assumed		NA	NA	NA	933	933	933
Fuel density (lb/ft^3)		NA	NA	NA	0.0451	0.0451	0.0451
Fuel usage (cf/hr)- calculated		NA	NA	NA	737,941	686,838	639,485
Bypass Stack and Flow Conditions							
Stack Height (ft)		150	150	150	150	150	150
Diameter (ft)		18	18	18	18	18	18
Velocity (ft/sec) = Volume flow (acfm) / [((diameter)^2 /4) x 3.14159] / 60 sec/min							
Mass flow (lb/hr)		3,995,000	3,764,000	3,512,000	NA	NA	NA
Stack Temperature (^{o}F)		1,059	1,096	1,130	NA	NA	NA
Molecular weight		28.36	28.26	28.13	NA	NA	NA
Volume flow (acfm)		2,603,400	2,520,733	2,414,634	NA	NA	NA
Diameter (ft)		18	18	18	NA	NA	NA
Velocity (ft/sec)- calculated		170.5	165.1	158.1	NA	NA	NA
HRSG Stack and Flow Conditions							
Stack Height (ft)		150	150	150	150	150	150
Diameter (ft)		18	18	18	18	18	18
Mass flow (lb/hr)		3,995,000	3,764,000	3,512,000	4,025,724	3,792,596	3,538,625
Stack Temperature (^{o}F)		248.0	248.0	247.0	206	204	201
Molecular weight		28.36	28.26	28.13	28.19	28.10	27.97
Volume flow (acfm)		1,213,435	1,146,966	1,073,677	1,157,102	1,090,210	1,017,182
Diameter (ft)		18	18	18	18	18	18
Velocity (ft/sec)- calculated		79.5	75.1	70.3	75.8	71.4	66.6

Note: Universal gas constant = 1,545 ft-lb(force)/°R; atmospheric pressure = 2,116.8 lb(force)/ft^2; 14.7 lb/ft^3.

Source: GE, 2006 - CT Performance Data; Golder, 2006.

TABLE A-8
MAXIMUM EMISSIONS FOR CRITERIA POLLUTANTS HOPKINS UNIT 2 REPOWERING PROJECT
GE FRAME 7FA, DRY LOW NO_X COMBUSTOR, DISTILLATE OIL, BASE LOAD, WITH NATURAL GAS DUCT FIRING

Parameter	CT Only Turbine Inlet Temperature 25 °F	59 °F	95 °F	CT with Duct Burner (Natural Gas) Turbine Inlet Temperature 25 °F w/DB	59 °F w/DB	95 °F w/DB
Particulate from CTand SCR						
Total PM_{10} = PM_{10} (front half) + PM_{10} ($(NH_4)_2SO_4$) from SCR only						
a. PM_{10} (front half) (lb/hr)						
CT- provided	17.0	17.0	17.0	17.0	17.0	17.0
DB (lb/hr) - calculated	0.0	0.0	0.0	9.2	8.5	8.0
Total CT/DB emission rate (lb/hr)	17.0	17.0	17.0	26.2	25.5	25.0
b. PM_{10} ($(NH_4)_2SO_4$) from SCR only = Sulfur trioxide from conversion of SO_2 converts to ammonium sulfate (= PM_{10})						
Particulate from conversion of SO_2 = SO_2 emissions (lb/hr) x conversion of SO_2 to SO_3 x lb SO_3/lb SO_2 x conversion of SO_3 to $(NH_4)_2SO_4$ x lb $(NH_4)_2SO_4$/ lb SO_3						
SO_2 emission rate (lb/hr)- calculated	107.2	102.0	95.1	111.4	105.9	98.7
Conversion (%) from SO_2 to SO_3	9.8	9.8	9.8	9.8	9.8	9.8
MW SO_3/ SO_2 (80/64)	1.3	1.3	1.3	1.3	1.3	1.3
Conversion (%) from SO_3 to $(NH_4)_2(SO_4)$	100	100	100	100	100	100
MW $(NH_4)_2$ SO_4/ SO_3 (132/80)	1.7	1.7	1.7	1.7	1.7	1.7
SCR Particulate (lb/hr)- calculated	21.66	20.62	19.21	22.51	21.41	19.95
CT emission rate (lb/hr) [a + b] assumes SCR	38.7	37.6	36.2	38.7	37.6	36.2
HRSG stack emission rate (lb/hr) [a + b]	38.7	37.6	36.2	48.7	47.0	44.9
(lb/mmBtu, HHV)	0.0186	0.0190	0.0196	0.0171	0.0175	0.0179
Sulfur Dioxide						
CT/SO_2 (lb/hr)= Fuel oil (lb/hr) x sulfur content(% weight) x (lb SO_2 /lb S) /100						
Fuel oil Sulfur Content	0.0500%	0.0500%	0.0500%	0.0500%	0.0500%	0.0500%
Fuel oil use (lb/hr)	107,169	102,011	95,055	NA	102,011	95,055
lb SO2 / lb S (64/32)	2	2	2	2	2	2
DB/SO_2 (lb/hr)= Natural gas (scf/hr) x sulfur content(gr/100 scf) x 1 lb/7000 gr x (lb SO_2 /lb S) /100						
Fuel use (cf/hr)	NA	NA	NA	737,941	686,838	639,485
Sulfur content (grains/ 100 cf)	NA	NA	NA	2	2	2
CT emission rate (lb/hr)	107.2	102.0	95.1	107.2	102.0	95.1
HRSG stack emission rate (lb/hr)	107.2	102.0	95.1	111.4	105.9	98.7
(lb/MW)	0.54	0.54	0.55			
Nitrogen Oxides						
NOx (lb/hr) = NOx (ppmvd@ 15% O_2) x {[20.9 x (1-Moisture (%)/100] - Oxygen, dry(%)} x 2116.8 lb/ft^2 x Volume flow (acfm) x 46 (mole. wgt NOx) x 60 min/hr / [1545 x (CT temp.(°F) + 460) x (20.9-15) x 1,000,000 (adj. for ppm)]						
CT/DB, ppmvd @15% O_2	42	42	42	38.6	38.7	38.7
Moisture (%)	10.95	11.82	12.96	13.50	14.32	15.43
Oxygen (%)	11.20	10.97	10.77	8.35	8.16	7.98
Turbine Flow (acfm)	2,603,400	2,520,733	2,414,634	2,639,095	2,554,769	2,446,776
Turbine Exhaust Temperature (°F)	1,059	1,096	1,130	1,059	1,096	1,130
CT emission rate (lb/hr)	341.9	325.3	303.4	418.4	396.5	369.6
(lb/MW)	1.7	1.7	1.8	NA	NA	NA
HRSG stack emission rate, ppmvd @ 15% O_2	10	10	10	10	10	10
HRSG stack emission rate (lb/hr)	81.4	77.5	72.2	108.4	102.6	95.6
(lb/MW)	0.41	0.41	0.42			
Carbon Monoxide						
CO (lb/hr) = CO(ppm) x [1 - Moisture(%)/100] x 2116.8 lb/ft^2 x Volume flow (acfm) x 28 (mole. wgt CO) x 60 min/hr / [1545 x (CT temp.(°F) + 460°F) x 1,000,000 (adj. for ppm)]						
Basis, ppmvd	25	25	25	41.9	41.8	41.9
Basis, ppmvd @ 15% O_2	17.72	17.44	17.30	21.44	21.18	21.14
Moisture (%)	10.95	11.82	12.96	13.74	14.55	15.62
Oxygen (%)	11.20	10.97	10.77	8.07	7.90	7.76
Turbine Flow (acfm)	2,603,400	2,520,733	2,414,634	2,639,095	2,554,769	2,446,776
Turbine Exhaust Temperature (°F)	1,059	1,096	1,130	1,059	1,096	1,130
CT emission rate (lb/hr)	87.8	82.2	76.1	87.8	82.2	76.1
HRSG Stack emission rate (lb/hr)	87.8	82.2	76.1	142.9	133.4	123.8

TABLE A-8
MAXIMUM EMISSIONS FOR CRITERIA POLLUTANTS HOPKINS UNIT 2 REPOWERING PROJECT
GE FRAME 7FA, DRY LOW NO_X COMBUSTOR, DISTILLATE OIL, BASE LOAD, WITH NATURAL GAS DUCT FIRING

Parameter	CT Only Turbine Inlet Temperature			CT with Duct Burner (Natural Gas) Turbine Inlet Temperature		
	25 °F	59 °F	95 °F	25 °F w/DB	59 °F w/DB	95 °F w/DB
Volatile Organic Compounds						
VOCs (lb/hr) = VOC(ppmvd) x 2116.8 lb/ft^2 x Volume flow (acfm) x 16 (mole. wgt as methane) x 60 min/hr / [1545 x (CT temp.(°F) + 460°F) x 1,000,000 (adj. for ppm)]						
Basis, ppmvw	3.50	3.50	3.50	7.6	7.5	7.5
Basis, ppmvd	3.93	3.97	4.02	8.8	8.8	8.9
Basis, ppmvd @ 15% O_2	2.79	2.77	2.78	5.2	5.2	5.3
Moisture (%)	10.95	11.82	12.96	13.74	14.55	15.62
Oxygen (%)	11.20	10.97	10.77	8.07	7.90	7.76
Oxygen (%-dry)	12.58	12.44	12.37	9.36	9.25	9.20
Turbine Flow (acfm)	2,603,400	2,520,733	2,414,634	2,639,095	2,554,769	2,446,776
Turbine Exhaust Temperature (°F)	1,059	1,096	1,130	1,059	1,096	1,130
CT emission rate (lb/hr)	7.89	7.46	6.99	7.89	7.46	6.99
HRSG Stack emission rate (lb/hr)	7.89	7.46	6.99	17.1	16.0	14.9
Sulfuric Acid Mist						
Sulfuric Acid Mist (lb/hr)= SO_2 emission (lb/hr) x Conversion to H_2SO_4 (% by weight)/100						
CT SO_2 emission rate (lb/hr) - provided	107.2	102.0	95.1	111.4	105.9	98.7
CT Conversion to H_2SO_4 (% by weight)	20	20	20	20	20	20
DB SO_2 emission rate (lb/hr) - provided	0	0	0	0.0	0.0	0.0
DB Conversion to H_2SO_4 (%) - provided	20	20	20	20	20	20
CT emission rate (lb/hr)	21.4	20.4	19.0	21.4	20.4	19.0
HRSG Stack emission rate (lb/hr)	21.4	20.4	19.0	22.3	21.2	19.7
Lead						
Lead (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu						
Emission Rate Basis (lb/10^{12} Btu)	14	14	14	14	14	14
CT emission rate (lb/hr)	0.0291	0.0277	0.0258	0.0291	0.0277	0.0258
HRSG stack Emission rate (lb/hr)	0.0291	0.0277	0.0258	0.0291	0.0277	0.0258

Note: ppmvd= parts per million, volume dry; O_2= oxygen.

Source: GE, 2006 - CT Performance Data; Golder, 2006.

TABLE A-9
DESIGN INFORMATION AND STACK PARAMETERS FOR THE HOPKINS UNIT 2 REPOWERING PROJECT
GE FRAME 7FA, DRY LOW NO_X COMBUSTOR, DISTILLATE OIL, 75% LOAD

Parameter	Turbine Inlet Temperature 25 °F	59 °F	95 °F
Combustion Turbine Performance			
Power output (MW)	149.2	140.9	129.3
Heat rate (Btu/kWh, LHV)	10,580	10,740	10,940
(Btu/kWh, HHV)	11,215	11,385	11,596
Heat Input (MMBtu/hr, LHV)	1,579	1,513	1,415
(MMBtu/hr, HHV)	1,673	1,604	1,499
Relative Humidity (%)	87	78	50
Fuel heating value (Btu/lb, LHV)	18,300	18,300	18,300
(Btu/lb, HHV)	19,398	19,398	19,398
(HHV/LHV)	1.060	1.060	1.060
CT Exhaust Flow			
Mass Flow (lb/hr)- with no margin	3,085,000	2,993,000	2,848,000
- provided	3,085,000	2,993,000	2,848,000
Temperature (°F)	1,136	1,159	1,184
Moisture (% Vol.)	10.91	11.46	12.22
Oxygen (% Vol.)	10.96	10.96	10.96
Molecular Weight	28.38	28.31	28.21
Fuel Usage			
Fuel usage (lb/hr) = Heat Input (MMBtu/hr) x 1,000,000 Btu/MMBtu (Fuel Heat Content, Btu/lb (LHV))			
Heat input (MMBtu/hr, LHV)	1,579	1,513	1,415
Heat content (Btu/lb, LHV)	18,300	18,300	18,300
Fuel usage (lb/hr)- calculated	86,257	82,694	77,295
HRSG Stack and Flow Conditions			
Stack Height (ft)	150	150	150
Diameter (ft)	18	18	18
Velocity (ft/sec) = Volume flow (acfm) / [((diameter)² /4) x 3.14159] / 60 sec/min			
Mass flow (lb/hr)	3,085,000	2,993,000	2,848,000
Stack Temperature (oF)	233	233	232
Molecular weight	28.38	28.31	28.21
Volume flow (acfm)	916,430	891,229	849,841
Diameter (ft)	18	18	18
Velocity (ft/sec)- calculated	60.0	58.4	55.7

Note: Universal gas constant = 1,545 ft-lb(force)/°R; atmospheric pressure = 2,116.8 lb(force)/ft²; 14.7 lb/ft ^{3}.

Source: GE, 2006 - CT Performance Data; Golder, 2006.

TABLE A-10
MAXIMUM EMISSIONS FOR CRITERIA POLLUTANTS FOR THE HOPKINS UNIT 2 REPOWERING PROJECT
GE FRAME 7FA, DRY LOW NO_X COMBUSTOR, DISTILLATE OIL, 75% LOAD

Parameter	Turbine Inlet Temperature 25 °F	59 °F	95 °F
Particulate from CTand SCR			
Total PM_{10} = PM_{10} (front half) + PM_{10} ($(NH_4)_2SO_4$) from SCR only			
a. PM_{10} (front half) (lb/hr)			
CT- provided	17.0	17.0	17.0
b. PM_{10} ($(NH_4)_2SO_4$) from SCR only = Sulfur trioxide from conversion of SO_2 converts to ammonium sulfate (= PM_{10})			
Particulate from conversion of SO_2 = SO_2 emissions (lb/hr) x conversion of SO_2 to SO_3 x lb SO_3/lb SO_2 x conversion of SO_3 to $(NH_4)_2SO_4$ x lb $(NH_4)_2SO_4$/ lb SO_3			
SO_2 emission rate (lb/hr)- calculated	86.3	82.7	77.3
Conversion (%) from SO_2 to SO_3	9.8	9.8	9.8
MW SO_3/ SO_2 (80/64)	1.3	1.3	1.3
Conversion (%) from SO_3 to $(NH_4)_2(SO_4)$	100	100	100
MW $(NH_4)_2$ SO_4/ SO_3 (132/80)	1.7	1.7	1.7
SCR Particulate (lb/hr)- calculated	17.43	16.71	15.62
CT emission rate (lb/hr) [a]	17.0	17.0	17.0
HRSG stack emission rate (lb/hr) [a + b]	34.4	33.7	32.6
(lb/mmBtu, HHV)	0.0206	0.0210	0.0218
Sulfur Dioxide			
SO_2 (lb/hr)= Fuel oil (lb/hr) x sulfur content(% weight) x (lb SO_2 /lb S) /100			
Fuel oil Sulfur Content	0.050%	0.050%	0.050%
Fuel oil use (lb/hr)	86,257	82,694	77,295
lb SO2 / lb S (64/32)	2	2	2
CT emission rate (lb/hr)	86.3	82.7	77.3
HRSG Stack emission rate (lb/hr)	86.3	82.7	77.3
Nitrogen Oxides			
NOx (lb/hr) = NOx (ppmvd@ 15% O_2) x {[20.9 x (1-Moisture (%)/100] - Oxygen, dry(%)} x 2116.8 lb/ft^2 x Volume flow (acfm) x 46 (mole. wgt NOx) x 60 min/hr / [1545 x (CT temp.(°F) + 460) x (20.9-15) x 1,000,000 (adj. for ppm)]			
CT/DB, ppmvd @15% O_2	42	42	42
Moisture (%)	10.91	11.46	12.22
Oxygen (%)	10.96	10.96	10.96
Turbine Flow (acfm)	2,110,565	2,082,106	2,018,987
Turbine Exhaust Temperature (°F)	1,136	1,159	1,184
CT Emission rate (lb/hr)	272.7	261.2	244.2
HRSG Stack emission rate, ppmvd @ 15% O_2	10	10	10.0
HRSG Stack emission rate (lb/hr)	64.9	62.2	58.1
Carbon Monoxide			
CO (lb/hr) = CO(ppm) x [1 - Moisture(%)/100] x 2116.8 lb/ft^2 x Volume flow (acfm) x 28 (mole. wgt CO) x 60 min/hr / [1545 x (CT temp.(°F) + 460°F) x 1,000,000 (adj. for ppm)]			
Basis, ppmvd	25	25	25
Moisture (%)	10.91	11.46	12.22
Turbine Flow (acfm)	2,110,565	2,082,106	2,018,987
Turbine Exhaust Temperature (°F)	1,136	1,159	1,184
HRSG Exhaust Temperature (°F)	233	233	232
CT Emission rate (lb/hr)	67.8	65.5	62.0
HRSG Stack emission rate (lb/hr)	67.8	65.5	62.0

TABLE A-10
MAXIMUM EMISSIONS FOR CRITERIA POLLUTANTS FOR THE HOPKINS UNIT 2 REPOWERING PROJECT
GE FRAME 7FA, DRY LOW NO_X COMBUSTOR, DISTILLATE OIL, 75% LOAD

Parameter	Turbine Inlet Temperature 25 °F	59 °F	95 °F
Volatile Organic Compounds			
VOCs (lb/hr) = VOC(ppmvd) x 2116.8 lb/ft^2 x Volume flow (acfm) x 16 (mole. wgt as methane) x 60 min/hr / [1545 x (CT temp.(°F) + 460°F) x 1,000,000 (adj. for ppm)]			
Basis, ppmvw	3.5	3.5	3.5
Moisture (%)	10.91	11.46	12.22
Turbine Flow (acfm)	10.96	10.96	10.96
Turbine Exhaust Temperature (°F)	2,110,565	2,082,106	2,018,987
HRSG Exhaust Temperature (°F)	1,136	1,159	1,184
CT Emission rate (lb/hr)	6.09	5.92	5.65
HRSG Stack emission rate (lb/hr)	6.09	5.92	5.65
Sulfuric Acid Mist			
Sulfuric Acid Mist (lb/hr)= SO_2 emission (lb/hr) x Conversion to H_2SO_4 (% by weight)/100			
CT SO_2 emission rate (lb/hr) - provided	86.3	82.7	77.3
CT Conversion to H_2SO_4 (% by weight) - provided	20	20	20
DB SO_2 emission rate (lb/hr) - provided	0	0	0
DB Conversion to H_2SO_4 (%) - provided	20	20	20
CT Emission rate (lb/hr)	17.25	16.54	15.46
HRSG Stack emission rate (lb/hr)	17.25	16.54	15.46
Lead			
Lead (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Emission Rate Basis (lb/10^{12} Btu)	14	14	14
CT Emission rate (lb/hr)	0.0221	0.0212	0.0198
HRSG Stack emission rate (lb/hr)	0.0221	0.0212	0.0198

Note: ppmvd= parts per million, volume dry; O2= oxygen.

Source: GE, 2006 - CT Performance Data; Golder, 2006.

TABLE A-11
DESIGN INFORMATION AND STACK PARAMETERS FOR THE HOPKINS UNIT 2 REPOWERING PROJECT
GE FRAME 7FA, DRY LOW NO_X COMBUSTOR, DISTILLATE OIL, 60% LOAD

Parameter	Turbine Inlet Temperature 25 °F	59 °F	95 °F
Combustion Turbine Performance			
Power output (MW)	119.4	112.7	103.5
Heat rate (Btu/kWh, LHV)	11,570	11,750	12,010
(Btu/kWh, HHV)	12,265	12,455	12,730
Heat Input (MMBtu/hr, LHV)	1,382	1,324	1,243
(MMBtu/hr, HHV)	1,464	1,404	1,318
Relative Humidity (%)	87	78	50
Fuel heating value (Btu/lb, LHV)	18,300	18,300	18,300
(Btu/lb, HHV)	19,398	19,398	19,398
(HHV/LHV)	1.060	1.060	1.060
CT Exhaust Flow			
Mass Flow (lb/hr)- with no margin	2,743,000	2,667,000	2,579,000
- provided	2,743,000	2,667,000	2,579,000
Temperature (°F)	1,167	1,188	1,200
Moisture (% Vol.)	10.42	10.96	11.63
Oxygen (% Vol.)	11.23	11.23	11.33
Molecular Weight	28.42	28.35	28.25
Fuel Usage			
Fuel usage (lb/hr) = Heat Input (MMBtu/hr) x 1,000,000 Btu/MMBtu (Fuel Heat Content, Btu/lb (LHV))			
Heat input (MMBtu/hr, LHV)	1,382	1,324	1,243
Heat content (Btu/lb, LHV)	18,300	18,300	18,300
Fuel usage (lb/hr)- calculated	75,492	72,361	67,923
HRSG Stack and Flow Conditions			
Stack Height (ft)	150	150	150
Diameter (ft)	18	18	18
Velocity (ft/sec) = Volume flow (acfm) / [((diameter)² /4) x 3.14159] / 60 sec/min			
Mass flow (lb/hr)	2,743,000	2,667,000	2,579,000
Stack Temperature (oF)	223	223	222
Molecular weight	28.42	28.35	28.25
Volume flow (acfm)	802,010	781,670	757,255
Diameter (ft)	18	18	18
Velocity (ft/sec)- calculated	52.5	51.2	49.6

Note: Universal gas constant = 1,545 ft-lb(force)/°R; atmospheric pressure = 2,116.8 lb(force)/ft²; 14.7 lb/ft ^{3}.

Source: GE, 2006 - CT Performance Data; Golder, 2006.

TABLE A-12
MAXIMUM EMISSIONS FOR CRITERIA POLLUTANTS FOR THE HOPKINS UNIT 2 REPOWERING PROJECT
GE FRAME 7FA, DRY LOW NO_X COMBUSTOR, DISTILLATE OIL, 60% LOAD

Parameter	Turbine Inlet Temperature 25 °F	59 °F	95 °F
Particulate from CTand SCR			
Total PM_{10} = PM_{10} (front half) + PM_{10} ($(NH_4)_2SO_4$) from SCR only			
a. PM_{10} (front half) (lb/hr)			
CT- provided	17.0	17.0	17.0
b. PM_{10} ($(NH_4)_2SO_4$) from SCR only = Sulfur trioxide from conversion of SO_2 converts to ammonium sulfate (= PM_{10})			
Particulate from conversion of SO_2 = SO_2 emissions (lb/hr) x conversion of SO_2 to SO_3 x lb SO_3/lb SO_2 x conversion of SO_3 to $(NH_4)_2SO_4$ x lb $(NH_4)_2SO_4$/ lb SO_3			
SO_2 emission rate (lb/hr)- calculated	75.5	72.4	67.9
Conversion (%) from SO_2 to SO_3	9.8	9.8	9.8
MW SO_3/ SO_2 (80/64)	1.3	1.3	1.3
Conversion (%) from SO_3 to $(NH_4)_2(SO_4)$	100	100	100
MW $(NH_4)_2$ SO_4/ SO_3 (132/80)	1.7	1.7	1.7
SCR Particulate (lb/hr)- calculated	15.26	14.63	13.73
CT emission rate (lb/hr) [a]	17.0	17.0	17.0
HRSG stack emission rate (lb/hr) [a + b]	32.3	31.6	30.7
(lb/mmBtu, HHV)	0.0220	0.0225	0.0233
Sulfur Dioxide			
SO_2 (lb/hr)= Fuel oil (lb/hr) x sulfur content(% weight) x (lb SO_2 /lb S) /100			
Fuel oil Sulfur Content	0.050%	0.050%	0.050%
Fuel oil use (lb/hr)	75,492	72,361	67,923
lb SO2 / lb S (64/32)	2	2	2
CT emission rate (lb/hr)	75.5	72.4	67.9
HRSG Stack emission rate (lb/hr)	75.5	72.4	67.9
Nitrogen Oxides			
NOx (lb/hr) = NOx (ppmvd@ 15% O_2) x {[20.9 x (1-Moisture (%)/100] - Oxygen, dry(%)} x 2116.8 lb/ft^2 x Volume flow (acfm) x 46 (mole. wgt NOx) x 60 min/hr / [1545 x (CT temp.(°F) + 460) x (20.9-15) x 1,000,000 (adj. for ppm)]			
CT/DB, ppmvd @15% O_2	42	42	42
Moisture (%)	10.42	10.96	11.63
Oxygen (%)	11.23	11.23	11.33
Turbine Flow (acfm)	1,910,499	1,886,080	1,843,173
Turbine Exhaust Temperature (°F)	1,167	1,188	1,200
CT Emission rate (lb/hr)	236.8	227.3	213.4
HRSG Stack emission rate, ppmvd @ 15% O_2	10	10	10.0
HRSG Stack emission rate (lb/hr)	56.4	54.1	50.8
Carbon Monoxide			
CO (lb/hr) = CO(ppm) x [1 - Moisture(%)/100] x 2116.8 lb/ft^2 x Volume flow (acfm) x 28 (mole. wgt CO) x 60 min/hr / [1545 x (CT temp.(°F) + 460°F) x 1,000,000 (adj. for ppm)]			
Basis, ppmvd	25	25	25
Moisture (%)	10.42	10.96	11.63
Turbine Flow (acfm)	1,910,499	1,886,080	1,843,173
Turbine Exhaust Temperature (°F)	1,167	1,188	1,200
HRSG Exhaust Temperature (°F)	28	28	28
CT Emission rate (lb/hr)	60.5	58.6	56.5
HRSG Stack emission rate (lb/hr)	60.5	58.6	56.5

TABLE A-12
MAXIMUM EMISSIONS FOR CRITERIA POLLUTANTS FOR THE HOPKINS UNIT 2 REPOWERING PROJECT
GE FRAME 7FA, DRY LOW NO_X COMBUSTOR, DISTILLATE OIL, 60% LOAD

Parameter	Turbine Inlet Temperature 25 °F	59 °F	95 °F
Volatile Organic Compounds			
VOCs (lb/hr) = VOC(ppmvd) x 2116.8 lb/ft^2 x Volume flow (acfm) x 16 (mole. wgt as methane) x 60 min/hr / [1545 x (CT temp.(°F) + 460°F) x 1,000,000 (adj. for ppm)]			
Basis, ppmvw	3.5	3.5	3.5
Moisture (%)	10.42	10.96	11.63
Turbine Flow (acfm)	11.23	11.23	11.33
Turbine Exhaust Temperature (°F)	1,910,499	1,886,080	1,843,173
HRSG Exhaust Temperature (°F)	1,167	1,188	1,200
CT Emission rate (lb/hr)	5.41	5.27	5.11
HRSG Stack emission rate (lb/hr)	5.41	5.27	5.11
Sulfuric Acid Mist			
Sulfuric Acid Mist (lb/hr)= SO_2 emission (lb/hr) x Conversion to H_2SO_4 (% by weight)/100			
CT SO_2 emission rate (lb/hr) - provided	75.5	72.4	67.9
CT Conversion to H_2SO_4 (% by weight) - provided	20	20	20
DB SO_2 emission rate (lb/hr) - provided	0	0	0
DB Conversion to H_2SO_4 (%) - provided	20	20	20
CT Emission rate (lb/hr)	15.10	14.47	13.58
HRSG Stack emission rate (lb/hr)	15.10	14.47	13.58
Lead			
Lead (lb/hr) = Basis (lb/10^{12} Btu) x Heat Input (MMBtu/hr) / 1,000,000 MMBtu/10^{12} Btu			
Emission Rate Basis (lb/10^{12} Btu)	14	14	14
CT Emission rate (lb/hr)	0.0193	0.0185	0.0174
HRSG Stack emission rate (lb/hr)	0.0193	0.0185	0.0174

Note: ppmvd= parts per million, volume dry; O_2= oxygen.

Source: GE, 2006 - CT Performance Data; Golder, 2006.

TABLE A-13
DUCT BURNER EMISSIONS: FULL DUCT FIRING

Pollutant	Emission Rate (lb/MMBtu)	AP-42	Heat Input (MMBtu/hr) (HHV) 25 °F	59 °F	95 °F	Emission Rate (lb/hr) 25 °F	59 °F	95 °F
Natural Gas-Firing								
PM-10	0.012		765	712	663	9.2	8.5	8.0
NO_x	0.10		765	712	663	76.5	71.2	66.3
CO	0.072		765	712	663	55.0	51.2	47.7
VOC	0.012		765	712	663	9.2	8.5	8.0

Natural gas-firing		AP-42 (1998)			
PM-10	1.9	lb/10^6 scf	[a]	0.0018	lb/MMBtu
NOx	190	lb/10^6 scf	[b]	0.183	lb/MMBtu
CO	84	lb/10^6 scf	[b]	0.081	lb/MMBtu
VOC	5.5	lb/10^6 scf	[a]	0.0053	lb/MMBtu

Heat content 1036 Btu/scf

[a] Table 1.4-2. Emission Factors for Criteria Pollutants and Greenhouse Gases from Natural Gas Combustion, Uncontrolled Post-NSPS

[b] Table 1.4-1. Emission Factors for Nitrogen Oxides (NOx) and Carbon Monoxide (CO) from Natural Gas Combustion

TABLE A-14
REGULATED AND HAZARDOUS AIR POLLUTANT EMISSION FACTORS AND EMISSIONS
FOR HOPKINS UNIT 2 REPOWERING PROJECT, NATURAL GAS-FIRING ONLY

Parameter	Emission Rate (lb/hr) firing Natural Gas for Operating Conditions of Base Load [a]		Natural Gas Maximum Annual Emissions (TPY) [b]
Ambient Temperature (^{o}F):	**59 °F**	**59 °F w/DB**	**59 °F**
HIR (MMBtu/hr):	**1,795**	**2,506**	**1 CT/HRSG**
HAPs (Section 112(b) of Clean Air Act)			
1,3-Butadiene	7.72E-04	1.08E-03	4.18E-03
Acetaldehyde	7.18E-02	1.00E-01	3.89E-01
Acrolein	1.15E-02	1.60E-02	6.23E-02
Benzene	2.15E-02	3.01E-02	1.17E-01
Ethylbenzene	5.74E-02	8.02E-02	3.11E-01
Formadehyde	3.85E-01	5.34E-01	2.08E+00
Naphthalene	2.33E-03	3.26E-03	1.27E-02
Polycyclic Aromatic Hydrocarbons (PAH) [c]	3.95E-03	5.51E-03	2.14E-02
Propylene Oxide	5.20E-02	7.27E-02	2.82E-01
Toluene	5.92E-02	8.27E-02	3.21E-01
Xylene	1.15E-01	1.60E-01	6.23E-01
Antimony	0.00E+00	0.00E+00	0.00E+00
Arsenic	0.00E+00	0.00E+00	0.00E+00
Beryllium	0.00E+00	0.00E+00	0.00E+00
Cadmium	0.00E+00	0.00E+00	0.00E+00
Chromium	0.00E+00	0.00E+00	0.00E+00
Lead	0.00E+00	0.00E+00	0.00E+00
Manganese	0.00E+00	0.00E+00	0.00E+00
Mercury	0.00E+00	0.00E+00	0.00E+00
Nickel	0.00E+00	0.00E+00	0.00E+00
Selenium	0.00E+00	0.00E+00	0.00E+00
HAPs (Total)	0.780	1.086	4.22

[a] Emissions based on the following emission factors and conversion factors for firing natural gas:

Emission Factors		Value	Reference
1,3-Butadiene	(a)	0.43	lb/10^{12} Btu; AP-42,Table 3.1-3. EPA 2000
Acetaldehyde		40	lb/10^{12} Btu; AP-42,Table 3.1-3. EPA 2000
Acrolein		6.4	lb/10^{12} Btu; AP-42,Table 3.1-3. EPA 2000
Benzene		12	lb/10^{12} Btu; AP-42,Table 3.1-3. EPA 2000
Ethylbenzene		32	lb/10^{12} Btu; AP-42,Table 3.1-3. EPA 2000
Formadehyde		0.091	ppmvd @15% O_2 (see Table 15a)
Naphthalene		1.3	lb/10^{12} Btu; AP-42,Table 3.1-3. EPA 2000
Polycyclic Aromatic Hydrocarbons (PAH)		2.2	lb/10^{12} Btu; AP-42,Table 3.1-3. EPA 2000
Propylene Oxide	(a)	29	lb/10^{12} Btu; AP-42,Table 3.1-3. EPA 2000
Toluene		33	lb/10^{12} Btu; AP-42,Table 3.1-3. EPA 2000. Database
Xylene		64	lb/10^{12} Btu; AP-42,Table 3.1-3. EPA 2000
Antimony		0.00E+00	
Arsenic		0.00E+00	
Beryllium		0.00E+00	
Cadmium		0.00E+00	
Chromium		0.00E+00	
Lead		0.00E+00	
Manganese		0.00E+00	
Mercury		0.00E+00	
Nickel		0.00E+00	
Selenium		0.00E+00	

(a) Based on 1/2 the detection limit; expected emissions are lower.

[b] Annual emissions based on ambient temperature of 59 ^{o}F firing natural gas for following hours: 3,500 hours, NG w/o duct firing
5,260 hours, NG w/ duct firing

[c] Assumed to be representative of Polycyclic Organic Matter (POM) emissions, a regulated HAP.

TABLE A-15
MAXIMUM FORMALDEHYDE EMISSIONS FOR THE HOPKINS UNIT 2 REPOWERING PROJECT
GE FRAME 7FA, DRY LOW NO_X COMBUSTOR, NATURAL GAS, BASE LOAD

Parameter	CT Only Turbine Inlet Temperature			
	25 °F	**59 °F**	**25 °F w/DB**	**59 °F w/DB**
Formaldehyde (CH_2O) MW = 30				
CH_2O (lb/hr) = CH_2O (ppmvd@ 15% O2) x {[20.9 x (1-Moisture (%)/100] - Oxygen, dry(%)} x 2116.8 lb/ft2 x Volume flow (acfm) x 30 (mole. wgt CH2O) x 60 min/hr / [1545 x (CT temp.(°F) + 460) x (20.9-15) x 1,000,000 (adj. for ppm)]				
CT, ppmvd @15% O_2	0.091	0.091	0.091	0.091
Moisture (%)	7.54	8.55	10.26	11.21
Oxygen (%)	12.77	12.57	9.76	9.61
Turbine Flow (acfm)	1,083,262	1,023,573	1,075,526	1,016,095
Turbine Exhaust Temperature (°F)	203	202	189	188
CT Emission rate (lb/hr)	0.407	0.385	0.567	0.534
CT Emission rate (lb/10^{12} Btu) (HHV)	214.5	214.4	213.0	200.4

Note: ppmvd= parts per million, volume dry; O_2= oxygen.

Source: GE, 2006 - CT Performance Data; Golder, 2006.

TABLE A-16
REGULATED AND HAZARDOUS AIR POLLUTANT EMISSION FACTORS AND EMISSIONS FOR THE HOPKINS UNIT 2 REPOWERING PROJECT
NATURAL GAS-FIRING AND DISTILLATE OIL-FIRING

Parameter	Emission Rate (lb/hr) Firing Distillate Fuel Oil[a] Base Load	Maximum Annual Emissions (TPY)		
Ambient Temperature (°F):	59 °F	Distillate Fuel Oil [b]	Natural Gas [d]	
HIR (MMBtu/hr):	1,979	1 CT/HRSG	1 CT/HRSG	Natural Gas and Fuel Oil [e]
HAPs (Section 112(b) of Clean Air Act)				
1,3-Butadiene	3.17E-02	3.17E-02	4.18E-03	3.45E-02
Acetaldehyde	0.00E+00	0.00E+00	3.89E-01	2.64E-01
Acrolein	0.00E+00	0.00E+00	6.23E-02	4.22E-02
Benzene	1.09E-01	1.09E-01	1.17E-01	1.88E-01
Ethylbenzene	0.00E+00	0.00E+00	3.11E-01	2.11E-01
Formadehyde	4.60E-01	4.60E-01	2.08E+00	1.86E+00
Naphthalene	6.93E-02	6.93E-02	1.27E-02	7.78E-02
Polycyclic Aromatic Hydrocarbons (PAH) [c]	7.92E-02	7.92E-02	2.14E-02	9.37E-02
Propylene Oxide	0.00E+00	0.00E+00	2.82E-01	1.91E-01
Toluene	0.00E+00	0.00E+00	3.21E-01	2.18E-01
Xylene	0.00E+00	0.00E+00	6.23E-01	4.22E-01
Antimony	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Arsenic	2.18E-02	2.18E-02	0.00E+00	2.18E-02
Beryllium	6.13E-04	6.13E-04	0.00E+00	6.13E-04
Cadmium	9.50E-03	9.50E-03	0.00E+00	9.50E-03
Chromium	2.18E-02	2.18E-02	0.00E+00	2.18E-02
Lead	2.77E-02	2.77E-02	0.00E+00	2.77E-02
Manganese	1.56E+00	1.56E+00	0.00E+00	1.56E+00
Mercury	2.37E-03	2.37E-03	0.00E+00	2.37E-03
Nickel	9.10E-03	9.10E-03	0.00E+00	9.10E-03
Selenium	4.95E-02	4.95E-02	0.00E+00	4.95E-02
HAPs (Total)	2.45	1.64	4.2	5.3

[a] Emissions based on the following emission factors and conversion factors for firing distillate fuel oil:

Emission Factors	Value	Reference
Sulfuric acid mist	5	%; Conversion of SO_2 to SO_3 in gas turbine
1,3-Butadiene	(a) 16	lb/10^{12} Btu; AP-42,Table 3.1-4. EPA 2000
Acetaldehyde	0.0	
Acrolein	0.0	
Benzene	55	lb/10^{12} Btu; AP-42,Table 3.1-4. EPA 2000
Ethylbenzene	0.0	
Formadehyde	###	ppmvd @15% O_2 (see Table 16a)
Naphthalene	35	lb/10^{12} Btu; AP-42,Table 3.1-4. EPA 2000
Polycyclic Aromatic Hydrocarbons (PAH)	40	lb/10^{12} Btu; AP-42,Table 3.1-4. EPA 2000
Propylene Oxide	0.0	
Toluene	0.0	
Xylene	0.0	
Antimony	0.0	
Arsenic	(a) 11	lb/10^{12} Btu; AP-42,Table 3.1-5. EPA 2000
Beryllium	(a) 0.3	lb/10^{12} Btu; AP-42,Table 3.1-5. EPA 2000
Cadmium	4.8	lb/10^{12} Btu; AP-42,Table 3.1-5. EPA 2000
Chromium	11	lb/10^{12} Btu; AP-42,Table 3.1-5. EPA 2000
Lead	14	lb/10^{12} Btu; AP-42,Table 3.1-5. EPA 2000
Manganese	790	lb/10^{12} Btu; AP-42,Table 3.1-5. EPA 2000
Mercury	1.2	lb/10^{12} Btu; AP-42,Table 3.1-5. EPA 2000
Nickel	(a) 4.6	lb/10^{12} Btu; AP-42,Table 3.1-5. EPA 2000
Selenium	(a) 25	lb/10^{12} Btu; AP-42,Table 3.1-5. EPA 2000

(a) Based on 1/2 the detection limit; expected emissions are lower.

[b] Annual emissions based on ambient temperature of 59°F and firing fuel oil at base load for : 3,500 hours, FO w/o duct firing

[c] Assumed to be representative of Polycyclic Organic Matter (POM) emissions, a regulated HAP.

[d] Annual emissions based on maximum emissions presented for natural gas-firing
3,500 hours, NG w/o duct firing
5,260 hours, NG w/ duct firing

[e] Maximum total annual emissions based on maximum oil-firing and natural gas firing:
0 hours, NG w/o duct firing
5,260 hours, NG w/ duct firing

TABLE A-17
MAXIMUM FORMALDEHYDE EMISSIONS FOR THE HOPKINS UNIT 2 REPOWERING PROJECT
GE FRAME 7FA, DRY LOW NO_X COMBUSTOR, DISTILLATE OIL, BASE LOAD

Parameter	CT Only Turbine Inlet Temperature 25 °F	59 °F
Formaldehyde (CH_2O) MW = 30		
CH_2O (lb/hr) = CH_2O (ppmvd@ 15% O2) x {[20.9 x (1-Moisture (%)/100] - Oxygen, dry(%)} x 2116.8 lb/ft2 x Volume flow (acfm) x 30 (mole. wgt CH2O) x 60 min/hr / [1545 x (CT temp.(°F) + 460) x (20.9-15) x 1,000,000 (adj. for ppm)]		
CT, ppmvd @15% O_2	0.091	0.091
Moisture (%)	10.95	11.82
Oxygen (%)	11.20	10.97
Exhaust Flow (acfm)	1,213,435	1,146,966
Exhaust Temperature (°F)	248	248
CT Emission rate (lb/hr)	0.483	0.460
CT Emission rate (lb/10^{12} Btu) (HHV)	232.4	232.3

Note: ppmvd= parts per million, volume dry; O2= oxygen.

Source: GE, 2006 - CT Performance Data; Golder, 2006.

10.2 ZONING DESCRIPTIONS

(State of Florida Pollution Control Board Application No. PA-74-03)

BEFORE THE STATE OF FLORIDA POLLUTION CONTROL BOARD

In the Matter of:	)	
CITY OF TALLAHASSEE ARVAH B. HOPKINS GENERATING STATION Re: Compliance with land use and zoning ordinances,	)	Application No. PA-74-03 Board Order No. 74-
Leon County,	)	
Applicant.	)	
	)	

The following Board members were present and participated in the disposition of this matter: W. D. Frederick, Jr.; John R. Middlemas; Susan Wilson; Mark D. Hollis; Y. E. Hall.

O R D E R

BY THE BOARD:

THIS CAUSE coming on to hearing, the Florida Pollution Control Board having considered the Hearing Examiner's Report containing findings of fact, conclusions of law, and proposed orders, a copy of which is attached hereto and heard arguments and comments of the parties; it is, therefore,

ORDERED by the Florida Pollution Control Board that the Hearing Examiner's Report be, and the same hereby is, approved, adopted, and confirmed, en toto.

DONE the 17th day of December, 1974.

ENTERED the 16th day of January, 1975.

FOR AND BY THE DIRECTION OF THE
FLORIDA POLLUTION CONTROL BOARD:

PETER P. BALJET, Executive Director
2562 Executive Center Circle, East
Montgomery Building
Tallahassee, Florida 32301

VOTE:	FOR	AGAINST
	W. D. Frederick, Jr. John R. Middlemas Susan Wilson Mark D. Hollis	None

JUL 25 1974

Department of Pollution Control
Environmental Law Section

BEFORE THE STATE OF FLORIDA DEPARTMENT OF POLLUTION CONTROL

CASE NO. PA-74-03

In the Matter of:	:	
CITY OF TALLAHASSEE, ARVAH B. HOPKINS GENERATING STATION: Application for Certification of Expansion of Existing Site;	:	REPORT AND PROPOSED ORDER OF HEARING EXAMINER
Leon County, Florida.	:	

The following contains the Report and Proposed Order of ELI BREGER, acting as Hearing Examiner in the above styled matter:

1. General Subject of Hearing:

The purpose of this hearing was to determine whether or not the expansion of the proposed site was consistent and in compliance with applicable land use plans and zoning ordinances in effect as of the date of the hearing, pursuant to Section 403.508 (2), Florida Statutes, and Department Rule 17-17.09, Florida Administrative Code.

2. Date, Time and Location of Hearing:

On Monday, February 18, 1974, the City of Tallahassee filed its application for site certification for expansion of generating capacity, Arvah B. Hopkins Generating Station, pursuant to the Florida Electrical Power Plant Siting Act, Sections 403.501 through 403.516, Florida Statutes, and Chapter 17-17, Florida Administrative Code. Pursuant to Section 403.508 (1), Florida Statutes, an initial public hearing was held on the 17th day of April at 11:00 a.m. before the undersigned Hearing Examiner, in the Conference Room of the State of Florida Department of Pollution Control, 2562 Executive Center Circle, East, Montgomery Building, Tallahassee, Florida.

3. Appearances Entered at Hearing:

The City of Tallahassee was represented by Mr. Bryan W. Henry, City Attorney.

The Department of Pollution Control was represented by Mr. J.D. Boone Kuersteiner, Attorney for the Department.

Mr. Clemer H. Corn, Electrical Superintendent

LAW OFFICES
BREGER & SCHREIBER
2970 N.E. 163RD STREET
NORTH MIAMI BEACH,

for the City of Tallahassee, appeared as a witness.

4. Description of Activity or Operation Under Consideration:

The City of Tallahassee had submitted an application for site certification of a proposed expansion in the fossil fuel steam generating capacity at the Arvah B. Hopkins Generating Station. Aforesaid facility is located in Leon County approximately four miles west of the City of Tallahassee.

By stipulation of counsel, it was determined that the proposed expansion of the generating plant would take place north of the existing generating facility and was to be identified and described as:

> Commence at a concrete marker marking the Southeast corner of Section 26, Township 1 North, Range 2 West, Leon County, Florida, and run West 1310.30 feet to a concrete marker, thence run North 2.59 feet to a concrete marker, thence run North 720.3 feet to a concrete marker, thence run North 150 feet, thence run East 525, thence run North 700 feet to the POINT OF BEGINNING. From said Point of Beginning, run West 300 feet, thence run South 100 feet, thence run West 1200 feet, thence run South 600 feet, thence run West 120 feet, thence run North 1000 feet, thence run East 1620 feet, thence run South 300 feet to the Point of Beginning.

5. Findings of Fact:

A. The following exhibits or testimony were introduced into evidence at the time of the hearing as evidence that proper notice of the public hearing had been provided, pursuant to Department Rule 17-17.06(2), Florida Administrative Code.

1. Copy of Proof of Publication indicating public advertising of the public hearing.

2. Copies of certified mail receipts evidencing notification by mail to the chief executives of requisite local and regional public authorities having responsibility for zoning and land use planning.

3. Proper Public Notice was posted at the entrance to the proposed site more than thirty (30) days prior to the hearing.

4. Copy of the news release furnished to the newspapers and other news media.

LAW OFFICES
BREGER & SCHREIBER
2929 N.E. 163RD STREET
NORTH MIAMI BEACH,

B. Applicant introduced the following exhibit or testimony as evidence of the existing land use plans and zoning ordinances relative to the proposed site:

1. Applicant's Application for Certification containing a summary of the proposed project, fact sheet, statistical data showing plant capacity, steam generator capacity and plant efficiency, water treatment capacity, etc.

2. Certified copy of Section 1.3 of Leon County Zoning Ordinance 70.4.

3. Certified copy of Minutes of Special Meeting of the Board of County Commissioners on December 1, 1970, adopting the Leon County Zoning Ordinance.

4. Certified copy of Minutes of Special Meeting of the Tallahassee--Leon County Planning Commission held on September 1, 1971, relating to the adoption of the Tallahassee Urban Area Land Use Policy.

5. A Leon County Land Use Map of the area encompassing and surrounding the existing site with an artist's overlay showing the property lines of the proposed expansion.

6. Legal Issues Presented and Conclusions of Law and Authority:

A. Applicant, City of Tallahassee, has complied with the requirements of 17-17.06(2), Florida Administrative Code, with regard to public notice for initial hearing for site certification.

B. That the provisions of Section 1.3 of Leon County Zoning Ordinance 70-4 provide that the aforesaid ordinance does not prohibit construction of the proposed facility on the proposed site.

C. That the Tallahassee Urban Area Land Use Policy contemplates use of the proposed site as an electrical power plant generating plant.

7. Proposed Order:

The Hearing Examiner proposes that an Order be entered by the Florida Pollution Control Board, as follows:

LAW OFFICES
MEGER & SCHREIBER
2920 N.E. 163RD STREET
NORTH MIAMI BEACH,

The Application of the City of Tallahassee for certification of the following described expansion of generating capacity, Arvah B. Hopkins Generating Station, to-wit:

> Commence at a concrete marker marking the Southeast corner of Section 26, Township 1 North, Range 2 West, Leon County, Florida, and run West 1310.30 feet to a concrete marker, thence run North 2.59 feet to a concrete marker, thence run North 720.3 feet to a concrete marker, thence run North 150 feet, thence run East 525', thence run North 700 feet to the POINT OF BEGINNING. From said Point of Beginning, run West 300 feet, thence run South 100 feet, thence run West 1200 feet, thence run South 600 feet, thence run West 120 feet, thence run North 1000 feet, thence run East 1620 feet, thence run South 300 feet to the Point of Beginning.

herein be granted and is found to be consistent and in compliance with existing land use plans and zoning ordinances pursuant to Section 403.508(2), Florida Statutes, and Department Rule 17-17.06, Florida Administrative Code.

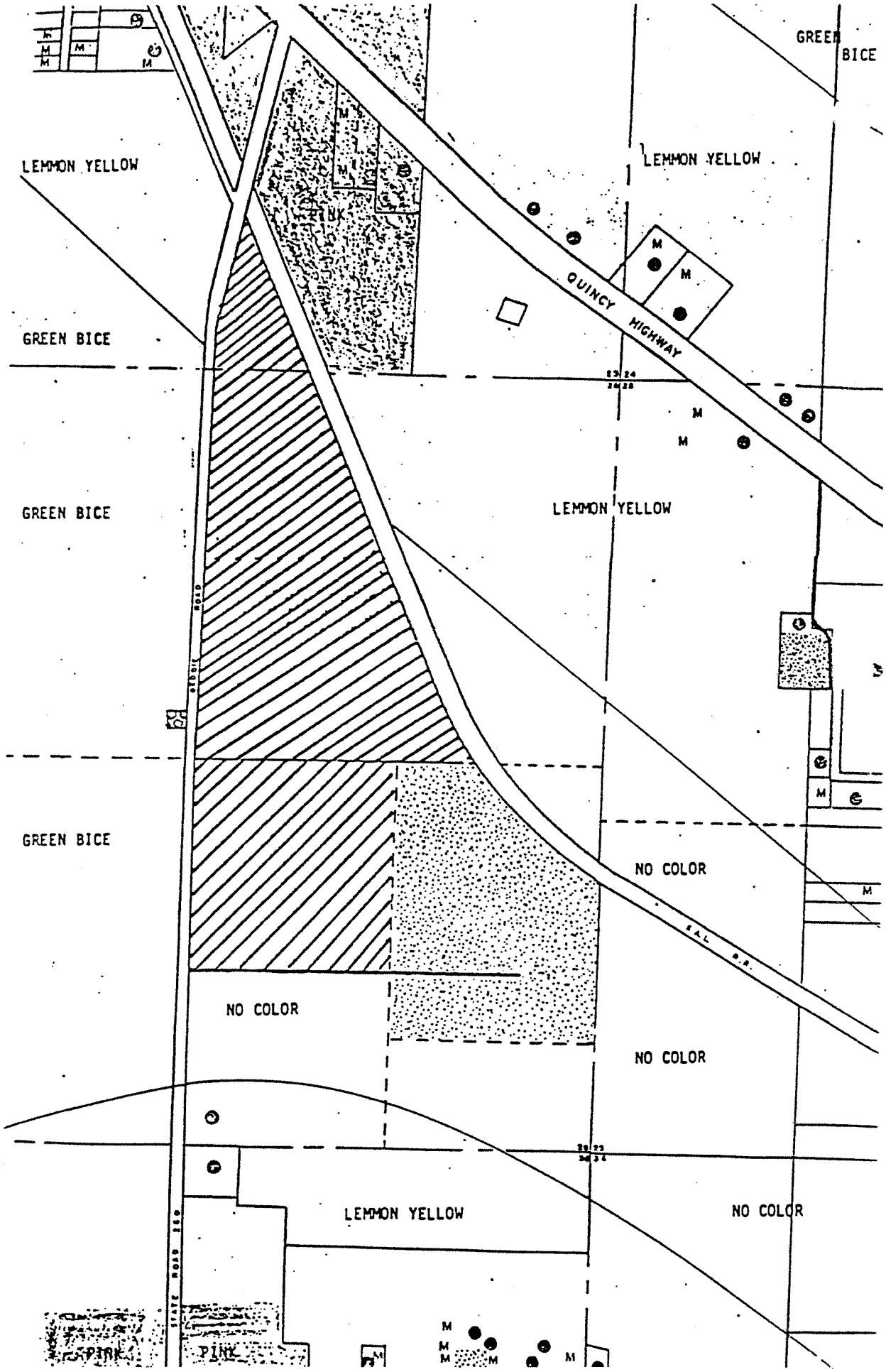
ELI BREGER, Hearing Examiner

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a copy of the foregoing has been furnished to J.D. BOONE KUERSTEINER, ESQUIRE, Attorney for Department of Pollution Control, 2562 Executive Center Circle, East, Montgomery Building, Tallahassee, Florida 32301, and to BRYAN W. HENRY, ESQUIRE, Attorney for City of Tallahassee, Post Office Drawer 1857, Tallahassee, Florida, by U.S. Mail this 23 day of July, 1974.

ELI BREGER, Hearing Examiner

LAW OFFICES
BEGER & SCHREIBER
180 N.E. 163RD STREET
NORTH MIAMI BEACH,
FLORIDA 33162


GREEN
BICE
LEMMON YELLOW
LEMMON YELLOW
PINK
QUINCY HIGHWAY
GREEN BICE
GREEN BICE
LEMMON YELLOW
GREEN BICE
NO COLOR
S.A.L. R.R.
NO COLOR
NO COLOR
LEMMON YELLOW
NO COLOR
PINK
PINK

BOARD OF COUNTY COMMISSIONERS

LEON COUNTY, FLORIDA

December 1, 1970

SPECIAL MEETING

The Board of County Commissioners of Leon County, Florida, met in Special Meeting with Chairman McCollum presiding. In attendance were Vice-Chairman Holley, and Commissioners Brown and Whiddon. Also in attendance were F. E. Steinmeyer, III, County Attorney; C. A. Turner, Deputy Clerk; and Billie Jean Johnson, Secretary. Commissioner Levins was out of town on business.

Pursuant to the following notice, advertised in the Tallahassee Democrat; a public hearing was held on the following, with the members of the City of Tallahassee Commission and the Tallahassee-Leon County Planning Commission present:

TALLAHASSEE DEMOCRAT

Published Daily

Tallahassee, Leon County, Florida

TE OF FLORIDA,

NTY OF LEON:

Before the undersigned authority personally appeared Grace R. Cudemath, who on says that she is assistant treasurer of Tallahassee Democrat, Inc., publishers of the hassee Democrat, a daily newspaper published at Tallahassee, in Leon County, Florida;

the attached copy of advertisement, being a Local Ad

e matter of Notice of Ordinance Regarding a Compro-

ensive Zoning Plan for Leon County

Court,

published in said newspaper in the issues of

November 12, 1970

Affiant further says that the said Tallahassee Democrat is a newspaper published at hassee, in said Leon County, Florida, and that the said newspaper has heretofore been inuously published in said Leon County, Florida, daily, and has been entered as second mail matter at the post office in Tallahassee, in said Leon County, Florida, for a period e year next preceding the first publication of the attached copy of advertisement; and t further says that she has neither paid nor promised any person, firm or corporation any unt for publication in the said newspaper.

NOTICE

The Public is hereby notified that on the 1st day of December, 1970, the Board of County Commissioners of Leon County, Florida intends to consider a proposed Ordinance entitled, "An Ordinance adopting a comprehensive zoning plan for Leon County, Florida, for the purposes of regulating and restricting the location, construction and use of buildings, structures and land for trade, industry, residence and other purposes, and to establish building lines; providing for definitions; establishment of districts; application of regulations, non-conforming lots, non-conforming uses of land, non-conforming structures, and non-conforming uses of structures and premises; schedule of district regulations; planned unit development requirements and provisions, off-street parking, loading and unloading regulations; supplementary district regulations, exceptions and modifications; administrative and enforcement, issuance of building permits; amendments to zoning code and zoning map; prohibited uses, schedule of fees and charges, provisions of zoning regulations declared to be minimum requirements; complaints regarding violations, penalties for violations, severability clause, repealing all special acts, ordinances, or parts of special acts or ordinances, in conflict with the provisions herein; and providing an effective date," at Courtroom Number 2, Leon County Courthouse, in the City of Tallahassee, Florida at 2:00 P.M. at which time and place any and all persons desiring to comment pro or against the matter for or against said proposed [illegible]

BCC-2
12/1/70

The Chairman called for anyone present against any part of portion of the ordinance regarding a comprehensive zoning plan for Leon County.

The following persons appeared relative to changes:

Mr. Taylor Moore, Jr.

Mr. Hulon E. Whitton

Mr. Charles Deed

Mr. Bartow Rainey

Mr. Matt Cole

Mr. Ray Graves

After lengthly discussion and consideration of various comments made by the above appearing persons, Commissioner Brown moved, duly seconded by Commissioner Holley, and unanimously carried, to adopt the following ordinance regarding a comprehensive zoning plan for Leon County:

BCC
12/1/70

There being no further business to come before the Board, the meeting was adjourned.

APPROVED:

William C. Sullivan III
Vice Chairman

CIRCUIT COURT LEE COUNTY, FLORIDA

ATTESTED:

Paul F. Hartsfield
Clerk of the Circuit Court

LEON COUNTY

Board of County Commissioners

POST OFFICE BOX 726 • TALLAHASSEE, FLORIDA 32301 • PHONE 488-4710

CHAIRMAN
LEE VAUSE

VICE-CHAIRMAN
TRAVIS P. MARCHANT

MEMBERS
WILLIAM C. HOLLEY, III
J. B. McCOLLUM
JACK G. WHIDDON

March 26, 1974

Mr. William P. White, Jr.
Assistant Attorney General
Environmental Law Section
Department of Pollution Control
2562 Executive Center Circle, East
Montgomery Building
Tallahassee, Florida 32301

Re: Site Certification
Application No. PA-74-03
Initial Hearing

Dear Mr. White:

You will find enclosed copy of Ordinance No. 70-4 adopting the zoning code and its regulations. Please note Section 1.3 relating to Utilities. Also attached is copy of Minutes of Special Meeting of the Board of County Commissioners on December 1, 1970, adopting the comprehensive zoning plan for Leon County and a copy of Minutes of Special Meeting of the Tallahassee-Leon County Planning Commission held on September 1, 1971 relating to the adoption of the Land Use Plan.

Also enclosed is copy of map depicting property under discussion indicating the area as an agricultural use.

Sincerely,

F. E. Steinmeyer, III
County Attorney

FES/rk

Encl.

ORDINANCE NO. 70-4

AN ORDINANCE ADOPTING A COMPREHENSIVE ZONING PLAN FOR LEON COUNTY, FLORIDA, FOR THE PURPOSES OF REGULATING AND RESTRICTING THE LOCATION, CONSTRUCTION AND USE OF BUILDINGS, STRUCTURES AND LAND FOR TRADE, INDUSTRY, RESIDENCE AND OTHER PURPOSES, AND TO ESTABLISH BUILDING LINES; PROVIDING FOR DEFINITIONS; ESTABLISHMENT OF DISTRICTS; APPLICATION OF REGULATIONS; NON-CONFORMING LOTS, NON-CONFORMING USES OF LAND, NON-CONFORMING STRUCTURES, AND NON-CONFORMING USES OF STRUCTURES AND PREMISES; SCHEDULE OF DISTRICT REGULATIONS; PLANNED UNIT DEVELOPMENT REQUIREMENTS AND PROCEDURES; OFF-STREET PARKING, LOADING AND UNLOADING REGULATIONS; SUPPLEMENTARY DISTRICT REGULATIONS; EXCEPTIONS AND MODIFICATIONS; ADMINISTRATIVE AND ENFORCEMENT; ISSUANCE OF BUILDING PERMITS; AMENDMENTS TO ZONING CODE AND ZONING MAP; RESTRICTED USES; SCHEDULE OF FEES AND CHARGES, PROVISIONS OF ZONING REGULATIONS DECLARED TO BE MINIMUM REQUIREMENTS; COMPLAINTS REGARDING VIOLATIONS; PENALTIES FOR VIOLATIONS; SEPARABILITY CLAUSE; REPEALING ALL SPECIAL ACTS, ORDINANCES, OR PARTS OF SPECIAL ACTS OR ORDINANCES, IN CONFLICT WITH THE PROVISIONS HEREOF; AND PROVIDING AN EFFECTIVE DATE.

Be it ordained by the Board of County Commissioners of Leon County, Florida:

Section 1.

That the Zoning Ordinance for the County of Leon, State of Florida, be and the same is hereby designated to read as follows:

"ARTICLE I. SHORT TITLE; PURPOSE; UTILITIES

"Section 1.1. -- Short Title. This Zoning Code shall be known and may be cited as "The Zoning Code of the City of Tallahassee and Leon County, Florida."

"Section 1.2. -- Purpose. This chapter is enacted for the general purpose of guiding, providing and accomplishing a coordinated, adjusted and harmonious development of the City of Tallahassee and the County of Leon which will in accordance with present and future needs, best promote the health, safety, morals, order, convenience, prosperity and general welfare of the City of Tallahassee and the County of Leon and the people thereof, as well as efficiency and economy in the process of the development of the City of Tallahassee and the County of Leon; including among other things, adequate provision for traffic and promotion of safety from fire, and wind and other dangers, adequate provision for light and air, the promotion of the healthful and convenient distribution of population, the promotion of good civic design and arrangement and preservation of the natural beauty of the City of Tallahassee and the County of Leon; wise and efficient expenditures of public funds and the adequate provision for public utilities and other public requirements.

"Section 1.3. -- Utilities. Nothing in this chapter shall prevent the construction and maintenance of any public utility or municipal utility service lines or structures necessary for the distribution of public utility or municipal utility service to any part of the City of Tallahassee or County of Leon.

10.3 LAND USE PLAN DESCRIPTIONS

(Tallahassee-Leon County Planning Commission Special Meeting Notes – September 9, 1971)

TALLAHASSEE-LEON COUNTY PLANNING COMMISSION
SPECIAL MEETING
September 9, 1971

The Tallahassee-Leon County Planning Commission met in special meeting on this date jointly with the Board of County Commissioners for purposes of viewing new completed interim land use plan for the City of Tallahassee and Leon County, Florida.

Members of the Planning Commission present were:

Mr. Jack Yaeger, Acting Chairman
Mr. Ben Tucker
Mr. Joe Clemons
Mr. Jack Buford

Absent were:

Mr. Murray Wadsworth, Chairman
Mr. John Koelemij, Vice-Chairman

Members of the Board of County Commission in attendance were:

Mr. W. C. Holley,Chairman
Mr. J. B. McCollum
Mr. Jack Levins
Mr. Jack Whiddon

Also present were Mr. Frank Branan, Executive Director of the Tallahassee-Leon County Planning Department; Mr. Dave Simpson, Zoning Director, Mr. Robert Speidel, Asst. Planning Director, Mr. Newt Babcock,Planning Technician; Mr. Ted Mack, City-County Planner, Mr. John Christensen, County Administrator, Mr. F. E. Steinmeyer, III, County Attorney and Mr. C.A. Turner, Deputy Clerk. The press was also represented.

Mr. Branan explained to Commissions that his department had been preparing for the past two years a land use for the City and County until 1995.

Mr. Mack explained processes of developing the map and said that the plan, as proposed, was interim, to be changed as needed. Mr. Mack further advised that the new plan contained 13 land use categories as follows:

LAND USE POLICY

Tallahassee Urban Area

RESIDENTIAL	COLOR CODE**
Low Density (Maximum densities: 0-10.1 dus/nra*; Typical uses: single-family detached, two-family, mobile home parks, public parks, and institutions. Equivalent to E, R-1, R-2, R-3, MH-1 and MH-2 zoning)	915 Lemon Yello
Medium Density (Maximum densities: 10.1-30.0 dus/nra; Typical uses: single-family attached, four unit apartments, garden apartments up to two stories, public and private parks and institutions. Equivalent to RM-1 and RM-2 zoning)	942 Yellow Ochr
High Density (Maximum densities: 30.1 + dus/nra; Typical uses: garden apartments, high-rise apartments, apartment hotels, public and private parks and institutions, convenience commercial in designated areas. Equivalent to RM-3 zoning)	946 Dark Brown
COMMERCIAL	
Neighborhood (Convenience commercial establishments, professional offices and services, commercial amusements, financial institutions, restaurants, and service stations. Equivalent to C-1 zoning)	929 Pink
Office-Residence (Business and medical offices and services, medical laboratories and clinics, financial, insurance and real estate services, off-street parking facilities, restaurants and certain convenience commercial uses in designated areas, certain residential uses. This category may be used for transitional purposes. Equivalent to HC, OR, CO, and CM zoning)	944 Terracotta
Highway Service (Automobile oriented commercial establishments, transient lodgings, commercial amusements, repair services, service stations with major mechanical repair, business and personal services. Equivalent to C-4, C-P, and CT zones -- CP and CT are the more restrictive of the three zones)	922 Scarlet Red

---

*Dwelling units per net residential acre (excludes public streets, easements, and other rights-of-way)

**Refers to EAGLE PRISMACOLOR PENCILS

General Business (Large variety of retail, commercial, financial, professional, office, service, and other general commercial activities. Community and region-serving shopping centers are included within this category. Equivalent to C-2 and CR zones)	921 Vermilion Re
Central Business District (Major commercial office, and activity center serving the City and Metropolitan Area containing office buildings, banks, hotels, institutional uses, cultural and entertainment facilities, high-density apartment structures. Synonomous with "Downtown". Equivalent to C-3 zoning)	925 Crimson Lake
INDUSTRIAL	
Transportation and Utilities (Major public and private utility sites, airports, railroad terminals and switching yards, bus terminals. Not equivalent to any particular zone)	964 Light Grey
Limited (Light manufacturing, wholesaling, warehousing, and other limited industrial uses which are not characterized by objectionable or blighting influences. Equivalent to M-1 zoning)	919 Sky Blue
Heavy (Manufacturing, warehousing -- including open storage -- major automotive repair, salvage yards subject to special restrictions and other uses of a manufacturing or related nature which may exhibit objectionable characteristics. Equivalent to M-2 zoning)	902 Ultramarine
PUBLIC AND QUASI-PUBLIC	
Buildings and Institutions (City, County, State, and Federal buildings and facilities, public and private schools, public and private hospitals, and correctional institutions. Not equivalent to any particular zone)	911 Olive Green
Parks, recreation, and other open space (Public and private parks, playgrounds and boating facilities. This category includes cemeteries which, although not recreational in nature, are landscaped and preserve open space. Used also to indicate scenic easements and scenic highways such as "canopy roads". Not equivalent to any particular zone)	913 Green Bice

AGRICULTURAL, VACANT LAND

(Vacant land regardless of how zoned. Agricultural lands -- including forestry -- with accessory residential, commercial, and processing activities. Equivalent, primarily, to A-1 and A-2 zoning)

No Color

After discussion, Mr. Clemons moved, motion seconded by Mr. Tucker and carried unanimously that the Planning Commission recommend to the Board of County Commission the adoption of the interim land use plan,as presented.

There being no further business to come before the Commission, the meeting was adjourned.

APPROVED:

Mr. Jack Yaeger, Acting Chairman

SIGNED:

Frank Branan

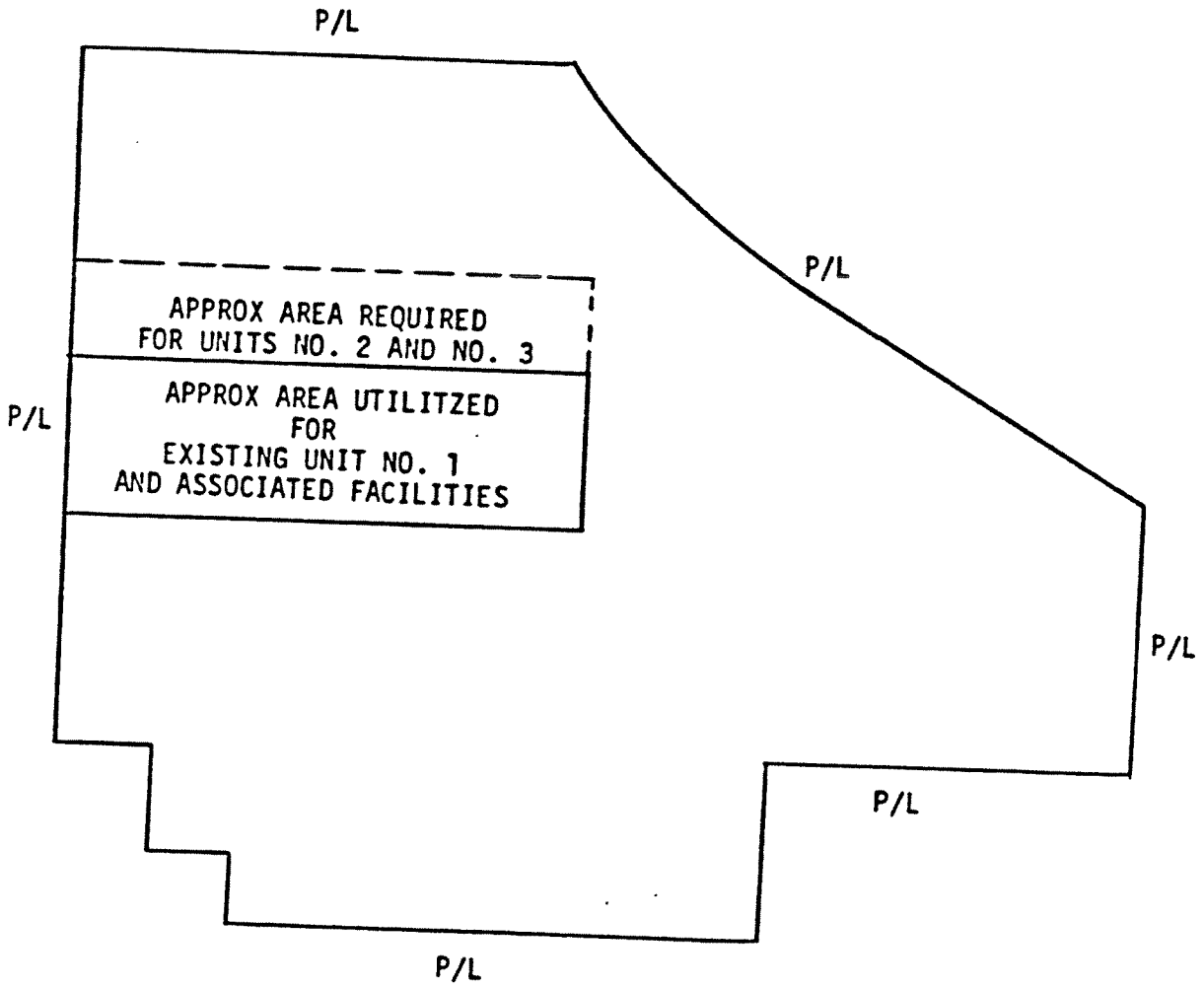
Mr. Frank Branan, Executive Director

C I T Y O F T A L L A H A S S E E

ARVAH B. HOPKINS GENERATING STATION

OVERLAY SHOWING EXISTING PROPERTY LINES

March 29, 1974



RLC:3/29/74

10.4 EXISTING PERMITS AND AUTHORIZATIONS

10.4.1 Title V Air Permit

Department of Environmental Protection

Jeb Bush
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Colleen M. Castille
Secretary

NOTICE OF FINAL PERMIT

In the Matter of an
Application for Permit by:

Mr. Robert E. McGarrah
Production Superintendent
City of Tallahassee, Electric Utilities
2602 Jackson Bluff Road
Tallahassee, Florida 32304

FINAL Permit No.: 0730003-007-AV
Arvah B. Hopkins Generating Station

_____/

Enclosed is FINAL Permit Number 0730003-007-AV for the operation of the Arvah B. Hopkins Generating Station located at 1125 Geddie Rd., Tallahassee, Leon County, issued pursuant to Chapter 403, Florida Statutes (F.S.).

Any party to this order (permit) has the right to seek judicial review of it under Section 120.68 of the Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110 of the Florida Rules of Appellate Procedure, with the clerk of the Department of Environmental Protection in the Office of General Counsel, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida, 32399-3000, and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within thirty days from the date this notice is filed with the clerk of the Department.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

for Trina Vielhauer, Chief
Bureau of Air Regulation

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this NOTICE OF FINAL PERMIT (including the FINAL permit) was sent by certified mail before the close of business on 3/15/05 to the person(s) listed below:

Mr. Robert E. McGarrah, City of Tallahassee

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency Clerk, receipt of which is hereby acknowledged.

Barbara J. Friday 3/15/05
(Clerk) (Date)

In addition, courtesy copies were electronically mailed to:

Ms. Jennette Curtis, City of Tallahassee
Mr. John Powell, P.E., City of Tallahassee
Mr. Hamilton Oven, DEP-SCO
Mr. Kevin White, P.E., DEP-NWD
Mr. Gerry Neubauer, DEP-NWD Tallahassee Branch
U.S. EPA, Region 4 (INTERNET E-mail Memorandum)

STATEMENT OF BASIS

City of Tallahassee
Arvah B. Hopkins Generating Station
Facility ID No.: 0730003
Leon County

Title V Air Operation Permit Revision
Permit No.: 0730003-007-AV

This Title V air operation permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210 62-213 and 62-214. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents, attached hereto or on file with the permitting authority, in accordance with the terms and conditions of this permit.

This facility was issued a Title V Air Operation Permit renewal (Permit No. 0730003-003-AV) on January 1, 2003. The Department issued Air Construction (AC) Permit No. 0730003-006-AC concurrent with this Draft Title V permit revision. The AC permit establishes an allowable limit for excess visible emissions resulting from fuel switching, startup or shutdown of an individual burner, or minor load change. This is the first revision to the renewed Title V Air Operation permit.

This Title V Air Operation Permit revision incorporates the excess emissions conditions from Permit No. 0730003-006-AC into the Title V Air Operation Permit.

This facility consists of two fossil fuel-fired steam generators and two fossil fuel-fired combustion turbines. The two steam generators are Phase II Acid Rain Units. Boiler Number 2 is regulated under the Florida Electrical Power Plant Siting Act. The total (nominal) combined electrical generating capacity from the facility is 356.27 megawatts electric (MW), of which, 313 MW are provided by the steam generators and 43.27 MW are provided by the combustion turbines. The fuels used at this facility are natural gas, fuel oil and on-specification used oil. With the issuance of this permit, the Department is formally recognizing the facility's historical ability to utilize liquefied petroleum gas (LPG) as an igniter fuel for the fuel oil during periods of natural gas curtailment. Also included in this permit are miscellaneous unregulated/insignificant emissions units and/or activities.

Emissions unit number 001 is a Foster-Wheeler Corporation fossil fuel fired steam generator (model number SF-5) designated as "Boiler Number 1". It is rated at a maximum heat input of 903 million Btu per hour (MMBtu/hour) when firing natural gas or fuel oil and a nominal 75 MW and 750,000 pounds of steam per hour.

Emissions unit number 004 is a Babcock & Wilcox steam generator (model number RB-533) designated as "Boiler Number 2". It is rated at a maximum heat input of 2,325 million Btu per hour (MMBtu/hour) when firing fuel oil and 2,500 MMBtu/hour when firing natural gas and a nominal 238 MW and 1,619,000 pounds of steam per hour.

Emissions unit number 002 is a combustion turbine manufactured by Westinghouse (model number W191G) and is designated as "Combustion Turbine Number 1". It is rated at a maximum heat input of 228 million Btu per hour (MMBtu/hour) while being fueled by natural gas and/or No. 2 fuel oil with a maximum fuel oil sulfur content of 0.4%, by weight. Emissions unit number 003 is a combustion turbine manufactured by Westinghouse

(model number W251G) and is designated as "Combustion Turbine Number 2". It is rated at a maximum heat input of 446 million Btu per hour (MMBtu/hour) while being fueled by natural gas and/or No. 2 fuel oil with a maximum fuel oil sulfur content of 0.4%, by weight. Combustion Turbine Number 1 runs a nominal 16.47 MW generator and Combustion Turbine Number 2 runs a nominal 26.8 MW generator. Emissions from the combustion turbines are uncontrolled.

Based on the Title V permit renewal application received July 1, 2002, this facility is a major source of hazardous air pollutants (HAPs).

Proposed changes to the Title V Permit No. 0730003-003-AV for the Arvah B. Hopkins Generating Station are described below.

1. As a result of the provisions of permit No. 0730003-006-AC, a new Specific Condition B.16. is added:

   B.16. Excess visible emissions resulting from fuel switching, startup or shutdown of an individual burner, or minor load changes shall be permitted provided that best operational practices to minimize emissions are adhered to and the duration of such excess visible emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration. A "minor load" change means a change in the operational load of the unit, other than startup or shutdown, which is between 2 percent and 10 percent of the unit's rated capacity and occurs at a rate of 0.5 percent per minute or more.
   [Rule 62-210.700 (5), F.A.C.; and, 0730003-006-AC.]

2. Old Specific Conditions B.16. – B.37. have been renumbered as B.17. – B.38.

Only the portions of the permit that have been changed as a result of this project are being issued with this revision. Upon finalization of this project, the revised pages will be substituted into the existing permit in the appropriate places.

City of Tallahassee
Arvah B. Hopkins Generating Station
Facility ID No.: 0730003
Leon County

Title V Air Operation Permit Revision

FINAL Permit No.: 0730003-007-AV

(1st Revision of Title V Air Operation Permit No.: 0730003-003-AV)

Permitting Authority
State of Florida
Department of Environmental Protection
Division of Air Resources Management
Bureau of Air Regulation
Title V Section

Mail Station #5505
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Telephone: 850/488-0114
Fax: 850/922-6979

Title V Air Operation Permit Revision

FINAL Permit No.: 0730003-007-AV

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- Phase II Acid Rain Application/Compliance Plan
- Appendix A-1, Abbreviations, Definitions, Citations, and Identification Numbers
- Appendix SS-1, Stack Sampling Facilities (version dated 10/7/96)
- Appendix TV-4, Title V Conditions (version dated 2/12/02)
- ASP Number 97-B-01 (With Scrivener's Order Dated July 9, 1997)
- Table 1-1, Summary of Air Pollutant Standards and Terms
- Table 2-1, Compliance Requirements

Department of
Environmental Protection

Jeb Bush
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Colleen M. Castille
Secretary

Permittee:
City of Tallahassee
300 South Adams Street
Tallahassee, Florida 32301

FINAL Permit No.: 0730003-007-AV
Facility ID No.: 0730003
SIC Nos.: 49, 4911
Project: Title V Air Operation Permit Revision

This permit revision is for the operation of the Arvah B. Hopkins Generating Station. This facility is located at 1125 Geddie Road, Tallahassee, Leon County. This Title V Air Operation Permit Revision incorporates the excess emissions condition from Permit No. 0730003-006-AC into the Title V Air Operation Permit.

This Title V air operation permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210, 62-213, and 62-214. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents, attached hereto or on file with the permitting authority, in accordance with the terms and conditions of this permit.

Referenced attachments made a part of this permit:
Appendix I-1, List of Insignificant Emissions Units and/or Activities
Appendix U-1, List of Unregulated Emissions Units and/or Activities
Phase II Acid Rain Permit Application/Compliance Plan Received July 1, 2002
Appendix SS-1, Stack Sampling Facilities (version dated 10/7/96)
Appendix TV-4, Title V Conditions (version dated 2/12/02)
ASP Number 97-B-01
Scrivener's Order Correcting ASP Number 97-B-01 (dated July 9, 1997)

Effective Date: January 1, 2003
1st Revision Effective Date: March 3, 2005
Renewal Application Due Date: July 5, 2007
Expiration Date: December 31, 2007

Michael G. Cooke, Director,
Division of Air Resource Management

MGC/jkp/jh

Section I. Facility Information.

Subsection A. Facility Description.

This facility consists of two fossil fuel-fired steam generators and two fossil fuel-fired combustion turbines. The two steam generators are Phase II Acid Rain Units. Boiler Number 2 is regulated under the Florida Electrical Power Plant Siting Act. The total (nominal) combined electrical generating capacity from the facility is 356.27 megawatts electric (MW), of which, 313 MW are provided by the steam generators and 43.27 MW are provided by the combustion turbines. The fuels used at this facility are natural gas, fuel oil and on-specification used oil. Also included in this permit are miscellaneous unregulated/insignificant emissions units and/or activities.

Based on the Title V permit renewal application received July 1, 2002, this facility is a major source of hazardous air pollutants (HAPs).

Subsection B. Summary of Emissions Unit ID No(s). and Brief Description(s).

Regulated Emissions Units:

E.U. ID No.	Brief Description
-001	Boiler Number 1: 903 MMBtu/hour (Phase II Acid Rain Unit)
-002	Combustion Turbine Number 1, 228 MMBtu/hour
-003	Combustion Turbine Number 2, 446 MMBtu/hour
-004	Boiler Number 2: 2,325 - 2,500 MMBtu/hour (Phase II Acid Rain Unit)

Unregulated emissions Units and/or Activities (See Appendix U-1):

E.U. ID No.	Brief Description
-005	Fugitive VOC Sources - Painting Operations
-006	General Purpose Engines
-007	Emergency Generators

Please reference the Permit No., Facility ID No., and appropriate Emissions Unit(s) ID Number(s). on all correspondence, test report submittals, applications, etc.

Subsection C. Relevant Documents.

The following documents are part of this permit:
Appendix I-1, List of Insignificant Emissions Units and/or Activities
Appendix U-1, List of Unregulated Emissions Units and/or Activities
Phase II Acid Rain Permit Application/Compliance Plan Received July 1, 2002
Appendix SS-1, Stack Sampling Facilities (version dated 10/7/96)
Appendix TV-4, Title V Conditions (version dated 2/12/02)
ASP Number 97-B-01
Scrivener's Order Correcting ASP Number 97-B-01 (dated July 9, 1997)

{Permitting Note: The documents listed below are not a part of this permit; however, they are specifically related to this permitting action.}

These documents are provided to the permittee for information purposes only:
Appendix H-1, Permit History / ID Number Changes
Appendix A-1, Abbreviations, Acronyms, Citations, and Identification Numbers (version dated 2/5/97)
Table 1-1, Summary of Air Pollutant Standards and Terms
Table 2-1, Summary of Compliance Requirements
Statement of Basis

These documents are on file with the permitting authority:
Title V Permit Renewal Application received July 1, 2002
Department's request for additional information letter dated July 24, 2002
City of Tallahassee letter received July 31, 2002
Response to request for additional information received August 16, 2002
Additional Information regarding insignificant emissions units received September 3, 2002
Title V Permit Revision Application Received September 10, 2004
0730003-006-AC issued December 7, 2004

Section II. Facility-wide Conditions.

The following conditions apply facility-wide:

1. Appendix TV-4, Title V Conditions (version dated 2/12/02), is a part of this permit.
{Permitting note: Appendix TV-4, Title V Conditions is distributed to the permittee only. Other persons requesting copies of these conditions shall be provided one copy when requested or otherwise appropriate.}

2. Not federally enforceable. General Pollutant Emission Limiting Standards. Objectionable Odor Prohibited. The permittee shall not cause, suffer, allow, or permit the discharge of air pollutants which cause or contribute to an objectionable odor.
[Rule 62-296.320(2), F.A.C.]

3. Prevention of Accidental Releases (Section 112(r) of CAA).
(a) The permittee shall submit its Risk Management Plan (RMP) to the Chemical Emergency Preparedness and Prevention Office (CEPPO) RMP Reporting Center when, and if, such requirement becomes applicable. Any Risk Management Plans, original submittals, revisions or updates to submittals, should be sent to:

RMP Reporting Center
Post Office Box 1515
Lanham-Seabrook, MD 20703-1515
Telephone: 301/429-5018

and,
(b) The permittee shall submit to the permitting authority Title V certification forms or a compliance schedule in accordance with Rule 62-213.440(2), F.A.C.
[40 CFR 68]

4. Insignificant Emissions Units and/or Activities. Appendix I-1, List of Insignificant Emissions Units and/or Activities, is a part of this permit.
[Rules 62-213.440(1), 62-213.430(6), and 62-4.040(1)(b), F.A.C.]

5. Unregulated Emissions Units and/or Activities. Appendix U-1, List of Unregulated Emissions Units and/or Activities, is a part of this permit.
[Rule 62-213.440(1), F.A.C.]

6. General Pollutant Emission Limiting Standards. Volatile Organic Compounds Emissions or Organic Solvents Emissions. The permittee shall allow no person to store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds or organic solvents without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Department.
[Rule 62-296.320(1)(a), F.A.C.]

{Permitting Note: No vapor emission control devices or systems are deemed necessary nor ordered by the Department as of the issuance date of this permit.}

7. General Particulate Emission Limiting Standards. General Visible Emissions Standard. Except for emissions units that are subject to a particulate matter or opacity limit set forth or established by rule and reflected by conditions in this permit, no person shall cause, let, permit, suffer or allow to be discharged into the atmosphere the emissions of air pollutants from any activity, the density of which is equal to or greater than that designated as Number 1 on the Ringelmann Chart (20 percent opacity). EPA Method 9 is the method of compliance pursuant to Chapter 62-297, F.A.C.
[Rules 62-296.320(4)(b)1. & 4., F.A.C.]

8. Not federally enforceable. Reasonable precautions to prevent emissions of unconfined particulate matter at this facility include:

a. Concrete mixing in the portable concrete mixer shall be operated on an as-needed basis. Reasonable precautions include enclosing the activity wherever practical.
b. Abrasive blasting activities that are associated with normal maintenance and corrosion control activities shall be enclosed where practical.
c. Unconfined emissions associated with the limited on-site traffic shall be controlled by limiting vehicle speeds and unnecessary traffic within the plant grounds.
d. Aggregate storage piles occur on a temporary basis associated with miscellaneous construction activities. Water is applied on an as-needed basis to control unconfined emissions from the handling and storage of the aggregate materials where practical.
e. Spray applications of surface coatings are associated with normal maintenance and corrosion activities. The activities are enclosed whenever practicable.

[Rule 62-296.320(4)(c)2., F.A.C.; and, proposed by applicant in Title V permit renewal application received July 1, 2002.]

{Permitting note: This condition implements the requirements of Rules 62-296.320(4)(c)1., 3., & 4., F.A.C. (see Condition No. 57. of APPENDIX TV-4, TITLE V CONDITIONS).}

9. When appropriate, any recording, monitoring, or reporting requirements that are time-specific shall be in accordance with the effective date of the permit, which defines day one.
[Rule 62-213.440, F.A.C.]

10. The Department's Northwest District Branch Office (Tallahassee) telephone number for reporting problems, malfunctions or exceedances under this permit is 850/488-3704, day or night, and for emergencies involving a significant threat to human health or the environment is 850/413-9911. The Department's Northwest District Office (Pensacola) telephone number for routine business, including compliance test notifications, is 850/444-8364 during normal working hours.

11. The permittee shall submit all compliance-related notifications and reports required of this permit (other than Acid Rain Program Information) to the Department's Northwest District office:

Department of Environmental Protection
Northwest District Office
160 Governmental Center
Pensacola, Florida 32501-5794
Telephone: 850/595-8364
Fax: 850/595-8096

Acid Rain Program Information shall be submitted, as necessary, to:

Department of Environmental Protection
2600 Blair Stone Road
Mail Station #5510
Tallahassee, Florida 32399-2400
Telephone: 850/488-0114
Fax: 850/922-6979

12. Any reports, data, notifications, certifications, and requests (other than Acid Rain Program Information) required to be sent to the United States Environmental Protection Agency, Region 4, should be sent to:

United States Environmental Protection Agency, Region 4
Air, Pesticides & Toxics Management Division
Air and EPCRA Enforcement Branch
Air Enforcement Section
61 Forsyth Street
Atlanta, Georgia 30303-8960
Telephone: 404/562-9155; Fax: 404/562-9163

Reporting Requirements.

13. Statement of Compliance. The annual statement of compliance pursuant to Rule 62-213.440(3)(a)2., F.A.C., shall be submitted to the Department and EPA within 60 (sixty) days after the end of the calendar year using DEP Form No. 62-213.900(7), F.A.C.
[Rules 62-213.440(3) and 62-213.900, F.A.C.]

{Permitting Note: This condition implements the requirements of Rules 62-213.440(3)(a)2. & 3., F.A.C. (see Condition 51. of APPENDIX TV-4, TITLE V CONDITIONS).}"

14. Certification by Responsible Official (RO). In addition to the professional engineering certification required for applications by Rule 62-4.050(3), F.A.C., any application form, report, compliance statement, compliance plan and compliance schedule submitted pursuant to Chapter 62-213, F.A.C., shall contain a certification signed by a responsible official that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. Any responsible official who fails to submit any required information or who has submitted incorrect information shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary information or correct information.
[Rule 62-213.420(4), F.A.C.]

Section III. Emissions Units and Conditions.

Subsection A. This section addresses the following emissions unit.

E.U. ID No.	Brief Description
-001	Boiler Number 1 (Phase II Acid Rain Unit)

Emissions unit number 001 is a Foster-Wheeler Corporation fossil fuel fired steam generator (model number SF-5) designated as "Boiler Number 1". It is rated at a maximum heat input of 903 million Btu per hour (MMBtu/hour) when firing natural gas or fuel oil and a nominal 75 megawatt (electric) and 750,000 pounds of steam per hour.

{Permitting notes: This emissions unit is regulated under Acid Rain, Phase II. This emissions unit pre-dates PSD regulations, but is regulated under Rule 62-296.405, F.A.C., Fossil Fuel Steam Generators with more than 250 million Btu per Hour Heat Input. Stack height = 200 feet, exit diameter = 11.0 feet, exit temperature = 260.6 °F, actual volumetric flow rate = 223,755 acfm. Emissions from this boiler are uncontrolled. This unit began commercial operation in May of 1971.}

The following Specific Conditions apply to the emissions unit listed above:

Essential Potential to Emit (PTE) Parameters.

A.1. Permitted Capacity. The maximum operation heat input rate is as follows:

Unit No.	MMBtu/hr Heat Input	Fuel Type
-001	903	Natural Gas
	903	No. 2 - No. 6 Fuel Oil; On-Specification Used Oil

[Rules 62-4.160(2), 62-210.200(PTE) and 62-296.405, F.A.C.]

{Permitting note: The heat input limitations have been placed in each permit to identify the capacity of each unit for the purposes of confirming that emissions testing is conducted within 90 to 100 percent of the unit's rated capacity (or to limit future operation to 110 percent of the test load), to establish appropriate emission limits and to aid in determining future rule applicability. Regular record keeping is not required for heat input. Instead, the owner or operator is expected to determine heat input whenever emission testing is required, to demonstrate at what percentage of the rated capacity that the unit was tested. Rule 62-297.310(5), F.A.C., included in the permit, requires measurement of the process variables for emission tests. Such heat input determination may be based on measurements of fuel consumption by various methods including but not limited to fuel flow metering or tank drop measurements, using the heat value of the fuel determined by the fuel vendor or the owner or operator, to calculate average hourly heat input during the test.}

A.2. Emissions Unit Operating Rate Limitation After Testing. See Specific Condition **A.23.**
[Rule 62-297.310(2), F.A.C.]

A.3. Methods of Operation.

a. Fuels. The fuels that are allowed to be burned in this boiler are natural gas and/or new No. 2 through No. 6 fuel oil and/or on-specification used oil (See Specific Condition A.35.). In case of a natural gas curtailment, liquefied petroleum gas (LPG) may be used as an igniter fuel for the fuel oil.

b. Other. Fuel additives typically of a magnesium oxide, hydroxide, sulfonate, or calcium nitrate origin may be used.

[Rule 62-213.410, F.A.C.; and, Applicant's request in Title V permit renewal application dated July 1, 2002.]

A.4. Hours of Operation. This emissions unit may operate continuously, i.e. 8,760 hours/year. The permittee shall maintain an operation log available for Department inspection that documents the total hours of annual operation, including a detailed account of the hours operated on each of the allowable fuels.
[Rule 62-210.200(PTE), F.A.C.; and, AO37-242825, Specific Condition #3.; and, applicant request in the Title V permit renewal application received July 1, 2002.]

Emission Limitations and Standards.

{Permitting Note: The attached Table 1-1, Summary of Air Pollutant Standards and Terms, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

{Permitting note: Unless otherwise specified, the averaging times for conditions **A.5. – A.10.** are based on the specified averaging time of the applicable test method.}

A.5. Visible Emissions. Visible emissions shall not exceed 20 percent opacity, except for one six-minute period per hour during which opacity shall not exceed 27 percent
[Rule 62-296.405(1)(a), F.A.C.; and, applicant request.]

A.6. Visible Emissions - Soot Blowing and Load Change. Visible emissions shall not exceed 60 percent opacity during the 3-hours in any 24-hour period of excess emissions allowed for boiler cleaning (soot blowing) and load change.

A load change occurs when the operational capacity of a unit is in the 10 percent to 100 percent capacity range, other than startup or shutdown, which exceeds 10 percent of the unit's rated capacity and which occurs at a rate of 0.5 percent per minute or more.
[Rule 62-210.700(3), F.A.C.]

A.7. Particulate Matter. Particulate matter emissions shall not exceed 0.1 pound per million Btu heat input, as measured by applicable compliance methods.
[Rule 62-296.405(1)(b), F.A.C.]

A.8. Particulate Matter - Soot Blowing and Load Change. Particulate matter emissions shall not exceed an average of 0.3 pound per million Btu heat input during the 3-hours in any 24-hour period of excess emissions allowed for boiler cleaning (soot blowing) and load change.
[Rule 62-210.700(3), F.A.C.]

A.9. Sulfur Dioxide. When burning liquid fuel, sulfur dioxide emissions shall not exceed 1.87 pounds per million Btu heat input , as measured by applicable compliance methods.
[Rule 62-296.405(1)(c)1.h., F.A.C.]

A.10. Sulfur Dioxide. For compliance purposes, the following limit supersedes the limit contained in Specific Condition A.9. Sulfur dioxide emissions shall not exceed 0.75 pound per million Btu heat input, as measured by applicable compliance methods. Any calculations used to demonstrate compliance shall be based solely on the heating value, quantities, and the percent sulfur of the liquid and gaseous fuels being burned. (See Specific Conditions A.11. & A.21.)
[Rule 62-204.220 & .240, F.A.C.; AO37-242825 Specific Condition 4 and Applicant's request in Title V permit renewal application received July 1, 2002.]

A.11. Fuel Sulfur. Fuel sulfur content (percent, by weight) shall be determined by a fuel analysis representative of all "as-fired" fuels. Prior to burning any fuels in the boiler pursuant to this permit, receipts of the analyses of the existing fuels shall have been received by the City in order to use their values and calculate a maximum allowable fuel blend of natural gas and fuel oil. Upon subsequent fuel deliveries, if the vendor's delivery receipts indicate that the sulfur content of the delivered fuel is greater than the sulfur content established by the previous analysis, then a new maximum allowable fuel blend shall be calculated using the assumption that any future fuel fired contains the higher sulfur content. The resulting maximum allowable fuel blend shall be adhered to until such time that a more accurate analysis has been provided. If the vendor's delivery receipt indicates that the sulfur content of the delivered fuel is less than the sulfur content previously established, a new analysis is only necessary if the permittee wishes to adjust the previously established maximum allowable fuel blend. (See Specific Conditions **A.10.** and **A.21.**).
[Rules 62-4.070(3) & 62-296.405(1)(c)3., F.A.C.; and, Applicant Requests dated June 18, 1997 & July 1, 2002.]

Excess Emissions.

A.12. Excess emissions resulting from malfunction shall be permitted provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized but in no case exceed two hours in any 24-hour period unless specifically authorized by the Department for longer duration.
[Rule 62-210.700(1), F.A.C.]

A.13. Excess emissions resulting from startup or shutdown shall be permitted provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized.
[Rule 62-210.700(2), F.A.C.]

A.14. Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown or malfunction shall be prohibited.
[Rule 62-210.700(4), F.A.C.]

Monitoring of Operations.

{Permitting Note: In accordance with the Acid Rain Phase II requirements, the following continuous monitors are installed on this unit: Gas Fuel Flow, Oil Fuel Flow, NO_X and CO_2.}

A.15. Sulfur Dioxide. The permittee elected to demonstrate compliance using fuel sampling and analysis. This protocol is allowed because the emissions unit does not have an operating flue gas desulfurization device. See Specific Conditions **A.11.** and **A.21.** of this permit.
[Rule 62-296.405(1)(f)1.b., F.A.C.]

A.16. Determination of Process Variables.
(a) Required Equipment. The owner or operator of an emissions unit for which compliance tests are required shall install, operate, and maintain equipment or instruments necessary to determine process variables, such as process weight input or heat input, when such data are needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.
(b) Accuracy of Equipment. Equipment or instruments used to directly or indirectly determine process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value.
[Rule 62-297.310(5), F.A.C.]

Test Methods and Procedures.

{Permitting Note: The attached Table 2-1, Summary of Compliance Requirements, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

A.17. Visible emissions. The test method for visible emissions shall be DEP Method 9, incorporated in Chapter 62-297, F.A.C. A transmissometer may be used and calibrated according to Rule 62-297.520, F.A.C. See Specific Condition A.18.
[Rule 62-296.405(1)(e)1., F.A.C.]

A.18. DEP Method 9. The provisions of EPA Method 9 (40 CFR 60, Appendix A) are adopted by reference with the following exceptions:
1. EPA Method 9, Section 2.4, Recording Observations. Opacity observations shall be made and recorded by a certified observer at sequential fifteen-second intervals during the required period of observation.
2. EPA Method 9, Section 2.5, Data Reduction. For a set of observations to be acceptable, the observer shall have made and recorded, or verified the recording of, at least 90 percent of the

possible individual observations during the required observation period. For single-valued opacity standards (e.g., 20 percent opacity), the test result shall be the highest valid six-minute average for the set of observations taken. For multiple-valued opacity standards (e.g., 20 percent opacity, except that an opacity of 40 percent is permissible for not more than two minutes per hour) opacity shall be computed as follows:

a. For the basic part of the standard (i.e., 20 percent opacity), the opacity shall be determined as specified above for a single-valued opacity standard.
b. For the short-term average part of the standard, opacity shall be the highest valid short-term average (i.e., two-minute, three-minute average) for the set of observations taken.

In order to be valid, any required average (i.e., a six-minute or two-minute average) shall be based on all of the valid observations in the sequential subset of observations selected, and the selected subset shall contain at least 90 percent of the observations possible for the required averaging time. Each required average shall be calculated by summing the opacity value of each of the valid observations in the appropriate subset, dividing this sum by the number of valid observations in the subset, and rounding the result to the nearest whole number. The number of missing observations in the subset shall be indicated in parenthesis after the subset average value.
[Rule 62-297.401(9)(c), F.A.C.]

A.19. Particulate Matter. The test methods for particulate emissions shall be EPA Methods 17, 5, 5B, or 5F, incorporated by reference in Chapter 62-297, F.A.C. The minimum sample volume shall be 30 dry standard cubic feet. EPA Method 5 may be used with filter temperature no more than 320 degrees Fahrenheit. For EPA Method 17, stack temperature shall be less than 375 degrees Fahrenheit. The owner or operator may use EPA Method 5 to demonstrate compliance. EPA Method 3 or 3A with Orsat analysis shall be used when the oxygen based F-factor, computed according to EPA Method 19, is used in lieu of heat input. Acetone wash shall be used with EPA Method 5 or 17.
[Rules 62-296.405(1)(e)2. and 62-297.401, F.A.C.]

A.20. Sulfur Dioxide. The test methods for sulfur dioxide emissions shall be EPA Methods 6, 6A, 6B, or 6C, incorporated by reference in Chapter 62-297, F.A.C. Fuel sampling and analysis may be used as an alternate sampling procedure if such a procedure is incorporated into the operation permit for the emissions unit. If the emissions unit obtains an alternate procedure under the provisions of Rule 62-297.620, F.A.C., the procedure shall become a condition of the emissions unit's permit. The Department will retain the authority to require EPA Method 6 or 6C if it has reason to believe that exceedances of the sulfur dioxide emissions limiting standard are occurring. Results of an approved fuel sampling and analysis program shall have the same effect as EPA Method 6 test results for purposes of demonstrating compliance or noncompliance with sulfur dioxide standards. The permittee may use the EPA test methods, referenced above, to demonstrate compliance; however, as an alternate sampling procedure authorized by permit, the permittee elected to demonstrate compliance by using fuel sampling and analysis. See Specific Conditions **A.11.** and **A.21.**
[Rules 62-213.440, 62-296.405(1)(e)3., 62-296.405(1)(f)1.b. and 62-297.401, F.A.C.; and, AO37-242825.]

A.21. The following fuel sampling and analysis protocol shall be used as an alternate sampling procedure authorized by permit to demonstrate compliance with the sulfur dioxide standard and to provide the necessary values needed to calculate a maximum allowable fuel blend:

a. Establish and maintain a record of the sulfur content (percent, by weight) of the "as-fired" fuel oil using either ASTM D2622-92, ASTM D4294-90, both ASTM D4057-88 and ASTM D129-91, or equivalent, to analyze a representative sample of the blended fuel following each fuel delivery. This record may be maintained either by;
   1) retaining the delivery receipts that are provided by the fuel oil vendor (which indicates that the proper ASTM test methods have been followed) each time a fuel oil delivery is received, or;
   2) by "as-fired" sample results provided by the permittee.
b. Establish and maintain a record of the sulfur content of the "as-fired" natural gas using either ASTM D1072-90(94)E-1, ASTM D3031-81(86), ASTM D3246-92, ASTM D4084-94, ASTM D5504-94, or equivalent. This record may be maintained either by;
   1) retaining delivery receipts provided by the natural gas vendor (which indicates that the proper ASTM test methods have been followed and which shall be provided, at a minimum, each time there is a measurable increase in the sulfur content of the natural gas), or;
   2) by on-site sample results provided by the permittee, or;
   3) by utilizing the FERC Tariff guaranteed maximum sulfur content of 10 grains per 100 cubic feet of natural gas as a "default value".
c. Establish and maintain a record of either the density (using ASTM D 1298-80, or equivalent), or the mass, and the calorific heat value in Btu per pound (using ASTM D 240-76, or equivalent), of the fuel oil combusted. This record may be maintained either by;
   1) retaining the delivery receipts that are provided by the fuel oil vendor (which indicates that the proper ASTM test methods have been followed) each time a fuel oil delivery is received, or;
   2) by on-site sample results provided by the permittee, or;
   3) by utilizing data provided by a certified continuous mass flow monitor in accordance with 40 CFR 75, Appendix D.
d. Record daily the amount of each fuel fired, the sulfur content (percent, by weight) of each fuel, either the density or mass of the fuel oil, and the calorific heat value of each fuel. For all fuels fired, the highest value for any parameter (i.e., density, calorific heat value, etc.) that has been established by the vendor's receipt shall be utilized until an as-fired fuel analysis is received to establish a new value for the parameter in question.
e. Utilize the information in a., b. c. and d., above, to calculate the SO_2 emission rate to ensure compliance at all times.

[Rules 62-213.440, 62-296.405(1)(e)3., 62-296.405(1)(f)1.b. & 62-297.440, F.A.C.; and, Applicant Requests dated July 10, 1997 & July 1, 2002]

Compliance Test Requirements.

A.22. Required Number of Test Runs. For mass emission limitations, a compliance test shall consist of three complete and separate determinations of the total air pollutant emission rate through the test section of the stack or duct and three complete and separate determinations of any applicable process variables corresponding to the three distinct time periods during which the stack emission rate was measured provided, however, that three complete and separate determinations shall not be required if the process variables are not subject to variation during a compliance test, or if three determinations are not necessary in order to calculate the unit's emission rate. The three required test runs shall be completed

within one consecutive five day period. In the event that a sample is lost or one of the three runs must be discontinued because of circumstances beyond the control of the owner or operator, and a valid third run cannot be obtained within the five day period allowed for the test, the Secretary or his or her designee may accept the results of the two complete runs as proof of compliance, provided that the arithmetic mean of the results of the two complete runs is at least 20 percent below the allowable emission limiting standards.
[Rule 62-297.310(1), F.A.C.]

A.23. Operating Rate During Testing. Testing of emissions shall be conducted with the emissions unit operation at permitted capacity, which is defined as 90 to 100 percent of the maximum operation rate allowed by the permit. If it is impracticable to test at permitted capacity, an emissions unit may be tested at less than the minimum permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test load until a new test is conducted. Once the emissions unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity.
[Rules 62-297.310(2) & (2)(b), F.A.C.]

A.24. Operating Conditions During Testing. If particulate matter and visible emissions tests are required, the tests shall be conducted concurrently and shall be performed using the maximum fuel oil to natural gas ratio that can be fired while meeting the standards.
[Rule 62-4.070(3), F.A.C.; and, Applicant requests dated June 18, 1997 & July 1, 2002.]

A.25. Calculation of Emission Rate. The indicated emission rate or concentration shall be the arithmetic average of the emission rate or concentration determined by each of the separate test runs unless otherwise specified in a particular test method or applicable rule.
[Rule 62-297.310(3), F.A.C.]

A.26. Applicable Test Procedures.

(a) Required Sampling Time.

1. Unless otherwise specified in the applicable rule, the required sampling time for each test run shall be no less than one hour and no greater than four hours, and the sampling time at each sampling point shall be of equal intervals of at least two minutes.
2. Opacity Compliance Tests. When either EPA Method 9 or DEP Method 9 is specified as the applicable opacity test method, the required minimum period of observation for a compliance test shall be sixty (60) minutes for emissions units which emit or have the potential to emit 100 tons per year or more of particulate matter, and thirty (30) minutes for emissions units which have potential emissions less than 100 tons per year of particulate matter and are not subject to a multiple-valued opacity standard. The opacity test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur. Exceptions to these requirements are as follows:
   c. The minimum observation period for opacity tests conducted by employees or agents of the Department to verify the day-to-day continuing compliance of a unit or activity with an applicable opacity standard shall be twelve minutes.

(b) Minimum Sample Volume. Unless otherwise specified in the applicable rule, the minimum sample volume per run shall be 25 dry standard cubic feet.

(c) Required Flow Rate Range. For EPA Method 5 particulate sampling, acid mist/sulfur dioxide, and fluoride sampling which uses Greenburg Smith type impingers, the sampling nozzle and sampling time shall be selected such that the average sampling rate will be between 0.5 and 1.0 actual cubic feet per minute, and the required minimum sampling volume will be obtained.

(d) Calibration of Sampling Equipment. Calibration of the sampling train equipment shall be conducted in accordance with the schedule shown in Table 297.310-1.

(e) Allowed Modification to EPA Method 5. When EPA Method 5 is required, the following modification is allowed: the heated filter may be separated from the impingers by a flexible tube.

[Rule 62-297.310(4), F.A.C.]

TABLE 297.310-1
CALIBRATION SCHEDULE

ITEM	MINIMUM CALIBRATION FREQUENCY	REFERENCE INSTRUMENT	TOLERANCE
Liquid in glass thermometer	Annually	ASTM Hg in glass ref. thermometer or equivalent, or thermometric points	+/-2%
Bimetallic thermometer	Quarterly	Calib. liq. in glass thermometer	5 degrees F
Thermocouple	Annually	ASTM Hg in glass ref. thermometer, NBS calibrated reference and potentiometer	5 degrees F
Barometer	Monthly	Hg barometer or NOAA station	+/-1% scale
Pitot Tube	When required or when damaged	By construction or measurements in wind tunnel D greater than 16" and standard pitot tube	See EPA Method 2, Fig. 2-2 & 2-3
Probe Nozzles	Before each test or when nicked, dented, or corroded	Micrometer	+/-0.001" mean of at least three readings Max. deviation between readings .004"
Dry Gas Meter and Orifice Meter	1. Full Scale: When received, When 5% change observed, Annually	Spirometer or calibrated wet test or dry gas test meter	2%
	2. One Point: Semiannually		
	3. Check after each test series	Comparison check	5%

A.27. Required Stack Sampling Facilities. When a mass emissions stack test is required, the permittee shall comply with the requirements contained in Appendix SS-1, Stack Sampling Facilities, attached to this permit.
[Rule 62-297.310(6), F.A.C.]

A.28. Frequency of Compliance Tests. The following provisions apply only to those emissions units that are subject to an emissions limiting standard for which compliance testing is required.

(a) General Compliance Testing.

2. For excess emission limitations for particulate matter specified in Rule 62-210.700, F.A.C., a compliance test shall be conducted annually while the emissions unit is operating under soot blowing conditions in each federal fiscal year during which soot blowing is part of normal emissions unit operation, except that such test shall not be required in any federal fiscal year in which a fossil fuel steam generator does not burn liquid for more than 400 hours other than during startup.
3. The owner or operator of an emissions unit that is subject to any emission limiting standard shall conduct a compliance test that demonstrates compliance with the applicable emission limiting standard prior to obtaining a renewed operation permit. Emissions units that are required to conduct an annual compliance test may submit the most recent annual compliance test to satisfy the requirements of this provision. In renewing an air operation permit pursuant to Rule 62-210.300(2)(a)3.b., c., or d., F.A.C., the Department shall not require submission of emission compliance test results for any emissions unit that, during the year prior to renewal:
   a. Did not operate; or
   b. In the case of a fuel burning emissions unit, burned liquid fuel for a total of no more than 400 hours.
4. During each federal fiscal year (October 1 - September 30), unless otherwise specified by rule, order, or permit, the owner or operator of each emissions unit shall have a formal compliance test conducted for:
   a. Visible emissions, if there is an applicable standard (see Specific Condition A.29.);
   b. Each of the following pollutants, if there is an applicable standard, and if the emissions unit emits or has the potential to emit: 5 tons per year or more of lead or lead compounds measured as elemental lead; 30 tons per year or more of acrylonitrile; or 100 tons per year or more of any other regulated air pollutant; and
   c. Each NESHAP pollutant, if there is an applicable emission standard.
5. An annual compliance test for particulate matter emissions shall not be required for any fuel burning emissions unit that, in a federal fiscal year, does not burn liquid fuel, other than during startup, for a total of more than 400 hours (see Specific Condition A.30.).
9. The owner or operator shall notify the Department, at least 15 days prior to the date on which each formal compliance test is to begin, of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted for the owner or operator.

(b) Special Compliance Tests. When the Department, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it may require the owner or operator of the emissions unit to conduct

compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the Department.

(c) Waiver of Compliance Test Requirements. If the owner or operator of an emissions unit that is subject to a compliance test requirement demonstrates to the Department, pursuant to the procedure established in Rule 62-297.620, F.A.C., that the compliance of the emissions unit with an applicable weight emission limiting standard can be adequately determined by means other than the designated test procedure, such as specifying a surrogate standard of no visible emissions for particulate matter sources equipped with a bag house or specifying a fuel analysis for sulfur dioxide emissions, the Department shall waive the compliance test requirements for such emissions units and order that the alternate means of determining compliance be used, provided, however, the provisions of Rule 62-297.310(7)(b), F.A.C., shall apply.

[Rule 62-297.310(7), F.A.C.; and, SIP Approved.]

A.29. Visible Emissions Testing - Annual. By this permit, annual emissions compliance testing for visible emissions is not required for these emissions units while burning:

a. only gaseous fuel(s); or,
b. gaseous fuel(s) in combination with any amount of liquid fuel(s) for less than 400 hours per year; or,
c. only liquid fuel(s) for less than 400 hours per year.

[Rule 62-297.310(7)(a)4., F.A.C.]

A.30. Particulate Matter Testing - Annual and Permit Renewal. Annual and permit renewal compliance testing for particulate matter emissions is not required for these emissions units while burning:

a. only gaseous fuel(s); or,
b. gaseous fuel(s) in combination with any amount of liquid fuel(s) for less than 400 hours per year; or,
c. only liquid fuel(s) for less than 400 hours per year.

[Rules 62-297.310(7)(a)3. & 5., F.A.C.; and, ASP Number 97-B-01.]

Recordkeeping and Reporting Requirements.

A.31. The owner or operator shall maintain continuous records of fuel consumption and each analysis that provides the heating value and sulfur content for all fuels fired. These records must be of sufficient detail to determine compliance with the allowable sulfur dioxide emission limitation.
[Rule 62-4.070(3), F.A.C.]

A.32. In the case of excess emissions resulting from malfunctions, each owner or operator shall notify the Department in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department.
[Rule 62-210.700(6), F.A.C.]

A.33. Quarterly Reports. Submit to the Department a written report of emissions in excess of emission limiting standards as set forth in Rule 62-296.405(1), F.A.C., for each calendar quarter. The nature and cause of the excess emissions shall be explained. This report does not relieve the owner or operator of

the legal liability for violations. All recorded data shall be maintained on file by the Source for a period of five years.
[Rules 62-213.440 and 62-296.405(1)(g), F.A.C.]

A.34. Test Reports.

(a) The owner or operator of an emissions unit for which a compliance test is required shall file a report with the Department on the results of each such test.

(b) The required test report shall be filed with the Department as soon as practical but no later than 45 days after the last sampling run of each test is completed.

(c) The test report shall provide sufficient detail on the emissions unit tested and the test procedures used to allow the Department to determine if the test was properly conducted and the test results properly computed. As a minimum, the test report, other than for an EPA or DEP Method 9 test, shall provide the following information:

1. The type, location, and designation of the emissions unit tested.
2. The facility at which the emissions unit is located.
3. The owner or operator of the emissions unit.
4. The normal type and amount of fuels used and materials processed, and the types and amounts of fuels used and material processed during each test run.
5. The means, raw data and computations used to determine the amount of fuels used and materials processed, if necessary to determine compliance with an applicable emission limiting standard.
6. The type of air pollution control devices installed on the emissions unit, their general condition, their normal operating parameters (pressure drops, total operating current and GPM scrubber water), and their operating parameters during each test run.
7. A sketch of the duct within 8 stack diameters upstream and 2 stack diameters downstream of the sampling ports, including the distance to any upstream and downstream bends or other flow disturbances.
8. The date, starting time and duration of each sampling run.
9. The test procedures used, including any alternative procedures authorized pursuant to Rule 62-297.620, F.A.C. Where optional procedures are authorized in this chapter, indicate which option was used.
10. The number of points sampled and configuration and location of the sampling plane.
11. For each sampling point for each run, the dry gas meter reading, velocity head, pressure drop across the stack, temperatures, average meter temperatures and sample time per point.
12. The type, manufacturer and configuration of the sampling equipment used.
13. Data related to the required calibration of the test equipment.
14. Data on the identification, processing and weights of all filters used.
15. Data on the types and amounts of any chemical solutions used.
16. Data on the amount of pollutant collected from each sampling probe, the filters, and the impingers, are reported separately for the compliance test.
17. The names of individuals who furnished the process variable data, conducted the test, analyzed the samples and prepared the report.
18. All measured and calculated data required to be determined by each applicable test procedure for each run.
19. The detailed calculations for one run that relate the collected data to the calculated emission rate.

20. The applicable emission standard, and the resulting maximum allowable emission rate for the emissions unit, plus the test result in the same form and unit of measure.
21. A certification that, to the knowledge of the owner or his authorized agent, all data submitted are true and correct. When a compliance test is conducted for the Department or its agent, the person who conducts the test shall provide the certification with respect to the test procedures used. The owner or his authorized agent shall certify that all data required `and provided to the person conducting the test are true and correct to his knowledge.

[Rules 62-213.440 and 62-297.310(8), F.A.C.]

Miscellaneous Conditions.

A.35. Used Oil. Burning of on-specification used oil is allowed in this emissions unit in accordance with all other conditions of this permit and the following conditions:

a. On-specification Used Oil Emissions Limitations. This emissions unit is permitted to burn on-specification used oil, which contains a PCB concentration of less than 50 ppm. On-specification used oil is defined as used oil that meets the specifications of 40 CFR 279 - Standards for the Management of Used Oil, listed below. "Off-specification" used oil shall not be burned. Used oil which fails to comply with any of these specification levels is considered "off-specification" used oil.

CONSTITUENT/property	ALLOWABLE LEVEL
Arsenic	5 ppm maximum
Cadmium	2 ppm maximum
Chromium	10 ppm maximum
Lead	100 ppm maximum
Total Halogens	1000 ppm maximum
Flash point	100 degrees F minimum

b. Quantity Limitation. This emissions unit is permitted to burn "on-specification" used oil that is generated by the City of, not to exceed 10,000 gallons during any calendar year.

c. PCB Limitation. Used oil containing a PCB concentration of 50 or more ppm shall not be burned at this facility. Used oil shall not be blended to meet this requirement.

d. Operational Requirements. On-specification used oil with a PCB concentration of 2 to less than 50 ppm shall be burned only at normal source operating temperatures. On-specification used oil with a PCB concentration of 2 to less than 50 ppm shall not be burned during periods of startup or shutdown.

e. Testing Requirements. For each batch of used oil to be burned, the owner or operator must be able to demonstrate that the used oil qualifies as on-specification used oil and that the PCB content is less than 50 ppm.

The requirements of this demonstration are governed by the following federal regulations:

Analysis of used oil fuel. A generator, transporter, processor/re-refiner, or burner may determine that used oil that is to be burned for energy recovery meets the fuel specifications of Sec. 279.11 by performing analyses or obtaining copies of analyses or other information documenting that the used oil fuel meets the specifications.
[40 CFR 279.72(a)]

Testing of used oil fuel. Used oil to be burned for energy recovery is presumed to contain quantifiable levels (2 ppm) of PCB unless the marketer obtains analyses (testing) or other information that the used oil fuel does not contain quantifiable levels of PCBs.

(i) The person who first claims that a used oil fuel does not contain quantifiable level (2 ppm) PCB must obtain analyses or other information to support that claim.
(ii) Testing to determine the PCB concentration in used oil may be conducted on individual samples, or in accordance with the testing procedures described in Sec. 761.60(g)(2). However, for purposes of this part, if any PCBs at a concentration of 50 ppm or greater have been added to the container or equipment, then the total container contents must be considered as having a PCB concentration of 50 ppm or greater for purposes of complying with the disposal requirements of this part.
(iii) Other information documenting that the used oil fuel does not contain quantifiable levels (2 ppm) of PCBs may consist of either personal, special knowledge of the source and composition of the used oil, or a certification from the person generating the used oil claiming that the oil contains no detectable PCBs.
[40 CFR 761.20(e)(2)]

When testing is required, the owner or operator shall sample and analyze each batch of used oil to be burned for the following parameters:

Arsenic, cadmium, chromium, lead, total halogens, flash point and PCBs.

Testing (sampling, extraction and analysis) shall be performed using approved methods specified in EPA Publication SW-846 (Test Methods for Evaluating Solid Waste, Physical/Chemical Methods).

In addition to the above requirements, the owner or operator shall sample and analyze each batch of used oil to be burned for the sulfur content (by weight), density and heat content in accordance with approved test methods.

f. Record Keeping Requirements. The owner or operator shall obtain, make, and keep the following records related to the use of used oil in a form suitable for inspection at the facility by the Department:

(1) The gallons of on-specification used oil placed into inventory to be burned and the gallons of on-specification used oil burned each month.

(2) Results of the analyses of each deposit of used oil, as required by the above conditions.
(3) Other information, besides testing, used to make a claim that the used oil meets the requirements of on-specification used oil or that the used oil contains less than 50 ppm of PCBs.

[40 CFR 279.72(b), 40 CFR 279.74(b) and 40 CFR 761.20(e)]

g. Reporting Requirements. The owner or operator shall submit, with the Annual Operation Report form, the analytical results required above and the total amount of on-specification used oil placed into inventory to be burned and the total amount of on-specification used oil burned during the previous calendar year.

[Rule 62-4.070(3) and 62-213.440, F.A.C., 40 CFR 279 and 40 CFR 761, unless otherwise noted.]

Subsection B. This section addresses the following emissions unit(s).

E.U. ID No.	Brief Description
-004	Boiler Number 2, (Phase II Acid Rain Unit)

Emissions unit number 004 is a Babcock & Wilcox steam generator (model number RB-533) designated as "Boiler Number 2". It is rated at a maximum heat input of 2,325 million Btu per hour (MMBtu/hour) when firing fuel oil and 2,500 MMBtu/hour when firing natural gas and a nominal 238 MW and 1,619,000 pounds of steam per hour.

{Permitting notes: This emissions unit is regulated under Acid Rain, Phase II and the Florida Electrical Power Plant Siting Act (permit number PA 74-03D). This emissions unit pre-dates PSD regulations, but is regulated under Rule 62-296.405, F.A.C., Fossil Fuel Steam Generators with more than 250 million Btu per Hour Heat Input. Stack height = 250 feet, exit diameter = 14.0 feet, exit temperature = 220 - 305°F, actual volumetric flow rate = 636,706 acfm. Emissions from this boiler are uncontrolled. This unit began commercial operation in October of 1977.}

The following conditions apply to the emissions unit listed above:

Essential Potential to Emit (PTE) Parameters.

B.1. Permitted Capacity. The maximum operation heat input rate is as follows:

Unit No.	MMBtu/hr Heat Input	Fuel Type
-004	2,500	Natural Gas
	2,325	No. 2 - No. 6 Fuel Oil; On-Specification Used Oil

Note: When a blend of fuel oil and natural gas is fired, the allowable heat input is prorated based on the percent heat input of each fuel.
[Rules 62-4.160(2), 62-210.200(PTE) & 62-296.405, F.A.C.; and, Applicant request dated June 18, 1997.]

{Permitting note: The heat input limitations have been placed in each permit to identify the capacity of each unit for the purposes of confirming that emissions testing is conducted within 90 to 100 percent of the unit's rated capacity (or to limit future operation to 110 percent of the test load), to establish appropriate emission limits and to aid in determining future rule applicability. Regular record keeping is not required for heat input. Instead, the owner or operator is expected to determine heat input whenever emission testing is required, to demonstrate at what percentage of the rated capacity that the unit was tested. Rule 62-297.310(5), F.A.C., included in the permit, requires measurement of the process variables for emission tests. Such heat input determination may be based on measurements of fuel consumption by various methods including but not limited to fuel flow metering or tank drop measurements, using the heat value of the fuel determined by the fuel vendor or the owner or operator, to calculate average hourly heat input during the test.}

B.2. Emissions Unit Operating Rate Limitation After Testing. See Specific Condition **B.26.**
[Rule 62-297.310(2), F.A.C.]

B.3. Methods of Operation.

a. Fuels. The fuels that are allowed to be burned in this boiler are natural gas and/or new No. 2 through No. 6 fuel oil and/or on-specification used oil (See Specific Condition **B.38.**). In case of a natural gas curtailment, liquefied petroleum gas (LPG) may be used as an igniter fuel for the fuel oil.

b. Other. Fuel additives typically of a magnesium oxide, hydroxide, sulfonate, or calcium nitrate origin may be used.

[Rule 62-213.410, F.A.C.; and, Applicant's request in Title V permit renewal application dated July 1, 2002.]

B.4. Hours of Operation. This emissions unit may operate continuously, i.e. 8760 hours/year. The permittee shall maintain an operation log available for Department inspection that documents the total hours of annual operation, including a detailed account of the hours operated on each of the allowable fuels.
[Rule 62-210.200(PTE), F.A.C.; and, applicant request in Title V permit renewal application received July 1, 2002.]

Emission Limitations and Standards.

{Permitting Note: The attached Table 1-1, Air Pollutant Standards and Terms, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

{Permitting note: Unless otherwise specified, the averaging times for conditions B.5. – B.10. are based on the averaging time of the applicable test method.}

B.5. Visible Emissions. Visible emissions shall not exceed 20 percent opacity, except for one six-minute period per hour during which opacity shall not exceed 27 percent.
[Rule 62-296.405(1)(a), F.A.C.; and applicant request.]

B.6. Visible Emissions. Visible emissions shall not exceed 60 percent opacity during the 3-hours in any 24 hour period of excess emissions allowed for boiler cleaning (soot blowing) and load change.
[Rule 62-210.700(3), F.A.C.]

B.7. Particulate Matter. Particulate matter emissions shall not exceed 0.1 pound per million Btu heat input, as measured by applicable compliance methods.
[Rule 62-296.405(1)(b), F.A.C.]

B.8. Particulate Matter. Particulate matter emissions shall not exceed an average of 0.3 pound per million Btu heat input during the 3-hours in any 24 hour period of excess emissions allowed for boiler cleaning (soot blowing) and load change.

A load change occurs when the operational capacity of a unit is in the 10 percent to 100 percent capacity range, other than startup or shutdown, which exceeds 10 percent of the unit's rated capacity and which occurs at a rate of 0.5 percent per minute or more.
[Rule 62-210.700(3), F.A.C.]

B.9. Sulfur Dioxide. Sulfur dioxide emissions when burning liquid fuel shall not exceed 1.87 pounds per million Btu heat input , as measured by applicable compliance methods.
[Rule 62-296.405(1)(c)1.h., F.A.C.]

B.10. Sulfur Dioxide. For compliance purposes, the following limit supersedes the limit contained in Specific Condition **B.9.** Sulfur dioxide emissions shall not exceed 1.4 pounds per million Btu heat input, as measured by applicable compliance methods. Any calculations used to demonstrate compliance shall be based solely on the heating value, quantities, and the percent sulfur of the liquid and gaseous fuels being burned. (See Specific Conditions **B.11. & B.24.**)
[Rule 62-204.220 & .240, F.A.C.; AO37-242825 Specific Condition 4; and, Applicant's request in Title V permit renewal application received July 1, 2002.]

B.11. Fuel Sulfur. Fuel sulfur content (percent, by weight) shall be determined by a fuel analysis representative of all "as-fired" fuels. Prior to burning any fuels in the boiler pursuant to this permit, receipts of the analyses of the existing fuels shall have been received by the City in order to use their values and calculate a maximum allowable fuel blend of natural gas and fuel oil. Upon subsequent fuel deliveries, if the vendor's delivery receipts indicate that the sulfur content of the delivered fuel is greater than the sulfur content established by the previous analysis, then a new maximum allowable fuel blend shall be calculated using the assumption that any future fuel fired contains the higher sulfur content. The resulting maximum allowable fuel blend shall be adhered to until such time that a more accurate analysis has been provided. If the vendor's delivery receipt indicates that the sulfur content of the delivered fuel is less than the sulfur content previously established, a new analysis is only necessary if the permittee wishes to adjust the previously established maximum allowable fuel blend. (See Specific Conditions **B.10. and B.24.**)
[Rules 62-4.070(3) & 62-296.405(1)(c)3., F.A.C.; and, Applicant Requests dated June 18, 1997 & July 1, 2002.]

B.12. Nitrogen Oxide. Nitrogen oxide emissions shall not exceed 0.3 pounds per million Btu heat input, as measured by applicable compliance methods.
[Rule 62-296.405(1)(d)3., F.A.C.]

Excess Emissions.

B.13. Excess emissions resulting from malfunction shall be permitted provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration.
[Rule 62-210.700(1), F.A.C.]

B.14. Excess emissions resulting from startup or shutdown shall be permitted provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized.
[Rule 62-210.700(2), F.A.C.]

B.15. Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown or malfunction shall be prohibited.
[Rule 62-210.700(4), F.A.C.]

B.16. Excess visible emissions resulting from fuel switching, startup or shutdown of an individual burner, or minor load changes shall be permitted provided that best operational practices to minimize emissions are adhered to and the duration of such excess visible emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration. A "minor load" change means a change in the operational load of the unit, other than startup or shutdown, which is between 2 percent and 10 percent of the unit's rated capacity and occurs at a rate of 0.5 percent per minute or more.
[Rule 62-210.700 (5), F.A.C.; and, 0730003-006-AC.]

Monitoring of Operations.

{Permitting Note: In accordance with the Acid Rain Phase II requirements, the following continuous monitors are installed on this unit: Gas Fuel Flow, Oil Fuel Flow, NO_X and CO_2.}
[Rules 62-296.405(1)(f)1.c. & d., 62-214.320 and 62-214.330, F.A.C.; 40 CFR Part 75 Appendix D, Section 2.1]}

B.17. Sulfur Dioxide. **The permittee elected to demonstrate compliance using fuel sampling and analysis.** This protocol is allowed because the emissions unit does not have an operating flue gas desulfurization device. See Specific Conditions **B.11. and B.24.** of this permit.
[Rule 62-296.405(1)(f)1.b., F.A.C.]

B.18. Nitrogen Oxides. For emission units that are subject to continuous monitoring requirements under 42 U.S.C. sections 7661-7661f or 40 CFR Part 75, compliance with nitrogen oxides emission limits shall be demonstrated based on a 30-day rolling average, except as specifically provided by 40 CFR Parts 60 or 76.
[Rule 62-296.405(1)(e)4., F.A.C.]

B.19. Determination of Process Variables.
(a) Required Equipment. The owner or operator of an emissions unit for which compliance tests are required shall install, operate, and maintain equipment or instruments necessary to determine process variables, such as process weight input or heat input, when such data are needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.
(b) Accuracy of Equipment. Equipment or instruments used to directly or indirectly determine process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall

be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value.
[Rule 62-297.310(5), F.A.C.]

Test Methods and Procedures.

{Permitting Note: The attached Table 2-1, Summary of Compliance Requirements, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

B.20. Visible emissions. The test method for visible emissions shall be DEP Method 9, incorporated in Chapter 62-297, F.A.C. A transmissometer may be used and calibrated according to Rule 62-297.520, F.A.C. See Specific Condition **B.21.**
[Rule 62-296.405(1)(e)1., F.A.C.]

B.21. DEP Method 9. The provisions of EPA Method 9 (40 CFR 60, Appendix A) are adopted by reference with the following exceptions:

1. EPA Method 9, Section 2.4, Recording Observations. Opacity observations shall be made and recorded by a certified observer at sequential fifteen second intervals during the required period of observation.
2. EPA Method 9, Section 2.5, Data Reduction. For a set of observations to be acceptable, the observer shall have made and recorded, or verified the recording of, at least 90 percent of the possible individual observations during the required observation period. For single-valued opacity standards (e.g., 20 percent opacity), the test result shall be the highest valid six-minute average for the set of observations taken. For multiple-valued opacity standards (e.g., 20 percent opacity, except that an opacity of 40 percent is permissible for not more than two minutes per hour) opacity shall be computed as follows:
   a. For the basic part of the standard (i.e., 20 percent opacity), the opacity shall be determined as specified above for a single-valued opacity standard.
   b. For the short-term average part of the standard, opacity shall be the highest valid short-term average (i.e., two-minute, three-minute average) for the set of observations taken.

   In order to be valid, any required average (i.e., a six-minute or two-minute average) shall be based on all of the valid observations in the sequential subset of observations selected, and the selected subset shall contain at least 90 percent of the observations possible for the required averaging time. Each required average shall be calculated by summing the opacity value of each of the valid observations in the appropriate subset, dividing this sum by the number of valid observations in the subset, and rounding the result to the nearest whole number. The number of missing observations in the subset shall be indicated in parenthesis after the subset average value.

[Rule 62-297.401(9)(c), F.A.C.]

B.22. Particulate Matter. The test methods for particulate emissions shall be EPA Methods 17, 5, 5B, or 5F, incorporated by reference in Chapter 62-297, F.A.C. The minimum sample volume shall be 30 dry standard cubic feet. EPA Method 5 may be used with filter temperature no more than 320 degrees Fahrenheit. For EPA Method 17, stack temperature shall be less than 375 degrees Fahrenheit. The owner or operator may use EPA Method 5 to demonstrate compliance. EPA Method 3 or 3A with Orsat

analysis shall be used when the oxygen based F-factor, computed according to EPA Method 19, is used in lieu of heat input. Acetone wash shall be used with EPA Method 5 or 17.
[Rules 62-296.405(1)(e)2. and 62-297.401, F.A.C.]

B.23. Sulfur Dioxide. The test methods for sulfur dioxide emissions shall be EPA Methods 6, 6A, 6B, or 6C, incorporated by reference in Chapter 62-297, F.A.C. Fuel sampling and analysis may be used as an alternate sampling procedure if such a procedure is incorporated into the operation permit for the emissions unit. If the emissions unit obtains an alternate procedure under the provisions of Rule 62-297.620, F.A.C., the procedure shall become a condition of the emissions unit's permit. The Department will retain the authority to require EPA Method 6 or 6C if it has reason to believe that exceedances of the sulfur dioxide emissions limiting standard are occurring. Results of an approved fuel sampling and analysis program shall have the same effect as EPA Method 6 test results for purposes of demonstrating compliance or noncompliance with sulfur dioxide standards. **The permittee may use the EPA test methods, referenced above, to demonstrate compliance; however, as an alternate sampling procedure authorized by permit, the permittee elected to demonstrate compliance by using fuel sampling and analysis.** See Specific Conditions **B.11. and B.24.**
[Rules 62-213.440, 62-296.405(1)(e)3., 62-296.405(1)(f)1.b. and 62-297.401, F.A.C.; and, AO37-242825.]

B.24. The following fuel sampling and analysis protocol shall be used as an alternate sampling procedure authorized by permit to demonstrate compliance with the sulfur dioxide standard and to provide the necessary values needed to calculate a maximum allowable fuel blend:

a. Establish and maintain a record of the sulfur content (percent, by weight) of the "as-fired" fuel oil using either ASTM D2622-92, ASTM D4294-90, both ASTM D4057-88 and ASTM D129-91, or equivalent, to analyze a representative sample of the blended fuel following each fuel delivery. This record may be maintained either by;
   1) retaining the delivery receipts that are provided by the fuel oil vendor (which indicates that the proper ASTM test methods have been followed) each time a fuel oil delivery is received, or;
   2) by "as-fired" sample results provided by the permittee.
b. Establish and maintain a record of the sulfur content of the "as-fired" natural gas using either ASTM D1072-90(94)E-1, ASTM D3031-81(86), ASTM D3246-92, ASTM D4084-94, ASTM D5504-94, or equivalent. This record may be maintained either by;
   1) retaining delivery receipts provided by the natural gas vendor (which indicates that the proper ASTM test methods have been followed and which shall be provided, at a minimum, each time there is a measurable increase in the sulfur content of the natural gas), or;
   2) by on-site sample results provided by the permittee, or;
   3) by utilizing the FERC Tariff guaranteed maximum sulfur content of 10 grains per 100 cubic feet of natural gas as a "default value".
c. Establish and maintain a record of either the density (using ASTM D 1298-80, or equivalent), or the mass, and the calorific heat value in Btu per pound (using ASTM D 240-76, or equivalent), of the fuel oil combusted. This record may be maintained either by;
   1) retaining the delivery receipts that are provided by the fuel oil vendor (which indicates that the proper ASTM test methods have been followed) each time a fuel oil delivery is received, or;

2) by on-site sample results provided by the permittee, or;
3) by utilizing data provided by a certified continuous mass flow monitor in accordance with 40 CFR 75, Appendix D.

d. Record daily the amount of each fuel fired, the sulfur content (percent, by weight) of each fuel, either the density or mass of the fuel oil, and the calorific heat value of each fuel. For all fuels fired, the highest value for any parameter (i.e., density, calorific heat value, etc.) that has been established by the vendor's receipt shall be utilized until an as-fired fuel analysis is received to establish a new value for the parameter in question.

e. Utilize the information in a., b. c. and d., above, to calculate the SO_2 emission rate to ensure compliance at all times.

[Rules 62-213.440, 62-296.405(1)(e)3., 62-296.405(1)(f)1.b. & 62-297.440, F.A.C.; and, Applicant Requests dated July 10, 1997 & July 1, 2002]

Compliance Test Requirements.

B.25. Required Number of Test Runs. For mass emission limitations, a compliance test shall consist of three complete and separate determinations of the total air pollutant emission rate through the test section of the stack or duct and three complete and separate determinations of any applicable process variables corresponding to the three distinct time periods during which the stack emission rate was measured provided, however, that three complete and separate determinations shall not be required if the process variables are not subject to variation during a compliance test, or if three determinations are not necessary in order to calculate the unit's emission rate. The three required test runs shall be completed within one consecutive five day period. In the event that a sample is lost or one of the three runs must be discontinued because of circumstances beyond the control of the owner or operator, and a valid third run cannot be obtained within the five day period allowed for the test, the Secretary or his or her designee may accept the results of the two complete runs as proof of compliance, provided that the arithmetic mean of the results of the two complete runs is at least 20 percent below the allowable emission limiting standards.
[Rule 62-297.310(1), F.A.C.]

B.26. Operating Rate During Testing. Testing of emissions shall be conducted with the emissions unit operation at permitted capacity, which is defined as 90 to 100 percent of the maximum operation rate allowed by the permit. If it is impracticable to test at permitted capacity, an emissions unit may be tested at less than the minimum permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test load until a new test is conducted. Once the emissions unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity.
[Rules 62-297.310(2) & (2)(b), F.A.C.]

B.27. Operating Conditions During Testing. If particulate matter and visible emissions tests are required, the tests shall be conducted concurrently and shall be performed using the maximum fuel oil to natural gas ratio that can be fired while meeting the standards.
[Rule 62-4.070(3), F.A.C.; and, Applicant requests dated June 18, 1997 & July 1, 2002.]

B.28. Calculation of Emission Rate. The indicated emission rate or concentration shall be the arithmetic average of the emission rate or concentration determined by each of the separate test runs unless otherwise specified in a particular test method or applicable rule.
[Rule 62-297.310(3), F.A.C.]

B.29. Applicable Test Procedures.

(a) Required Sampling Time.

1. Unless otherwise specified in the applicable rule, the required sampling time for each test run shall be no less than one hour and no greater than four hours, and the sampling time at each sampling point shall be of equal intervals of at least two minutes.
2. Opacity Compliance Tests. When either EPA Method 9 or DEP Method 9 is specified as the applicable opacity test method, the required minimum period of observation for a compliance test shall be sixty (60) minutes for emissions units which emit or have the potential to emit 100 tons per year or more of particulate matter, and thirty (30) minutes for emissions units which have potential emissions less than 100 tons per year of particulate matter and are not subject to a multiple-valued opacity standard. The opacity test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur. Exceptions to these requirements are as follows:
   c. The minimum observation period for opacity tests conducted by employees or agents of the Department to verify the day-to-day continuing compliance of a unit or activity with an applicable opacity standard shall be twelve minutes.

(b) Minimum Sample Volume. Unless otherwise specified in the applicable rule, the minimum sample volume per run shall be 25 dry standard cubic feet.

(c) Required Flow Rate Range. For EPA Method 5 particulate sampling, acid mist/sulfur dioxide, and fluoride sampling which uses Greenburg Smith type impingers, the sampling nozzle and sampling time shall be selected such that the average sampling rate will be between 0.5 and 1.0 actual cubic feet per minute, and the required minimum sampling volume will be obtained.

(d) Calibration of Sampling Equipment. Calibration of the sampling train equipment shall be conducted in accordance with the schedule shown in Table 297.310-1.

(e) Allowed Modification to EPA Method 5. When EPA Method 5 is required, the following modification is allowed: the heated filter may be separated from the impingers by a flexible tube.

[Rule 62-297.310(4), F.A.C.]

TABLE 297.310-1
CALIBRATION SCHEDULE

ITEM	MINIMUM CALIBRATION FREQUENCY	REFERENCE INSTRUMENT	TOLERANCE
Liquid in glass thermometer	Annually	ASTM Hg in glass ref. thermometer or equivalent, or thermometric points	+/-2%
Bimetallic thermometer	Quarterly	Calib. liq. in glass thermometer	5 degrees F
Thermocouple	Annually	ASTM Hg in glass ref. thermometer, NBS calibrated reference and potentiometer	5 degrees F
Barometer	Monthly	Hg barometer or NOAA station	+/-1% scale
Pitot Tube	When required or when damaged	By construction or measurements in wind tunnel D greater than 16" and standard pitot tube	See EPA Method 2, Fig. 2-2 & 2-3
Probe Nozzles	Before each test or when nicked, dented, or corroded	Micrometer	+/-0.001" mean of at least three readings Max. deviation between readings .004"
Dry Gas Meter and Orifice Meter	1. Full Scale: When received, When 5% change observed, Annually	Spirometer or calibrated wet test or dry gas test meter	2%
	2. One Point: Semiannually		
	3. Check after each test series	Comparison check	5%

B.30. Required Stack Sampling Facilities. When a mass emissions stack test is required, the permittee shall comply with the requirements contained in Appendix SS-1, Stack Sampling Facilities, attached to this permit.
[Rule 62-297.310(6), F.A.C.]

B.31. Frequency of Compliance Tests. The following provisions apply only to those emissions units that are subject to an emissions limiting standard for which compliance testing is required.

(a) General Compliance Testing.

2. For excess emission limitations for particulate matter specified in Rule 62-210.700, F.A.C., a compliance test shall be conducted annually while the emissions unit is operating under soot blowing conditions in each federal fiscal year during which soot blowing is part of normal emissions unit operation, except that such test shall not be required in any federal fiscal year in which a fossil fuel steam generator does not burn liquid for more than 400 hours other than during startup.
3. The owner or operator of an emissions unit that is subject to any emission limiting standard shall conduct a compliance test that demonstrates compliance with the applicable emission limiting standard prior to obtaining a renewed operation permit. Emissions units that are required to conduct an annual compliance test may submit the most recent annual compliance test to satisfy the requirements of this provision. In renewing an air operation permit pursuant to Rule 62-210.300(2)(a)3.b., c., or d., F.A.C., the Department shall not require submission of emission compliance test results for any emissions unit that, during the year prior to renewal:
   a. Did not operate; or,
   b. In the case of a fuel burning emissions unit, burned liquid fuel for a total of no more than 400 hours.
4. During each federal fiscal year (October 1 - September 30), unless otherwise specified by rule, order, or permit, the owner or operator of each emissions unit shall have a formal compliance test conducted for:
   a. Visible emissions, if there is an applicable standard (**see Specific Condition B.32.**);
   b. Each of the following pollutants, if there is an applicable standard, and if the emissions unit emits or has the potential to emit: 5 tons per year or more of lead or lead compounds measured as elemental lead; 30 tons per year or more of acrylonitrile; or 100 tons per year or more of any other regulated air pollutant; and
   c. Each NESHAP pollutant, if there is an applicable emission standard.
5. An annual compliance test for particulate matter emissions shall not be required for any fuel burning emissions unit that, in a federal fiscal year, does not burn liquid fuel, other than during startup, for a total of more than 400 hours (**see Specific Condition B.33.**);.
9. The owner or operator shall notify the Department, at least 15 days prior to the date on which each formal compliance test is to begin, of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted for the owner or operator.

(b) Special Compliance Tests. When the Department, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it may require the owner or operator of the emissions unit to conduct

compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the Department.

(c) Waiver of Compliance Test Requirements. If the owner or operator of an emissions unit that is subject to a compliance test requirement demonstrates to the Department, pursuant to the procedure established in Rule 62-297.620, F.A.C., that the compliance of the emissions unit with an applicable weight emission limiting standard can be adequately determined by means other than the designated test procedure, such as specifying a surrogate standard of no visible emissions for particulate matter sources equipped with a bag house or specifying a fuel analysis for sulfur dioxide emissions, the Department shall waive the compliance test requirements for such emissions units and order that the alternate means of determining compliance be used, provided, however, the provisions of Rule 62-297.310(7)(b), F.A.C., shall apply.

[Rule 62-297.310(7), F.A.C.; and, SIP Approved.]

B.32. Visible Emissions Testing - Annual. By this permit, annual emissions compliance testing for visible emissions is not required for these emissions units while burning:

a. only gaseous fuel(s); or,
b. gaseous fuel(s) in combination with any amount of liquid fuel(s) for less than 400 hours per year; or,
c. only liquid fuel(s) for less than 400 hours per year.

[Rule 62-297.310(7)(a)4., F.A.C.]

B.33. Particulate Matter Testing - Annual and Permit Renewal. Annual and permit renewal compliance testing for particulate matter emissions is not required for these emissions units while burning:

a. only gaseous fuel(s); or,
b. gaseous fuel(s) in combination with any amount of liquid fuel(s) for less than 400 hours per year; or,
c. only liquid fuel(s) for less than 400 hours per year.

[Rules 62-297.310(7)(a)3. & 5., F.A.C.; and, ASP Number 97-B-01.]

Recordkeeping and Reporting Requirements.

B.34. The owner or operator shall maintain continuous records of fuel consumption and each analysis that provides the heating value and sulfur content for all fuels fired. These records must be of sufficient detail to determine compliance with the allowable sulfur dioxide emission limitation.
[Rule 62-4.070(3), F.A.C.]

B.35. In the case of excess emissions resulting from malfunctions, each owner or operator shall notify the Department in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department.
[Rule 62-210.700(6), F.A.C.]

B.36. Quarterly Reports. Submit to the Department a written report of emissions in excess of emission limiting standards as set forth in Rule 62-296.405(1), F.A.C., for each calendar quarter. The nature and cause of the excess emissions shall be explained. This report does not relieve the owner or operator of

the legal liability for violations. All recorded data shall be maintained on file by the Source for a period of five years.
[Rules 62-213.440 and 62-296.405(1)(g), F.A.C.]

B.37. Test Reports.

(a) The owner or operator of an emissions unit for which a compliance test is required shall file a report with the Department on the results of each such test.

(b) The required test report shall be filed with the Department as soon as practical but no later than 45 days after the last sampling run of each test is completed.

(c) The test report shall provide sufficient detail on the emissions unit tested and the test procedures used to allow the Department to determine if the test was properly conducted and the test results properly computed. As a minimum, the test report, other than for an EPA or DEP Method 9 test, shall provide the following information:

1. The type, location, and designation of the emissions unit tested.
2. The facility at which the emissions unit is located.
3. The owner or operator of the emissions unit.
4. The normal type and amount of fuels used and materials processed, and the types and amounts of fuels used and material processed during each test run.
5. The means, raw data and computations used to determine the amount of fuels used and materials processed, if necessary to determine compliance with an applicable emission limiting standard.
6. The type of air pollution control devices installed on the emissions unit, their general condition, their normal operating parameters (pressure drops, total operating current and GPM scrubber water), and their operating parameters during each test run.
7. A sketch of the duct within 8 stack diameters upstream and 2 stack diameters downstream of the sampling ports, including the distance to any upstream and downstream bends or other flow disturbances.
8. The date, starting time and duration of each sampling run.
9. The test procedures used, including any alternative procedures authorized pursuant to Rule 62-297.620, F.A.C. Where optional procedures are authorized in this chapter, indicate which option was used.
10. The number of points sampled and configuration and location of the sampling plane.
11. For each sampling point for each run, the dry gas meter reading, velocity head, pressure drop across the stack, temperatures, average meter temperatures and sample time per point.
12. The type, manufacturer and configuration of the sampling equipment used.
13. Data related to the required calibration of the test equipment.
14. Data on the identification, processing and weights of all filters used.
15. Data on the types and amounts of any chemical solutions used.
16. Data on the amount of pollutant collected from each sampling probe, the filters, and the impingers, are reported separately for the compliance test.
17. The names of individuals who furnished the process variable data, conducted the test, analyzed the samples and prepared the report.
18. All measured and calculated data required to be determined by each applicable test procedure for each run.
19. The detailed calculations for one run that relate the collected data to the calculated emission rate.

20. The applicable emission standard, and the resulting maximum allowable emission rate for the emissions unit, plus the test result in the same form and unit of measure.
21. A certification that, to the knowledge of the owner or his authorized agent, all data submitted are true and correct. When a compliance test is conducted for the Department or its agent, the person who conducts the test shall provide the certification with respect to the test procedures used. The owner or his authorized agent shall certify that all data required `and provided to the person conducting the test are true and correct to his knowledge.

[Rules 62-213.440 and 62-297.310(8), F.A.C.]

Miscellaneous Conditions.

B.38. Used Oil. Burning of on-specification used oil is allowed in this emissions unit in accordance with all other conditions of this permit and the following conditions:

a. On-specification Used Oil Emissions Limitations. This emissions unit is permitted to burn on-specification used oil, which contains a PCB concentration of less than 50 ppm. On-specification used oil is defined as used oil that meets the specifications of 40 CFR 279 - Standards for the Management of Used Oil, listed below. "Off-specification" used oil shall not be burned. Used oil which fails to comply with any of these specification levels is considered "off-specification" used oil.

CONSTITUENT/PROPERTY	ALLOWABLE LEVEL
Arsenic	5 ppm maximum
Cadmium	2 ppm maximum
Chromium	10 ppm maximum
Lead	100 ppm maximum
Total Halogens	1000 ppm maximum
Flash point	100 degrees F minimum

b. Quantity Limitation. This emissions unit is permitted to burn "on-specification" used oil that is generated by the City of Tallahassee, not to exceed 10,000 gallons during any calendar year.

c. PCB Limitation. Used oil containing a PCB concentration of 50 or more ppm shall not be burned at this facility. Used oil shall not be blended to meet this requirement.

d. Operational Requirements. On-specification used oil with a PCB concentration of 2 to less than 50 ppm shall be burned only at normal source operating temperatures. On-specification used oil with a PCB concentration of 2 to less than 50 ppm shall not be burned during periods of startup or shutdown.

e. Testing Requirements: For each batch of used oil to be burned, the owner or operator must be able to demonstrate that the used oil qualifies as on-specification used oil and that the PCB content is less than 50 ppm.

The requirements of this demonstration are governed by the following federal regulations:

Analysis of used oil fuel. A generator, transporter, processor/re-refiner, or burner may determine that used oil that is to be burned for energy recovery meets the fuel specifications of Sec. 279.11 by performing analyses or obtaining copies of analyses or other information documenting that the used oil fuel meets the specifications.
[40 CFR 279.72(a)]

Testing of used oil fuel. Used oil to be burned for energy recovery is presumed to contain quantifiable levels (2 ppm) of PCB unless the marketer obtains analyses (testing) or other information that the used oil fuel does not contain quantifiable levels of PCBs.

(i) The person who first claims that a used oil fuel does not contain quantifiable level (2 ppm) PCB must obtain analyses or other information to support that claim.
(ii) Testing to determine the PCB concentration in used oil may be conducted on individual samples, or in accordance with the testing procedures described in Sec. 761.60(g)(2). However, for purposes of this part, if any PCBs at a concentration of 50 ppm or greater have been added to the container or equipment, then the total container contents must be considered as having a PCB concentration of 50 ppm or greater for purposes of complying with the disposal requirements of this part.
(iii) Other information documenting that the used oil fuel does not contain quantifiable levels (2 ppm) of PCBs may consist of either personal, special knowledge of the source and composition of the used oil, or a certification from the person generating the used oil claiming that the oil contains no detectable PCBs.
[40 CFR 761.20(e)(2)]

When testing is required, the owner or operator shall sample and analyze each batch of used oil to be burned for the following parameters:

Arsenic, cadmium, chromium, lead, total halogens, flash point and PCBs.

Testing (sampling, extraction and analysis) shall be performed using approved methods specified in EPA Publication SW-846 (Test Methods for Evaluating Solid Waste, Physical/Chemical Methods).

In addition to the above requirements, the owner or operator shall sample and analyze each batch of used oil to be burned for the sulfur content (by weight), density and heat content in accordance with approved test methods.

f. Record Keeping Requirements: The owner or operator shall obtain, make, and keep the following records related to the use of used oil in a form suitable for inspection at the facility by the Department:

(1) The gallons of on-specification used oil placed into inventory to be burned and the gallons of on-specification used oil burned each month.

(2) Results of the analyses of each deposit of used oil, as required by the above conditions.
(3) Other information, besides testing, used to make a claim that the used oil meets the requirements of on-specification used oil or that the used oil contains less than 50 ppm of PCBs.

[40 CFR 279.72(b), 40 CFR 279.74(b) and 40 CFR 761.20(e)]

g. Reporting Requirements: The owner or operator shall submit, with the Annual Operation Report form, the analytical results required above and the total amount of on-specification used oil placed into inventory to be burned and the total amount of on-specification used oil burned during the previous calendar year.

[Rule 62-4.070(3) and 62-213.440, F.A.C., 40 CFR 279 and 40 CFR 761, unless otherwise noted.]

Subsection C. This section addresses the following emissions units.

E.U. ID No.	Brief Description
-002	Combustion Turbine Number 1
-003	Combustion Turbine Number 2

Emissions unit number 002 is a combustion turbine manufactured by Westinghouse (model number W191G) and is designated as "Combustion Turbine Number 1". It is rated at a maximum heat input of 228 million Btu per hour (MMBtu/hour) while being fueled by natural gas and/or No. 2 fuel oil with a maximum fuel oil sulfur content of 0.4%, by weight. Emissions unit number 003 is a combustion turbine manufactured by Westinghouse (model number W251G) and is designated as "Combustion Turbine Number 2". It is rated at a maximum heat input of 446 million Btu per hour (MMBtu/hour) while being fueled by natural gas and/or No. 2 fuel oil with a maximum fuel oil sulfur content of 0.4%, by weight. Combustion Turbine Number 1 runs a nominal 16.47 MW generator and Combustion Turbine Number 2 runs a nominal 26.8 MW generator. Emissions from the combustion turbines are uncontrolled.

{Permitting notes: These emissions units are regulated under Rule 62-210.300, F.A.C., Permits Required. These units are not subject to 40 CFR 60, Subpart GG, Standards of Performance for New Stationary Gas Turbines. Each combustion turbine has its own stack. Combustion Turbine Number 1: Stack height = 29 feet, exit diameter = 9.2 feet, exit temperature = 802.4 °F, actual volumetric flow rate = 456,297.2 acfm. Combustion Turbine Number 2: Stack height = 30 feet, exit diameter = 14.7 feet, exit temperature = 874.4 °F, actual volumetric flow rate = 707,144.2 acfm. Combustion Turbine Number 1 began commercial operation in February of 1970, Combustion Turbine Number 2 began commercial operation in September of 1972.}

The following conditions apply to the emissions units listed above:

Essential Potential to Emit (PTE) Parameters.

C.1. Permitted Capacity. The maximum operation heat input rates are as follows:

Unit No.	MMBtu/hr Heat Input	Fuel Type
-002(CT #1)	228 (LHV @ 80 degrees Fahrenheit)	Natural Gas
	228 (LHV @ 80 degrees Fahrenheit)	No. 2 Fuel Oil
-003 (CT #2)	446 (LHV @ 80 degrees Fahrenheit)	Natural Gas
	446 (LHV @ 80 degrees Fahrenheit)	No. 2 Fuel Oil

[Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.]

{Permitting note: The heat input limitations have been placed in each permit to identify the capacity of each unit for the purposes of confirming that emissions testing is conducted within 90 to 100 percent of the unit's rated capacity (or to limit future operation to 110 percent of the test load), to establish appropriate emission limits and to aid in determining future rule applicability. Regular record keeping is not required for heat input. Instead, the owner or operator is expected to determine heat input whenever emission testing is required, to demonstrate at what percentage of the rated capacity that the unit was

tested. Rule 62-297.310(5), F.A.C., included in the permit, requires measurement of the process variables for emission tests. Such heat input determination may be based on measurements of fuel consumption by various methods including but not limited to fuel flow metering or tank drop measurements, using the heat value of the fuel determined by the fuel vendor or the owner or operator, to calculate average hourly heat input during the test.}

C.2. Emissions Unit Operating Rate Limitation After Testing. See Specific Condition **C.13.**
[Rule 62-297.310(2), F.A.C.]

C.3. Methods of Operation.
a. Fuels. Only natural gas and/or new No. 2 fuel oil shall be fired in these turbines.
b. Other. Fuel additives typically of a magnesium oxide, hydroxide, sulfonate, or calcium nitrate origin may be used.

[Rule 62-213.410, F.A.C.; and, Applicant's request in Title V permit renewal application dated July 1, 2002.]

C.4. Hours of Operation. Combustion Turbine Number 1 may operate 8,491 hours per year. Combustion Turbine Number 2 may operate 7,071 hours per year. The Permittee shall maintain an operation log available for Department inspection that documents the total hours of operation annually.
[Rule 62-210.200, F.A.C., (PTE) and AO37-242824 Specific Condition number 3.]

Emission Limitations and Standards.

{Permitting Note: The attached Table 1-1, Air Pollutant Standards and Terms, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

C.5. Visible Emissions. Visible emissions from each turbine shall not be equal to or greater than 20 percent opacity.
[Rule 62-296.320(4)(b)1., F.A.C.; and, AO37-242824.]

{Permitting note: The averaging time for this condition is based on the averaging time of the applicable test method.}

C.6. Not federally enforceable. Sulfur Dioxide – Fuel Oil Sulfur Content. The sulfur content of the No. 2 fuel oil shall not exceed 0.4 percent, by weight. See Specific Condition C.12.
[AO37-242824; and, applicant request in the Title V permit renewal application received July 1, 2002.]

Excess Emissions.

C.7. Excess emissions from these emissions units resulting from startup, shutdown or malfunction shall be permitted provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration.
[Rule 62-210.700(1), F.A.C.]

C.8. Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown or malfunction shall be prohibited.
[Rule 62-210.700(4), F.A.C.]

Monitoring of Operations.

C.9. Sulfur Dioxide. The permittee shall demonstrate compliance with the liquid fuel sulfur limit by means of a fuel analysis provided by the vendor upon each fuel delivery. See Specific Conditions C.6. and C.12.
[Rule 62-213.440, F.A.C.]

C.10. Determination of Process Variables.
(a) Required Equipment. The owner or operator of an emissions unit for which compliance tests are required shall install, operate, and maintain equipment or instruments necessary to determine process variables, such as process weight input or heat input, when such data are needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.
(b) Accuracy of Equipment. Equipment or instruments used to directly or indirectly determine process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value.
[Rule 62-297.310(5), F.A.C.]

Test Methods and Procedures.

{Permitting Note: The attached Table 2-1, Summary of Compliance Requirements, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

C.11. Visible emissions. The test method for visible emissions shall be EPA Method 9, adopted and incorporated by reference in Rule 62-204.800, F.A.C., and referenced in Chapter 62-297, F.A.C.
[Rules 62-204.800, 62-296.320(4)(b)4.a. and 62-297.401, F.A.C.]

C.12. Sulfur Content. The fuel sulfur content, percent by weight, for liquid fuels shall be evaluated using either ASTM D2622-92, ASTM D4294-90, both ASTM D4057-88 and ASTM D129-91, or equivalent.
[Rules 62-213.440 and 62-297.440, F.A.C.]

C.13. Operating Rate During Testing. Testing of emissions shall be conducted with each emissions unit operating at permitted capacity, which is defined as 90-100 percent of the manufacturer's rated heat input achievable for the average ambient (or conditioned) air temperature during the test. If it is impracticable to test at capacity, then sources may be tested at less than capacity. In such cases, the

entire heat input vs. inlet temperature curve will be adjusted by the increment equal to the difference between the design heat input value and 110 percent of the value reached during the test. Data, curves, and calculations necessary to demonstrate the heat input rate correction at both design and test conditions shall be submitted to the Department with the compliance test report.
[Rule 62-297.310(2), F.A.C.]

C.14. Applicable Test Procedures.
(a) Required Sampling Time.
2. Opacity Compliance Tests. When either EPA Method 9 or DEP Method 9 is specified as the applicable opacity test method, the required minimum period of observation for a compliance test shall be sixty (60) minutes for emissions units which emit or have the potential to emit 100 tons per year or more of particulate matter, and thirty (30) minutes for emissions units which have potential emissions less than 100 tons per year of particulate matter and are not subject to a multiple-valued opacity standard. The opacity test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur. Exceptions to these requirements are as follows:
   c. The minimum observation period for opacity tests conducted by employees or agents of the Department to verify the day-to-day continuing compliance of a unit or activity with an applicable opacity standard shall be twelve minutes.

[Rule 62-297.310(4)(a)2., F.A.C.]

C.15. Frequency of Compliance Tests. The following provisions apply only to those emissions units that are subject to an emissions limiting standard for which compliance testing is required.
(a) General Compliance Testing.
3. The owner or operator of an emissions unit that is subject to any emission limiting standard shall conduct a compliance test that demonstrates compliance with the applicable emission limiting standard prior to obtaining a renewed operation permit. Emissions units that are required to conduct an annual compliance test may submit the most recent annual compliance test to satisfy the requirements of this provision. In renewing an air operation permit pursuant to Rule 62-210.300(2)(a)3.b., c., or d., F.A.C., the Department shall not require submission of emission compliance test results for any emissions unit that, during the year prior to renewal:
   a. Did not operate; or
   b. In the case of a fuel burning emissions unit, burned liquid fuel for a total of no more than 400 hours.
4. During each federal fiscal year (October 1 - September 30), unless otherwise specified by rule, order, or permit, the owner or operator of each emissions unit shall have a formal compliance test conducted for:
   a. Visible emissions, if there is an applicable standard (see Specific Condition C.16.);
8. Any combustion turbine that does not operate for more than 400 hours per year shall conduct a visible emissions compliance test once per each five-year period, coinciding with the term of its air operation permit.
9. The owner or operator shall notify the Department, at least 15 days prior to the date on which each formal compliance test is to begin, of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted for the owner or operator.

(b) Special Compliance Tests. When the Department, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it may require the owner or operator of the emissions unit to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the Department.

[Rule 62-297.310(7), F.A.C.; AO65-242827, Specific Condition #5 (frequency); and, SIP Approved.]

C.16. Visible Emissions Testing - Annual. By this permit, annual emissions compliance testing for visible emissions is not required for these emissions units while burning:

a. only gaseous fuels; or,
b. gaseous fuels in combination with any amount of liquid fuels for less than 400 hours per year; or,
c. only liquid fuels for less than 400 hours per year.

[Rules 62-297.310(7)(a)4. & 8., F.A.C.]

Recordkeeping and Reporting Requirements.

C.17. Malfunction Reporting. In the case of excess emissions resulting from malfunctions, each owner or operator shall notify the Department or the appropriate Local Program in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department.

[Rule 62-210.700(6), F.A.C.]

C.18. Test Reports.

(a) The owner or operator of an emissions unit for which a compliance test is required shall file a report with the Department on the results of each such test.
(b) The required test report shall be filed with the Department as soon as practical but no later than 45 days after the last sampling run of each test is completed.

[Rule 62-297.310(8), F.A.C.]

Section IV. Acid Rain Part.

Operated by: City of Tallahassee
ORIS Code: 0688

Subsection A. This subsection addresses Acid Rain, Phase II.

The emissions units listed below are regulated under Acid Rain, Phase II.

E.U. ID No.	Description
-001	Boiler Number 1: 903 MMBtu/hour
-004	Boiler Number 2: 2,325 - 2,500 MMBtu/hour

A.1. The Phase II Acid Rain Part application submitted for this facility, as approved by the Department, is a part of this permit. The owners and operators of these Phase II acid rain units must comply with the standard requirements and special provisions set forth in the application listed below:

a. DEP Form No. 62-210.900(1)(a), dated 07/01/02, received 07/01/02.

[Chapter 62-213, F.A.C. and Rule 62-214.320, F.A.C.]

A.2. Sulfur dioxide (SO2) allowance allocations and nitrogen oxide (NOX) requirements for each Acid Rain unit are as follows:

E.U. ID No.	EPA ID	Year	2003	2004	2005	2006	2007
-001	Boiler 1	SO2 allowances, under Table 2or 3 of 40 CFR 73	81*	81*	81*	81*	81*
-004	Boiler 2	SO2 allowances, under Table 2or 3 of 40 CFR 73	5522*	5522*	5522*	5522*	5522*

* The number of allowances held by an Acid Rain source in a unit account may differ from the number allocated by the USEPA under Table 2, 3, or 4 of 40 CFR 73.

A.3. Emission Allowances. Emissions from sources subject to the Federal Acid Rain Program (Title IV) shall not exceed any allowances that the source lawfully holds under the Federal Acid Rain Program. Allowances shall not be used to demonstrate compliance with a non-Title IV applicable requirement of the Act.

1. No permit revision shall be required for increases in emissions that are authorized by allowances acquired pursuant to the Federal Acid Rain Program, provided that such increases do not require a permit revision pursuant to Rule 62-213.400(3), F.A.C.
2. No limit shall be placed on the number of allowances held by the source under the Federal Acid Rain Program.
3. Allowances shall be accounted for under the Federal Acid Rain Program.

[Rule 62-213.440(1)(c)1., 2. & 3., F.A.C.]

A.4. Comments, notes, and justifications: None.

Appendix I-1, List of Insignificant Emissions Units and/or Activities.

City of Tallahassee, Electric Utilities
Arvah B. Hopkins Generating Station

FINAL Permit No.: 0730003-007-AV
Facility ID No.: 0730003

The facilities, emissions units, or pollutant-emitting activities listed in Rule 62-210.300(3)(a), F.A.C., Categorical Exemptions, are exempt from the permitting requirements of Chapters 62-210 and 62-4, F.A.C.; provided, however, that exempt emissions units shall be subject to any applicable emission limiting standards and the emissions from exempt emissions units or activities shall be considered in determining the potential emissions of the facility containing such emissions units. Emissions units and pollutant-emitting activities exempt from permitting under Rule 62-210.300(3)(a), F.A.C., shall not be exempt from the permitting requirements of Chapter 62-213, F.A.C., if they are contained within a Title V source; however, such emissions units and activities shall be considered insignificant for Title V purposes provided they also meet the criteria of Rule 62-213.430(6)(b), F.A.C. No emissions unit shall be entitled to an exemption from permitting under Rule 62.210.300(3)(a), F.A.C., if its emissions, in combination with the emissions of other units and activities at the facility, would cause the facility to emit or have the potential to emit any pollutant in such amount as to make the facility a Title V source.

The below listed emissions units and/or activities are considered insignificant pursuant to Rule 62-213.430(6), F.A.C.

Emissions Related to Steam Generator No. 1

1. Deareator Vents
2. Air Ejectors
3. Oil Vapor Extractors
4. Noncondensable Gas Extractors
5. Seal Oil Vacuum Pumps
6. Lube Oil Tanks (storage)
7. Lube/Fuel Oil Drip Pans
8. Hydrogen Gas Vents
9. Fuel Oil Piping
10. Natural Gas Vents
11. CO2 Vents
12. City of Tallahassee Electric Utility Generated Non-hazardous Boiler Chemical Cleaning Wastes

Emissions Related to Steam Generator No. 2

13. Deareator Vents
14. Air Ejectors
15. Oil Vapor Extractors
16. Noncondensable Gas Extractors
17. Seal Oil Vacuum Pumps
18. Lube Oil Tanks (storage)
19. Lube/Fuel Oil Drip Pans
20. Hydrogen Gas Vents
21. Fuel Oil Piping
22. Natural Gas Vents
23. CO2 Vents
24. City of Tallahassee Electric Utility Generated Non-hazardous Boiler Chemical Cleaning Wastes

Appendix I-1, Continued.

Emissions Related to Combustion Turbine No. 1

25. Diesel Engine (Starter)
26. Diesel Tank (#10)
27. Oil Vapor Extractor
28. Lube Oil Tank
29. Natural Gas Blowdown
30. Fuel Oil Piping

Emissions Related to Combustion Turbine No. 2

31. Diesel Engine (Starter)
32. Diesel Tank (#11)
33. Oil Vapor Extractor
34. Lube Oil Tank
35. Natural Gas Blowdown
36. Fuel Oil Piping

Fuel Storage

37. Day Tank (Diesel Tank #12)
38. Diesel Fuel Dispensing Operation
39. Diesel Tank (#13)

Fuel Farm

40. Diesel Tank #1
41. Diesel Tank #2
42. Fuel Oil Tank #3
43. Fuel Oil Tank #4
44. Fuel Oil Piping
45. Fuel Oil Transfer Station #1
46. Fuel Oil Transfer Station #2
47. Diesel Oil Transfer Station
48. Diesel Oil Tank Associated With the Hydrant Main

Fuel Dispensing Operations

49. Truck Loading/Unloading Station #1
50. Truck Loading/Unloading Station #2
51. Gasoline Tank
52. Gasoline Pump
53. Diesel Oil Tank
54. Diesel Pump

Organic Liquid Storage

55. Kerosene Tank #7
56. Lube Oil Tank #8
57. Lube Oil Tank #9

Appendix I-1, Continued.

Fugitive VOC Emissions

58. (1-15) Parts Washers - Non-halogenated Solvents

Space Heaters

59. (1-12) Space Heaters

60. (2) Fresh Water Cooling Towers

61. Central Vacuum System

Maintenance Activities

62. Welding Exempt per Rule 62-210.300(3)(a)16, F.A.C.
63. High Temperature Metal Cutting

Plant Operations

64. Lube Oil Storage Tanks
65. Propane Storage Tanks
66. Sulfuric Acid Tank Vent
67. Sodium Hydroxide Tank Vents
68. Demineralizer Degasifier
69. G/C Natural Gas Vent
70. Natural Gas Blowdown

Fugitive PM10 Emissions

71. Paved Roads
72. Unpaved Roads
73. Heavy Construction Activities
74. Aggregate Handling & Storage

Laboratory

75. Laboratory Equipment
76. Chemical Usage
77. Vacuum Pumps
78. Laboratory Fume Hoods

Appendix U-1, List of Unregulated Emissions Units and/or Activities.

City of Tallahassee, Electric Utilities
Arvah B. Hopkins Generating Station

FINAL Permit No.: 0730003-007-AV
Facility ID No.: 0730003

Unregulated Emissions Units and/or Activities. An emissions unit which emits no "emissions-limited pollutant" and which is subject to no unit-specific work practice standard, though it may be subject to regulations applied on a facility-wide basis (e.g., unconfined emissions, odor, general opacity) or to regulations that require only that it be able to prove exemption from unit-specific emissions or work practice standards.

The below listed emissions units and/or activities are neither 'regulated emissions units' nor 'exempt emissions units'.

E.U. ID No.	Brief Description of Emissions Units and/or Activity
-005	Fugitive VOC Sources - Painting Operations
-006	General Purpose Internal Combustion Engines
-007	Emergency Generators

-005 Fugitive VOC Emissions. Fugitive VOC emissions are generated from the painting operations associated with normal plant maintenance. SCC: 4-90-999-98, Miscellaneous Volatile Organic Compound Evaporation.

-006 General Purpose Internal Combustion Engines.
Located for use at this source is (1) Welding Generator. SCC: 2-03-003-01.
Diesel Driven Fire Pump (Associated With the Hydrant Main). SCC: 2-03-001-01.
Portable Diesel Pump. SCC: 2-03-001-01.

-007 Emergency Generators.
Located for use at this source is (1) Stationary Emergency Generator. SCC: 2-03-001-01.
(3) Portable Emergency Generators. SCC: 2-03-003-01.

Appendix H-1, Permit History/ID Number Changes

City of Tallahassee
Arvah B. Hopkins Generating Station

FINAL Permit No.: 0730003-007-AV
Facility ID No.: 0730003

Permit History (for tracking purposes):

E.U. ID No	Description	Permit No.	Issue / Effective Date	Expiration Date	Extended Date[1,2]	Revised Date(s)
-001	Boiler Hopkins #1	AO37-242825	03/08/94	03/01/99		
-002	Combustion Turbine Hopkins #1	AO37-242824	03/08/94	12/31/98		06/10/94, 06/24/94
-003	Combustion Turbine Hopkins #2	AO37-242824	03/08/94	12/31/98		06/10/94, 06/24/94
-004	Unit #2 Boiler	PA74-03D	05/20/75			05/18/94, 10/27/86
All	Initial Title V Permit	0730003-001-AV	01/01/98	12/31/02		
All	Admin Correction To Update Appendix TV-1 to TV-2	0730003-002-AV	01/02/98	12/31/02		
All	Title V Permit Renewal	0730003-003-AV	01/01/03	12/31/07		
-002	Establish excess VE for minor load change	0730003-006-AC	12/7/04	5/31/05		
-002	Title V revision to incorporate 0730003-006-AC	0730003-007-AV	????	12/31/07		

Referenced Attachments

Phase II Acid Rain Application/Compliance Plan

Appendix A-1, Abbreviations, Definitions, Citations, and Identification Numbers

Appendix SS-1, Stack Sampling Facilities (version dated 10/7/96)

Appendix TV-4, Title V Conditions (version dated 2/12/02)

ASP Number 97-B-01
(With Scrivener's Order Dated July 9, 1997)

Table 1-1, Summary of Air Pollutant Standards and Terms

Table 2-1, Compliance Requirements

Phase II Acid Rain Part Application

For more information, see Instructions and refer to 40 CFR 72.30 and 72.31 and Chapter 62-214, F.A.C.

This submission is: ☐ New ☐ Revised X Renewal

STEP 1
Identify the source by plant name, State, and ORIS code from NADB

Plant Name: Arvah B. Hopkins Generating Station State: Florida ORIS Code: 688

STEP 2 Enter the unit ID# for each affected unit and indicate whether a unit is being repowered and the repowering plan being renewed by entering "yes" or "no" at column c. For new units, enter the requested information in columns d and e.

a	b (Compliance Plan)	c (Compliance Plan)	d	e
Unit ID#	Unit will hold allowances in accordance with 40 CFR 72.9(c)(1)	Repowering Plan	New Units Commence Operation Date	New Units Monitor Certification Deadline
Boiler No. 1 (EU ID No. 001)	Yes	No		
Boiler No. 2 (EU ID No. 004)	Yes	No		
	Yes			
	Yes			
	Yes			
	Yes			
	Yes			

STEP 3
Check the box if the response in column c of Step 2 is "Yes" for any unit

☐ For each unit that is being repowered, the Repowering Extension Plan form is included.

STEP 4
Read the standard requirements and certification, enter the name of the designated representative, and sign and date

Plant Name: Arvah B. Hopkins Generating Station

Standard Requirements

Acid Rain Part Requirements.

(1) The designated representative of each Acid Rain source and each Acid Rain unit at the source shall:
(i) Submit a complete Acid Rain part application (including a compliance plan) under 40 CFR part 72 and Rules 62-214.320 and 330, F.A.C., in accordance with the deadlines specified in Rule 62-214.320, F.A.C.; and
(ii) Submit in a timely manner any supplemental information that the Department determines is necessary in order to review an Acid Rain part application and issue or deny an Acid Rain part;
(2) The owners and operators of each Acid Rain source and each Acid Rain unit at the source shall:
(i) Operate the unit in compliance with a complete Acid Rain part application or a superseding Acid Rain part issued by the Department; and
(ii) Have an Acid Rain Part.

Monitoring Requirements.

(1) The owners and operators and, to the extent applicable, designated representative of each Acid Rain source and each Acid Rain unit at the source shall comply with the monitoring requirements as provided in 40 CFR part 75, and Rule 62-214.420, F.A.C.
(2) The emissions measurements recorded and reported in accordance with 40 CFR part 75 shall be used to determine compliance by the unit with the Acid Rain emissions limitations and emissions reduction requirements for sulfur dioxide and nitrogen oxides under the Acid Rain Program.
(3) The requirements of 40 CFR part 75 shall not affect the responsibility of the owners and operators to monitor emissions of other pollutants or other emissions characteristics at the unit under other applicable requirements of the Act and other provisions of the operating permit for the source.

Sulfur Dioxide Requirements.

(1) The owners and operators of each source and each Acid Rain unit at the source shall:
(i) Hold allowances, as of the allowance transfer deadline, in the unit's compliance subaccount (after deductions under 40 CFR 73.34(c)) not less than the total annual emissions of sulfur dioxide for the previous calendar year from the unit; and
(ii) Comply with the applicable Acid Rain emissions limitations for sulfur dioxide.
(2) Each ton of sulfur dioxide emitted in excess of the Acid Rain emissions limitations for sulfur dioxide shall constitute a separate violation of the Act.
(3) An Acid Rain unit shall be subject to the requirements under paragraph (1) of the sulfur dioxide requirements as follows:
(i) Starting January 1, 2000, an Acid Rain unit under 40 CFR 72.6(a)(2); or
(ii) Starting on the later of January 1, 2000 or the deadline for monitor certification under 40 CFR part 75, an Acid Rain unit under 40 CFR 72.6(a)(3).
(4) Allowances shall be held in, deducted from, or transferred among Allowance Tracking System accounts in accordance with the Acid Rain Program.
(5) An allowance shall not be deducted in order to comply with the requirements under paragraph (1)(i) of the sulfur dioxide requirements prior to the calendar year for which the allowance was allocated.
(6) An allowance allocated by the Administrator under the Acid Rain Program is a limited authorization to emit sulfur dioxide in accordance with the Acid Rain Program. No provision of the Acid Rain Program, the Acid Rain part application, the Acid Rain part, or an exemption under 40 CFR 72.7, 72.8, or 72.14 and no provision of law shall be construed to limit the authority of the United States to terminate or limit such authorization.
(7) An allowance allocated by the Administrator under the Acid Rain Program does not constitute a property right.

Nitrogen Oxides Requirements. The owners and operators of the source and each Acid Rain unit at the source shall comply with the applicable Acid Rain emissions limitation for nitrogen oxides.

Excess Emissions Requirements.

(1) The designated representative of an Acid Rain unit that has excess emissions in any calendar year shall submit a proposed offset plan, as required under 40 CFR part 77.
(2) The owners and operators of an Acid Rain unit that has excess emissions in any calendar year shall:
(i) Pay without demand the penalty required, and pay upon demand the interest on that penalty, as required by 40 CFR part 77; and
(ii) Comply with the terms of an approved offset plan, as required by 40 CFR part 77.

Recordkeeping and Reporting Requirements.

(1) Unless otherwise provided, the owners and operators of the source and each Acid Rain unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time prior to the end of 5 years, in writing by the EPA or the Department:
(i) The certificate of representation for the designated representative for the source and each Acid Rain unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation, in accordance with Rule 62-214.350, F.A.C.; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation changing the designated representative;
(ii) All emissions monitoring information, in accordance with 40 CFR part 75, provided that to the extent that 40 CFR part 75 provides for a 3-year period for recordkeeping, the 3-year period shall apply;
(iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the Acid Rain Program; and,

Plant Name: Arvah B. Hopkins Generating Station

Recordkeeping and Reporting Requirements (cont)

(iv) Copies of all documents used to complete an Acid Rain part application and any other submission under the Acid Rain Program or to demonstrate compliance with the requirements of the Acid Rain Program.

(2) The designated representative of an Acid Rain source and each Acid Rain unit at the source shall submit the reports and compliance certifications required under the Acid Rain Program, including those under 40 CFR part 72 subpart I and 40 CFR part 75.

Liability.

(1) Any person who knowingly violates any requirement or prohibition of the Acid Rain Program, a complete Acid Rain part application, an Acid Rain part, or an exemption under 40 CFR 72.7, 72.8 or 72.14, including any requirement for the payment of any penalty owed to the United States, shall be subject to enforcement pursuant to section 113(c) of the Act.
(2) Any person who knowingly makes a false, material statement in any record, submission, or report under the Acid Rain Program shall be subject to criminal enforcement pursuant to section 113(c) of the Act and 18 U.S.C. 1001.
(3) No permit revision shall excuse any violation of the requirements of the Acid Rain Program that occurs prior to the date that the revision takes effect.
(4) Each Acid Rain source and each Acid Rain unit shall meet the requirements of the Acid Rain Program.
(5) Any provision of the Acid Rain Program that applies to an Acid Rain source (including a provision applicable to the designated representative of an Acid Rain source) shall also apply to the owners and operators of such source and of the Acid Rain units at the source.
(6) Any provision of the Acid Rain Program that applies to an Acid Rain unit (including a provision applicable to the designated representative of an Acid Rain unit) shall also apply to the owners and operators of such unit. Except as provided under 40 CFR 72.44 (Phase II repowering extension plans) and 40 CFR 76.11 (NO_x averaging plans), and except with regard to the requirements applicable to units with a common stack under 40 CFR part 75 (including 40 CFR 75.16, 75.17, and 75.18), the owners and operators and the designated representative of one Acid Rain unit shall not be liable for any violation by any other Acid Rain unit of which they are not owners or operators or the designated representative and that is located at a source of which they are not owners or operators or the designated representative.
(7) Each violation of a provision of 40 CFR parts 72, 73, 75, 76, 77, and 78 by an Acid Rain source or Acid Rain unit, or by an owner or operator or designated representative of such source or unit, shall be a separate violation of the Act.

Effect on Other Authorities. No provision of the Acid Rain Program, an Acid Rain part application, an Acid Rain part, or an exemption under 40 CFR 72.7, 72.8, or 72.14 shall be construed as:

(1) Except as expressly provided in title IV of the Act, exempting or excluding the owners and operators and, to the extent applicable, the designated representative of an Acid Rain source or Acid Rain unit from compliance with any other provision of the Act, including the provisions of title I of the Act relating to applicable National Ambient Air Quality Standards or State Implementation Plans;
(2) Limiting the number of allowances a unit can hold; *provided*, that the number of allowances held by the unit shall not affect the source's obligation to comply with any other provisions of the Act;
(3) Requiring a change of any kind in any State law regulating electric utility rates and charges, affecting any State law regarding such State regulation, or limiting such State regulation, including any prudence review requirements under such State law;
(4) Modifying the Federal Power Act or affecting the authority of the Federal Energy Regulatory Commission under the Federal Power Act; or,
(5) Interfering with or impairing any program for competitive bidding for power supply in a State in which such program is established.

Certification

I am authorized to make this submission on behalf of the owners and operators of the Acid Rain source or Acid Rain units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Name: Robert E. McGarrah, Manager of Power Production, City of Tallahassee	
Signature:	Date: July 1, 2002

Stack Sampling Facilities Provided by the Owner of an Emissions Unit. This section describes the minimum requirements for stack sampling facilities that are necessary to sample point emissions units. Sampling facilities include sampling ports, work platforms, access to work platforms, electrical power, and sampling equipment support. Emissions units must provide these facilities at their expense. All stack sampling facilities must meet any Occupational Safety and Health Administration (OSHA) Safety and Health Standards described in 29 CFR Part 1910, Subparts D and E.

(a) Permanent Test Facilities. The owner or operator of an emissions unit for which a compliance test, other than a visible emissions test, is required on at least an annual basis, shall install and maintain permanent stack sampling facilities.

(b) Temporary Test Facilities. The owner or operator of an emissions unit that is not required to conduct a compliance test on at least an annual basis may use permanent or temporary stack sampling facilities. If the owner chooses to use temporary sampling facilities on an emissions unit, and the Department elects to test the unit, such temporary facilities shall be installed on the emissions unit within 5 days of a request by the Department and remain on the emissions unit until the test is completed.

(c) Sampling Ports.

1. All sampling ports shall have a minimum inside diameter of 3 inches.
2. The ports shall be capable of being sealed when not in use.
3. The sampling ports shall be located in the stack at least 2 stack diameters or equivalent diameters downstream and at least 0.5 stack diameter or equivalent diameter upstream from any fan, bend, constriction or other flow disturbance.
4. For emissions units for which a complete application to construct has been filed prior to December 1, 1980, at least two sampling ports, 90 degrees apart, shall be installed at each sampling location on all circular stacks that have an outside diameter of 15 feet or less. For stacks with a larger diameter, four sampling ports, each 90 degrees apart, shall be installed. For emissions units for which a complete application to construct is filed on or after December 1, 1980, at least two sampling ports, 90 degrees apart, shall be installed at each sampling location on all circular stacks that have an outside diameter of 10 feet or less. For stacks with larger diameters, four sampling ports, each 90 degrees apart, shall be installed. On horizontal circular ducts, the ports shall be located so that the probe can enter the stack vertically, horizontally or at a 45 degree angle.
5. On rectangular ducts, the cross sectional area shall be divided into the number of equal areas in accordance with EPA Method 1. Sampling ports shall be provided which allow access to each sampling point. The ports shall be located so that the probe can be inserted perpendicular to the gas flow.

(d) Work Platforms.

1. Minimum size of the working platform shall be 24 square feet in area. Platforms shall be at least 3 feet wide.
2. On circular stacks with 2 sampling ports, the platform shall extend at least 110 degrees around the stack.
3. On circular stacks with more than two sampling ports, the work platform shall extend 360 degrees around the stack.
4. All platforms shall be equipped with an adequate safety rail (ropes are not acceptable), toeboard, and hinged floor-opening cover if ladder access is used to reach the platform. The safety rail directly in line with the sampling ports shall be removable so that no obstruction exists in an area 14 inches below each sample port and 6 inches on either side of the sampling port.

(e) Access to Work Platform.

1. Ladders to the work platform exceeding 15 feet in length shall have safety cages or fall arresters with a minimum of 3 compatible safety belts available for use by sampling personnel.

2. Walkways over free-fall areas shall be equipped with safety rails and toeboards.

(f) Electrical Power.

1. A minimum of two 120-volt AC, 20-amp outlets shall be provided at the sampling platform within 20 feet of each sampling port.

2. If extension cords are used to provide the electrical power, they shall be kept on the plant's property and be available immediately upon request by sampling personnel.

(g) Sampling Equipment Support.

1. A three-quarter inch eyebolt and an angle bracket shall be attached directly above each port on vertical stacks and above each row of sampling ports on the sides of horizontal ducts.

a. The bracket shall be a standard 3 inch x 3 inch x one-quarter inch equal-legs bracket which is 1 and one-half inches wide. A hole that is one-half inch in diameter shall be drilled through the exact center of the horizontal portion of the bracket. The horizontal portion of the bracket shall be located 14 inches above the centerline of the sampling port.

b. A three-eighth inch bolt which protrudes 2 inches from the stack may be substituted for the required bracket. The bolt shall be located 15 and one-half inches above the centerline of the sampling port.

c. The three-quarter inch eyebolt shall be capable of supporting a 500 pound working load. For stacks that are less than 12 feet in diameter, the eyebolt shall be located 48 inches above the horizontal portion of the angle bracket. For stacks that are greater than or equal to 12 feet in diameter, the eyebolt shall be located 60 inches above the horizontal portion of the angle bracket. If the eyebolt is more than 120 inches above the platform, a length of chain shall be attached to it to bring the free end of the chain to within safe reach from the platform.

2. A complete monorail or dualrail arrangement may be substituted for the eyebolt and bracket.

3. When the sample ports are located in the top of a horizontal duct, a frame shall be provided above the port to allow the sample probe to be secured during the test.

[Rule 62-297.310(6), F.A.C.]

APPENDIX TV-4, TITLE V CONDITIONS (version dated 02/12/02)

[Note: This attachment includes "canned conditions" developed from the "Title V Core List."]

{Permitting note: APPENDIX TV-4, TITLE V CONDITIONS, is distributed to the permittee only. Other persons requesting copies of these conditions shall be provided one copy when requested or otherwise appropriate.}

Chapter 62-4, F.A.C.

1. **Not federally enforceable.** General Prohibition. Any stationary installation which will reasonably be expected to be a source of pollution shall not be operated, maintained, constructed, expanded, or modified without the appropriate and valid permits issued by the Department, unless the source is exempted by Department rule. The Department may issue a permit only after it receives reasonable assurance that the installation will not cause pollution in violation of any of the provisions of Chapter 403, F.S., or the rules promulgated thereunder. A permitted installation may only be operated, maintained, constructed, expanded or modified in a manner that is consistent with the terms of the permit.
[Rule 62-4.030, Florida Administrative Code (F.A.C.); Section 403.087, Florida Statute (F.S.)]

2. **Not federally enforceable.** Procedures to Obtain Permits and Other Authorizations; Applications.
(1) Any person desiring to obtain a permit from the Department shall apply on forms prescribed by the Department and shall submit such additional information as the Department by law may require.
(2) All applications and supporting documents shall be filed in quadruplicate with the Department.
(3) To ensure protection of public health, safety, and welfare, any construction, modification, or operation of an installation which may be a source of pollution, shall be in accordance with sound professional engineering practices pursuant to Chapter 471, F.S. All applications for a Department permit shall be certified by a professional engineer registered in the State of Florida except, when the application is for renewal of an air pollution operation permit at a non-Title V source as defined in Rule 62-210.200, F.A.C., or where professional engineering is not required by Chapter 471, F.S. Where required by Chapter 471 or 492, F.S., applicable portions of permit applications and supporting documents which are submitted to the Department for public record shall be signed and sealed by the professional(s) who prepared or approved them.
(4) Processing fees for air construction permits shall be in accordance with Rule 62-4.050(4), F.A.C.
(5)(a) To be considered by the Department, each application must be accompanied by the proper processing fee. The fee shall be paid by check, payable to the Department of Environmental Protection. The fee is non-refundable except as provided in Section 120.60, F.S., and in this section.
(c) Upon receipt of the proper application fee, the permit processing time requirements of Sections 120.60(2) and 403.0876, F.S., shall begin.
(d) If the applicant does not submit the required fee within ten days of receipt of written notification, the Department shall either return the unprocessed application or arrange with the applicant for the pick up of the application.
(e) If an applicant submits an application fee in excess of the required fee, the permit processing time requirements of Sections 120.60(2) and 403.0876, F.S., shall begin upon receipt, and the Department shall refund to the applicant the amount received in excess of the required fee.
(6) Any substantial modification to a complete application shall require an additional processing fee determined pursuant to the schedule set forth in Rule 62-4.050, F.A.C., and shall restart the time requirements of Sections 120.60 and 403.0876, F.S. For purposes of this Subsection, the term "substantial modification" shall mean a modification which is reasonably expected to lead to substantially different environmental impacts which require a detailed review.
(7) Modifications to existing permits proposed by the permittee which require substantial changes in the existing permit or require substantial evaluation by the Department of potential impacts of the proposed modifications shall require the same fee as a new application for the same time duration except for modification under Chapter 62-45, F.A.C.
[Rule 62-4.050, F.A.C.]

3. Standards for Issuing or Denying Permits. Except as provided at Rule 62-213.460, F.A.C., the issuance of a permit does not relieve any person from complying with the requirements of Chapter 403, F.S., or Department rules.
[Rule 62-4.070(7), F.A.C.]

4. Modification of Permit Conditions.

(1) For good cause and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions and on application of the permittee the Department may grant additional time. For the purpose of this section, good cause shall include, but not be limited to, any of the following: **(also, see Condition No. 38.)**.

(a) A showing that an improvement in effluent or emission quality or quantity can be accomplished because of technological advances without unreasonable hardship.

(b) A showing that a higher degree of treatment is necessary to effect the intent and purpose of Chapter 403, F.S.

(c) A showing of any change in the environment or surrounding conditions that requires a modification to conform to applicable air or water quality standards.

(e) Adoption or revision of Florida Statutes, rules, or standards which require the modification of a permit condition for compliance.

(2) A permittee may request a modification of a permit by applying to the Department.

(3) A permittee may request that a permit be extended as a modification of the permit. Such a request must be submitted to the Department in writing before the expiration of the permit. Upon timely submittal of a request for extension, unless the permit automatically expires by statute or rule, the permit will remain in effect until final agency action is taken on the request. For construction permits, an extension shall be granted if the applicant can demonstrate reasonable assurances that, upon completion, the extended permit will comply with the standards and conditions required by applicable regulation. For all other permits, an extension shall be granted if the applicant can demonstrate reasonable assurances that the extended permit will comply with the standards and conditions applicable to the original permit. A permit for which the permit application fee was prorated in accordance with Rule 62-4.050(4)(1), F.A.C., shall not be extended. In no event shall a permit be extended or remain in effect longer than the time limits established by statute or rule.

[Rule 62-4.080, F.A.C.]

5. Renewals. Prior to 180 days before the expiration of a permit issued pursuant to Chapter 62-213, F.A.C., the permittee shall apply for a renewal of a permit using forms incorporated by reference in the specific rule chapter for that kind of permit. A renewal application shall be timely and sufficient. If the application is submitted prior to 180 days before expiration of the permit, it will be considered timely and sufficient. If the renewal application is submitted at a later date, it will not be considered timely and sufficient unless it is submitted and made complete prior to the expiration of the operation permit. When the application for renewal is timely and sufficient, the existing permit shall remain in effect until the renewal application has been finally acted upon by the Department or, if there is court review of the Department's final agency action, until a later date is required by Section 120.60, F.S., provided that, for renewal of a permit issued pursuant to Chapter 62-213, F.A.C., the applicant complies with the requirements of Rules 62-213.420(1)(b)3. and 4., F.A.C.

[Rule 62-4.090, F.A.C.]

6. Suspension and Revocation.

(1) Permits shall be effective until suspended, revoked, surrendered, or expired and shall be subject to the provisions of Chapter 403, F.S., and rules of the Department.

(2) Failure to comply with pollution control laws and rules shall be grounds for suspension or revocation.

(3) A permit issued pursuant to Chapter 62-4, F.A.C., shall not become a vested property right in the permittee. The Department may revoke any permit issued by it if it finds that the permit holder or the his agent:

(a) Submitted false or inaccurate information in his application or operational reports.

(b) Has violated law, Department orders, rules or permit conditions.

(c) Has failed to submit operational reports or other information required by Department rules.

(d) Has refused lawful inspection under Section 403.091, F.S.

(4) No revocation shall become effective except after notice is served by personal services, certified mail, or newspaper notice pursuant to Section 120.60(7), F.S., upon the person or persons named therein and a hearing held if requested within the time specified in the notice. The notice shall specify the provision of the law, or rule alleged to be violated, or the permit condition or Department order alleged to be violated, and the facts alleged to constitute a violation thereof.

[Rule 62-4.100, F.A.C.]

7. **Not federally enforceable.** Financial Responsibility. The Department may require an applicant to submit proof of financial responsibility and may require the applicant to post an appropriate bond to guarantee compliance with the law and Department rules. [Rule 62-4.110, F.A.C.]

8. Transfer of Permits.
(1) Within 30 days after the sale or legal transfer of a permitted facility, an "Application for Transfer of Permit" (DEP Form 62-1.201(1)) must be submitted to the Department. This form must be completed with the notarized signatures of both the permittee and the proposed new permittee. For air permits, an "Application for Transfer of Air Permit" (DEP Form 62-210.900(7)) shall be submitted.
(2) The Department shall approve the transfer of a permit unless it determines that the proposed new permittee cannot provide reasonable assurances that conditions of the permit will be met. The determination shall be limited solely to the ability of the new permittee to comply with the conditions of the existing permit, and it shall not concern the adequacy of these permit conditions. If the Department proposes to deny the transfer, it shall provide both the permittee and the proposed new permittee a written objection to such transfer together with notice of a right to request a Chapter 120, F.S., proceeding on such determination.
(3) Within 30 days of receiving a properly completed Application for Transfer of Permit form, the Department shall issue a final determination. The Department may toll the time for making a determination on the transfer by notifying both the permittee and the proposed new permittee that additional information is required to adequately review the transfer request. Such notification shall be served within 30 days of receipt of an Application for Transfer of Permit form, completed pursuant to Rule 62-4.120(1), F.A.C. If the Department fails to take action to approve or deny the transfer within 30 days of receipt of the completed Application for Transfer of Permit form, or within 30 days of receipt of the last item of timely requested additional information, the transfer shall be deemed approved.
(4) The permittee is encouraged to apply for a permit transfer prior to the sale or legal transfer of a permitted facility. However, the transfer shall not be effective prior to the sale or legal transfer.
(5) Until this transfer is approved by the Department, the permittee and any other person constructing, operating, or maintaining the permitted facility shall be liable for compliance with the terms of the permit. The permittee transferring the permit shall remain liable for corrective actions that may be required as a result of any violations occurring prior to the sale or legal transfer of the facility.
[Rule 62-4.120, F.A.C.]

9. Plant Operation-Problems. If the permittee is temporarily unable to comply with any of the conditions of the permit due to breakdown of equipment or destruction by hazard of fire, wind or by other cause, the permittee shall immediately notify the Department. Notification shall include pertinent information as to the cause of the problem, and what steps are being taken to correct the problem and to prevent its recurrence, and where applicable, the owner's intent toward reconstruction of destroyed facilities. Such notification does not release the permittee from any liability for failure to comply with Department rules. **(also, see Condition No. 10.)**.
[Rule 62-4.130, F.A.C.]

10. For purposes of notification to the Department pursuant to Condition No. 9., Condition No. 12.(8), and Rule 62-4.130, F.A.C., Plant Operation-Problems, "immediately" shall mean the same day, if during a workday (i.e., 8:00 a.m. - 5:00 p.m.), or the first business day after the incident, excluding weekends and holidays; and, for purposes of 40 CFR 70.6(a)(3)(iii)(B), "prompt" shall have the same meaning as "immediately". **[also, see Conditions Nos. 9. and 12.(8).]**
[40 CFR 70.6(a)(3)(iii)(B)]

11. **Not federally enforceable.** Review. Failure to request a hearing within 14 days of receipt of notice of proposed or final agency action on a permit application or as otherwise required in Chapter 62-103, F.A.C., shall be deemed a waiver of the right to an administrative hearing.
[Rule 62-4.150, F.A.C.]

12. Permit Conditions. All permits issued by the Department shall include the following general conditions:
(1) The terms, conditions, requirements, limitations and restrictions set forth in this permit, are "permit conditions" and are binding and enforceable pursuant to Sections 403.141, 403.727, or 403.859 through 403.861, F.S. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.
(2) This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
(3) As provided in Subsections 403.087(7) and 403.722(5), F.S., the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in this permit.
(4) This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
(5) This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of F.S. and Department rules, unless specifically authorized by an order from the Department.
(6) The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.
(7) The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at reasonable times, access to the premises where the permitted activity is located or conducted to:

(a) Have access to and copy any records that must be kept under conditions of the permit;
(b) Inspect the facility, equipment, practices, or operations regulated or required under this permit; and,
(c) Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules. Reasonable time may depend on the nature of the concern being investigated.

(8) If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information: **(also, see Condition No. 10.)**

(a) A description of and cause of noncompliance; and,
(b) The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance. The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

(9) In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the F.S. or Department rules, except where such use is prescribed by Sections 403.111 and 403.73, F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.
(10) The permittee agrees to comply with changes in Department rules and F.S. after a reasonable time for compliance; provided, however, the permittee does not waive any other rights granted by F.S. or Department rules.
(11) This permit is transferable only upon Department approval in accordance with Rule 62-4.120, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.
(12) This permit or a copy thereof shall be kept at the work site of the permitted activity.
(14) The permittee shall comply with the following:

(a) Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
(b) The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least five (5) years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.

(c) Records of monitoring information shall include:

1. the date, exact place, and time of sampling or measurements;
2. the person responsible for performing the sampling or measurements;
3. the dates analyses were performed;
4. the person responsible for performing the analyses;
5. the analytical techniques or methods used;
6. the results of such analyses.

(15) When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware the relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.
[Rules 62-4.160 and 62-213.440(1)(b), F.A.C.]

13. Construction Permits.
(1) No person shall construct any installation or facility which will reasonably be expected to be a source of air or water pollution without first applying for and receiving a construction permit from the Department unless exempted by statute or Department rule. In addition to the requirements of Chapter 62-4, F.A.C., applicants for a Department Construction Permit shall submit the following as applicable:

(a) A completed application on forms furnished by the Department.
(b) An engineering report covering:

1. plant description and operations,
2. types and quantities of all waste material to be generated whether liquid, gaseous or solid,
3. proposed waste control facilities,
4. the treatment objectives,
5. the design criteria on which the control facilities are based, and,
6. other information deemed relevant.

Design criteria submitted pursuant to Rule 62-4.210(1)(b)5., F.A.C., shall be based on the results of laboratory and pilot-plant scale studies whenever such studies are warranted. The design efficiencies of the proposed waste treatment facilities and the quantities and types of pollutants in the treated effluents or emissions shall be indicated. Work of this nature shall be subject to the requirements of Chapter 471, F.S. Where confidential records are involved, certain information may be kept confidential pursuant to Section 403.111, F.S.

(c) The owners' written guarantee to meet the design criteria as accepted by the Department and to abide by Chapter 403, F.S. and the rules of the Department as to the quantities and types of materials to be discharged from the installation. The owner may be required to post an appropriate bond or other equivalent evidence of financial responsibility to guarantee compliance with such conditions in instances where the owner's financial resources are inadequate or proposed control facilities are experimental in nature.

(2) The construction permit may contain conditions and an expiration date as determined by the Secretary or the Secretary's designee.
(3) When the Department issues a permit to construct, the permittee shall be allowed a period of time, specified in the permit, to construct, and to operate and test to determine compliance with Chapter 403, F.S., and the rules of the Department and, where applicable, to apply for and receive an operation permit. The Department may require tests and evaluations of the treatment facilities by the permittee at his/her expense.
[Rule 62-4.210, F.A.C.]

14. **Not federally enforceable.** Operation Permit for New Sources. To properly apply for an operation permit for new sources, the applicant shall submit the appropriate fee and certification that construction was completed noting any deviations from the conditions in the construction permit and test results where appropriate.
[Rule 62-4.220, F.A.C.]

Chapters 28-106 and 62-110, F.A.C.

15. Public Notice, Public Participation, and Proposed Agency Action. The permittee shall comply with all of the requirements for public notice, public participation, and proposed agency action pursuant to Rules 62-110.106 and 62-210.350, F.A.C.
[Rules 62-110.106, 62-210.350 and 62-213.430(1)(b), F.A.C.]

16. Administrative Hearing. The permittee shall comply with all of the requirements for a petition for administrative hearing or waiver of right to administrative proceeding pursuant to Rules 28-106.201, 28-106.301 and 62-110.106, F.A.C.
[Rules 28-106.201, 28-106.301 and 62-110.106, F.A.C.]

Chapter 62-204, F.A.C.

17. Asbestos. This permit does not authorize any demolition or renovation of the facility or its parts or components which involves asbestos removal. This permit does not constitute a waiver of any of the requirements of Chapter 62-257, F.A.C., and 40 CFR 61, Subpart M, National Emission Standard for Asbestos, adopted and incorporated by reference in Rule 62-204.800, F.A.C. Compliance with Chapter 62-257, F.A.C., and 40 CFR 61, Subpart M, Section 61.145, is required for any asbestos demolition or renovation at the source.
[40 CFR 61; Rule 62-204.800, F.A.C.; and, Chapter 62-257, F.A.C.]

Chapter 62-210, F.A.C.

18. Permits Required. The owner or operator of any emissions unit which emits or can reasonably be expected to emit any air pollutant shall obtain an appropriate permit from the Department prior to beginning construction, modification, or initial or continued operation of the emissions unit unless exempted pursuant to Department rule or statute. All emissions limitations, controls, and other requirements imposed by such permits shall be at least as stringent as any applicable limitations and requirements contained in or enforceable under the State Implementation Plan (SIP) or that are otherwise federally enforceable. Except as provided at Rule 62-213.460, F.A.C., issuance of a permit does not relieve the owner or operator of an emissions unit from complying with any applicable requirements, any emission limiting standards or other requirements of the air pollution rules of the Department or any other such requirements under federal, state, or local law.

(1) Air Construction Permits.

(a) Unless exempt from permitting pursuant to Rule 62-210.300(3)(a) or (b), F.A.C., or Rule 62-4.040, F.A.C., an air construction permit shall be obtained by the owner or operator of any proposed new or modified facility or emissions unit prior to the beginning of construction or modification, in accordance with all applicable provisions of Chapter 62-210, F.A.C., Chapter 62-212, F.A.C., and Chapter 62-4, F.A.C. Except as provided under Rule 62-213.415, F.A.C., the owner or operator of any facility seeking to create or change an air emissions bubble shall obtain an air construction permit in accordance with all the applicable provisions of Chapter 62-210, F.A.C., Chapter 62-212, F.A.C., and Chapter 62-4, F.A.C. The construction permit shall be issued for a period of time sufficient to allow construction or modification of the facility or emissions unit and operation while the new or modified facility or emissions unit is conducting tests or otherwise demonstrating initial compliance with the conditions of the construction permit.

(b) Notwithstanding the expiration of an air construction permit, all limitations and requirements of such permit that are applicable to the design and operation of the permitted facility or emissions unit shall remain in effect until the facility or emissions unit is permanently shut down, except for any such limitation or requirement that is obsolete by its nature (such as a requirement for initial compliance testing) or any such limitation or requirement that is changed in accordance with the provisions of Rule 62-210.300(1)(b)1., F.A.C. Either the applicant or the Department can propose that certain conditions be considered obsolete. Any conditions or language in an air construction permit that are included for informational purposes only, if they are transferred to the air operation permit, shall be transferred for informational purposes only and shall not become enforceable conditions unless voluntarily agreed to by the permittee or otherwise required under Department rules.

1. Except for those limitations or requirements that are obsolete, all limitations and requirements of an air construction permit shall be included and identified in any air operation permit for the facility or emissions unit. The limitations and requirements included in the air operation permit can be changed, and thereby superseded, through the issuance of an air construction permit, federally enforceable state air operation permit, federally enforceable air general permit, or Title V air operation permit; provided, however, that:

a. Any change that would constitute an administrative correction may be made pursuant to Rule 62-210.360, F.A.C.;

b. Any change that would constitute a modification, as defined at Rule 62-210.200, F.A.C., shall be accomplished only through the issuance of an air construction permit; and

c. Any change in a permit limitation or requirement that originates from a permit issued pursuant to 40 CFR 52.21, Rule 62-204.800(10)(d)2., F.A.C., Rule 62-212.400, F.A.C., Rule 62-212.500, F.A.C., or any former codification of Rule 62-212.400 or Rule 62-212.500, F.A.C., shall be accomplished only through the issuance of a new or revised air construction permit under Rule 62-204.800(10)(d)2., Rule 62-212.400, or Rule 62-212.500, F.A.C., as appropriate.

2. The force and effect of any change in a permit limitation or requirement made in accordance with the provisions of Rule 62-210.300(1)(b)1., F.A.C., shall be the same as if such change were made to the original air construction permit.

3. Nothing in Rule 62-210.300(1)(b), F.A.C., shall be construed as to allow operation of a facility or emissions unit without a valid air operation permit.

(2) Air Operation Permits. Upon expiration of the air operation permit for any existing facility or emissions unit, subsequent to construction or modification, or subsequent to the creation of or change to a bubble, and demonstration of compliance with the conditions of the construction permit for any new or modified facility or emissions unit, any air emissions bubble, or as otherwise provided in Chapter 62-210, F.A.C., or Chapter 62-213, F.A.C., the owner or operator of such facility or emissions unit shall obtain a renewal air operation permit, an initial air operation permit or general permit, or an administrative correction or revision of an existing air operation permit, whichever is appropriate, in accordance with all applicable provisions of Chapter 62-210, F.A.C., Chapter 62-213, F.A.C., and Chapter 62-4, F.A.C.

(a) Minimum Requirements for All Air Operation Permits. At a minimum, a permit issued pursuant to this subsection shall:

1. Specify the manner, nature, volume and frequency of the emissions permitted, and the applicable emission limiting standards or performance standards, if any;

2. Require proper operation and maintenance of any pollution control equipment by qualified personnel, where applicable in accordance with the provisions of any operation and maintenance plan required by the air pollution rules of the Department.

3. Contain an effective date stated in the permit which shall not be earlier than the date final action is taken on the application and be issued for a period, beginning on the effective date, as provided below.

a. The operation permit for an emissions unit which is in compliance with all applicable rules and in operational condition, and which the owner or operator intends to continue operating, shall be issued or renewed for a five-year period, except that, for Title V sources subject to Rule 62-213.420(1)(a)1., F.A.C., operation permits shall be extended until 60 days after the due date for submittal of the facility's Title V permit application as specified in Rule 62-213.420(1)(a)1., F.A.C.

b. Except as provided in Rule 62-210.300(2)(a)3.d., F.A.C., the operation permit for an emissions unit which has been shut down for six months or more prior to the expiration date of the current operation permit, shall be renewed for a period not to exceed five years from the date of shutdown, even if the emissions unit is not maintained in operational condition, provided:

(i) the owner or operator of the emissions unit demonstrates to the Department that the emissions unit may need to be reactivated and used, or that it is the owner's or operator's intent to apply to the Department for a permit to construct a new emissions unit at the facility before the end of the extension period; and,

(ii) the owner or operator of the emissions unit agrees to and is legally prohibited from providing the allowable emission permitted by the renewed permit as an emissions offset to any other person under Rule 62-212.500, F.A.C.; and,

(iii) the emissions unit was operating in compliance with all applicable rules as of the time the source was shut down.

c. Except as provided in Rule 62-210.300(2)(a)3.d., F.A.C., the operation permit for an emissions unit which has been shut down for five years or more prior to the expiration date of the current operation permit shall be renewed for a maximum period not to exceed ten years from the date of shutdown, even if the emissions unit is not maintained in operational condition, provided the conditions given in Rule 62-210.300(2)(a)3.b., F.A.C., are met and the owner or operator demonstrates to the Department that failure to renew the permit would constitute a hardship, which may include economic hardship.

d. The operation permit for an electric utility generating unit on cold standby or long-term reserve shutdown shall be renewed for a five-year period, and additional five-year periods, even if the unit is not maintained in operational condition, provided the conditions given in Rules 62-210.300(2)(a)3.b.(i) through (iii), F.A.C., are met.

4. In the case of an emissions unit permitted pursuant to Rules 62-210.300(2)(a)3.b., c., and d., F.A.C., include reasonable notification and compliance testing requirements for reactivation of such emissions unit and provide that the owner or operator demonstrate to the Department prior to reactivation that such reactivation would not constitute reconstruction pursuant to Rule 62-204.800(7), F.A.C.

[Rules 62-210.300(1) & (2), F.A.C.]

19. **Not federally enforceable.** Notification of Startup. The owner or operator of any emissions unit or facility which has a valid air operation permit which has been shut down more than one year, shall notify the Department in writing of the intent to start up such emissions unit or facility, a minimum of 60 days prior to the intended startup date.

(a) The notification shall include information as to the startup date, anticipated emission rates or pollutants released, changes to processes or control devices which will result in changes to emission rates, and any other conditions which may differ from the valid outstanding operation permit.

(b) If, due to an emergency, a startup date is not known 60 days prior thereto, the owner shall notify the Department as soon as possible after the date of such startup is ascertained.
[Rule 62-210.300(5), F.A.C.]

20. Emissions Unit Reclassification.
(a) Any emissions unit whose operation permit has been revoked as provided for in Chapter 62-4, F.A.C., shall be deemed permanently shut down for purposes of Rule 62-212.500, F.A.C. Any emissions unit whose permit to operate has expired without timely renewal or transfer may be deemed permanently shut down, provided, however, that no such emissions unit shall be deemed permanently shut down if, within 20 days after receipt of written notice from the Department, the emissions unit owner or operator demonstrates that the permit expiration resulted from inadvertent failure to comply with the requirements of Rule 62-4.090, F.A.C., and that the owner or operator intends to continue the emissions unit in operation, and either submits an application for an air operation permit or complies with permit transfer requirements, if applicable.
(b) If the owner or operator of an emissions unit which is so permanently shut down, applies to the Department for a permit to reactivate or operate such emissions unit, the emissions unit will be reviewed and permitted as a new emissions unit.
[Rule 62-210.300(6), F.A.C.]

21. Transfer of Air Permits.
(a) An air permit is transferable only after submission of an Application for Transfer of Air Permit (DEP Form 62-210.900(7)) and Department approval in accordance with Rule 62-4.120, F.A.C. For Title V permit transfers only, a complete application for transfer of air permit shall include the requirements of 40 CFR 70.7(d)(1)(iv), adopted and incorporated by reference at Rule 62-204.800, F.A.C. Within 30 days after approval of the transfer of permit, the Department shall update the permit by an administrative permit correction pursuant to Rule 62-210.360, F.A.C.
(b) For an air general permit, the provision of Rules 62-210.300(7)(a) and 62-4.120, F.A.C., do not apply. Thirty (30) days before using an air general permit, the new owner must submit an air general permit notification to the Department in accordance with Rule 62-210.300(4), F.A.C., or Rule 62-213.300(2)(b), F.A.C.
[Rule 62-210.300(7), F.A.C.]

22. Public Notice and Comment.
(1) Public Notice of Proposed Agency Action.
(a) A notice of proposed agency action on permit application, where the proposed agency action is to issue the permit, shall be published by any applicant for:
1. An air construction permit;
2. An air operation permit, permit renewal or permit revision subject to Rule 62-210.300(2)(b), F.A.C., (i.e., a FESOP), except as provided in Rule 62-210.300(2)(b)1.b., F.A.C.; or
3. An air operation permit, permit renewal, or permit revision subject to Chapter 62-213, F.A.C., except Title V air general permits or those permit revisions meeting the requirements of Rule 62-213.412(1), F.A.C.
(b) The notice required by Rule 62-210.350(1)(a), F.A.C., shall be published in accordance with all otherwise applicable provisions of Rule 62-110.106, F.A.C. A public notice under Rule 62-210.350(1)(a)1., F.A.C., for an air construction permit may be combined with any required public notice under Rule 62-210.350(1)(a)2. or 3., F.A.C., for air operation permits. If such notices are combined, the public notice must comply with the requirements for both notices.
(c) Except as otherwise provided at Rules 62-210.350(2) and (5), F.A.C., each notice of intent to issue an air construction permit shall provide a 14-day period for submittal of public comments.
(2) Additional Public Notice Requirements for Emissions Units Subject to Prevention of Significant Deterioration or Nonattainment - Area Preconstruction Review.
(a) Before taking final agency action on a construction permit application for any proposed new or modified facility or emissions unit subject to the preconstruction review requirements of Rule 62-212.400 or 62-212.500, F.A.C., the Department shall comply with all applicable provisions of Rule 62-110.106, F.A.C., and provide an opportunity for public comment which shall include as a minimum the following:
1. A complete file available for public inspection in at least one location in the district affected which includes the information submitted by the owner or operator, exclusive of confidential records under Section 403.111, F.S., and the Department's analysis of the effect of the proposed construction or modification on ambient air quality, including the Department's preliminary determination of whether the permit should be approved or disapproved;
2. A 30-day period for submittal of public comments; and,

3. A notice, by advertisement in a newspaper of general circulation in the county affected, specifying the nature and location of the proposed facility or emissions unit, whether BACT or LAER has been determined, the degree of PSD increment consumption expected, if applicable, and the location of the information specified in paragraph 1. above; and, notifying the public of the opportunity for submitting comments and requesting a public hearing.

(b) The notice provided for in Rule 62-210.350(2)(a)3., F.A.C., shall be prepared by the Department and published by the applicant in accordance with all applicable provisions of Rule 62-110.106, F.A.C., except that the applicant shall cause the notice to be published no later than thirty (30) days prior to final agency action.

(c) A copy of the notice provided for in Rule 62-210.350(2)(a)3., F.A.C., shall also be sent by the Department to the Regional Office of the U. S. Environmental Protection Agency and to all other state and local officials or agencies having cognizance over the location of such new or modified facility or emissions unit, including local air pollution control agencies, chief executives of city or county government, regional land use planning agencies, and any other state, Federal Land Manager, or Indian Governing Body whose lands may be affected by emissions from the new or modified facility or emissions unit.

(d) A copy of the notice provided for in Rule 62-210.350(2)(a)3., F.A.C., shall be displayed in the appropriate district, branch and local program offices.

(e) An opportunity for public hearing shall be provided in accordance with Chapter 120, F.S., and Rule 62-110.106, F.A.C.

(f) Any public comments received shall be made available for public inspection in the location where the information specified in Rule 62-210.350(2)(a)1., F.A.C., is available and shall be considered by the Department in making a final determination to approve or deny the permit.

(g) The final determination shall be made available for public inspection at the same location where the information specified in Rule 62-210.350(2)(a)1., F.A.C., was made available.

(h) For a proposed new or modified emissions unit which would be located within 100 kilometers of any Federal Class I area or whose emissions may affect any Federal Class I area, and which would be subject to the preconstruction review requirements of Rule 62-212.400, F.A.C., or Rule 62-212.500, F.A.C.:

1. The Department shall mail or transmit to the Administrator a copy of the initial application for an air construction permit and notice of every action related to the consideration of the permit application.

2. The Department shall mail or transmit to the Federal Land Manager of each affected Class I area a copy of any written notice of intent to apply for an air construction permit; the initial application for an air construction permit, including all required analyses and demonstrations; any subsequently submitted information related to the application; the preliminary determination and notice of proposed agency action on the permit application; and any petition for an administrative hearing regarding the application or the Department's proposed action. Each such document shall be mailed or transmitted to the Federal Land Manager within fourteen (14) days after its receipt by the Department.

(3) Additional Public Notice Requirements for Facilities Subject to Operation Permits for Title V Sources.

(a) Before taking final agency action to issue a new, renewed, or revised air operation permit subject to Chapter 62-213, F.A.C., the Department shall comply with all applicable provisions of Rule 62-110.106, F.A.C., and provide an opportunity for public comment which shall include as a minimum the following:

1. A complete file available for public inspection in at least one location in the district affected which includes the information submitted by the owner or operator, exclusive of confidential records under Section 403.111, F.S.; and,

2. A 30-day period for submittal of public comments.

(b) The notice provided for in Rule 62-210.350(3)(a), F.A.C., shall be prepared by the Department and published by the applicant in accordance with all applicable provisions of Rule 62-110.106, F.A.C., except that the applicant shall cause the notice to be published no later than thirty (30) days prior to final agency action. If written comments received during the 30-day comment period on a draft permit result in the Department's issuance of a revised draft permit in accordance with Rule 62-213.430(1), F.A.C., the Department shall require the applicant to publish another public notice in accordance with Rule 62-210.350(1)(a), F.A.C.

(c) The notice shall identify:

1. The facility;

2. The name and address of the office at which processing of the permit occurs;

3. The activity or activities involved in the permit action;

4. The emissions change involved in any permit revision;

5. The name, address, and telephone number of a Department representative from whom interested persons may obtain additional information, including copies of the permit draft, the application, and all relevant supporting materials, including any permit application, compliance plan, permit, monitoring report, and compliance statement required pursuant to Chapter 62-213, F.A.C. (except for information entitled to confidential treatment pursuant to Section 403.111, F.S.), and all other materials available to the Department that are relevant to the permit decision;

6. A brief description of the comment procedures required by Rule 62-210.350(3), F.A.C.;

7. The time and place of any hearing that may be held, including a statement of procedure to request a hearing (unless a hearing has already been scheduled); and,

8. The procedures by which persons may petition the Administrator to object to the issuance of the proposed permit after expiration of the Administrator's 45-day review period.

[Rule 62-210.350, F.A.C.]

23. Administrative Permit Corrections.

(1) A facility owner shall notify the Department by letter of minor corrections to information contained in a permit. Such notifications shall include:

(a) Typographical errors noted in the permit;

(b) Name, address or phone number change from that in the permit;

(c) A change requiring more frequent monitoring or reporting by the permittee;

(d) A change in ownership or operational control of a facility, subject to the following provisions:

1. The Department determines that no other change in the permit is necessary;

2. The permittee and proposed new permittee have submitted an Application for Transfer of Air Permit, and the Department has approved the transfer pursuant to Rule 62-210.300(7), F.A.C.; and

3. The new permittee has notified the Department of the effective date of sale or legal transfer.

(e) Changes listed at 40 CFR 72.83(a)(1), (2), (6), (9) and (10), adopted and incorporated by reference at Rule 62-204.800, F.A.C., and changes made pursuant to Rules 62-214.340(1) and (2), F.A.C., to Title V sources subject to emissions limitations or reductions pursuant to 42 USC ss. 7651-7651o;

(f) Changes listed at 40 CFR 72.83(a)(11) and (12), adopted and incorporated by reference at Rule 62-204.800, F.A.C., to Title V sources subject to emissions limitations or reductions pursuant to 42 USC ss. 7651-7651o, provided the notification is accompanied by a copy of any EPA determination concerning the similarity of the change to those listed at Rule 62-210.360(1)(e), F.A.C.; and,

(g) Any other similar minor administrative change at the source.

(2) Upon receipt of any such notification the Department shall within 60 days correct the permit and provide a corrected copy to the owner.

(3) After first notifying the owner, the Department shall correct any permit in which it discovers errors of the types listed at Rules 62-210.360(1)(a) and (b), F.A.C., and provide a corrected copy to the owner.

(4) For Title V source permits, other than general permits, a copy of the corrected permit shall be provided to EPA and any approved local air program in the county where the facility or any part of the facility is located.

(5) The Department shall incorporate requirements resulting from issuance of a new or revised construction permit into an existing Title V source permit, if the construction permit or permit revision incorporates requirements of federally enforceable preconstruction review, and if the applicant requests at the time of application that all of the requirements of Rule 62-213.430(1), F.A.C., be complied with in conjunction with the processing of the construction permit application.

[Rule 62-210.360, F.A.C.]

24. Reports.

(3) Annual Operating Report for Air Pollutant Emitting Facility.

(a) The Annual Operating Report for Air Pollutant Emitting Facility (DEP Form No. 62-210.900(5)) shall be completed each year.

(c) The annual operating report shall be submitted to the appropriate Department District or Department approved local air pollution control program office by March 1 of the following year unless otherwise indicated by permit condition or Department request.

[Rule 62-210.370(3), F.A.C.]

25. Circumvention. No person shall circumvent any air pollution control device, or allow the emission of air pollutants without the applicable air pollution control device operating properly.

[Rule 62-210.650, F.A.C.]

26. Forms and Instructions. The forms used by the Department in the stationary source control program are adopted and incorporated by reference in this section. The forms are listed by rule number, which is also the form number, with the subject, title and effective date. Forms 62-210.900(1),(3),(4) and (5), F.A.C., including instructions, are available from the Department as hard-copy documents or executable files on computer diskettes. Copies of forms (hard-copy or diskette) may be obtained by writing to the Department of Environmental Protection, Division of Air Resource Management, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Notwithstanding the requirement of Rule 62-4.050(2), F.A.C., to file application forms in quadruplicate, if an air permit application is submitted using the Department's electronic application form, only one copy of the diskette and signature pages is required to be submitted.

(1) Application for Air Permit - Title V Source, Form and Instructions (Effective 02/11/1999).
  (a) Acid Rain Part (Phase II), Form and Instructions (Effective 04/16/2001).
    1. Repowering Extension Plan, Form and Instructions (Effective 07/01/1995).
    2. New Unit Exemption, Form and Instructions (Effective 04/16/2001).
    3. Retired Unit Exemption, Form and Instructions (Effective 04/16/2001).
    4. Phase II NOx Compliance Plan, Form and Instructions (Effective 01/06/1998).
    5. Phase II NOx Averaging Plan, Form (Effective 01/06/1998).
  (b) Reserved.

(5) Annual Operating Report for Air Pollutant Emitting Facility, Form and Instructions (Effective 02/11/1999).

(7) Application for Transfer of Air Permit – Title V and Non-Title V Source, (Effective 04/16/2001).

[Rule 62-210.900, F.A.C.]

Chapter 62-213, F.A.C.

27. Annual Emissions Fee. Each Title V source permitted to operate in Florida must pay between January 15 and March 1 of each year, upon written notice from the Department, an annual emissions fee in an amount determined as set forth in Rule 62-213.205(1), F.A.C.

[Rules 62-213.205 and 62-213.900(1), F.A.C.]

28. Annual Emissions Fee. Failure to pay timely any required annual emissions fee, penalty, or interest constitutes grounds for permit revocation pursuant to Rule 62-4.100, F.A.C.

[Rule 62-213.205(1)(g), F.A.C.]

29. Annual Emissions Fee. Any documentation of actual hours of operation, actual material or heat input, actual production amount, or actual emissions used to calculate the annual emissions fee shall be retained by the owner for a minimum of five (5) years and shall be made available to the Department upon request.

[Rule 62-213.205(1)(i), F.A.C.]

30. Annual Emissions Fee. A completed DEP Form 62-213.900(1), F.A.C., "Major Air Pollution Source Annual Emissions Fee Form", must be submitted by the responsible official with the annual emissions fee.

[Rule 62-213.205(1)(j), F.A.C.]

31. Air Operation Permit Fees. No permit application processing fee, renewal fee, modification fee or amendment fee is required for an operation permit for a Title V source.

[Rule 62-213.205(4), F.A.C.]

32. Permits and Permit Revisions Required. All Title V sources are subject to the permit requirements of Chapter 62-213, F.A.C.

(1) No Title V source may operate except in compliance with Chapter 62-213, F.A.C.

(2) Except as provided in Rule 62-213.410, F.A.C., no source with a permit issued under the provisions of this chapter shall make any changes in its operation without first applying for and receiving a permit revision if the change meets any of the following:
  (a) Constitutes a modification;
  (b) Violates any applicable requirement;
  (c) Exceeds the allowable emissions of any air pollutant from any unit within the source;
  (d) Contravenes any permit term or condition for monitoring, testing, recordkeeping, reporting or of a compliance certification requirement;
  (e) Requires a case-by-case determination of an emission limitation or other standard or a source specific determination of ambient impacts, or a visibility or increment analysis under the provisions of Chapters 62-212 or 62-296, F.A.C.;
  (f) Violates a permit term or condition which the source has assumed for which there is no corresponding underlying applicable requirement to which the source would otherwise be subject;
  (g) Results in the trading of emissions among units within a source except as specifically authorized pursuant to Rule 62-213.415, F.A.C.;

(h) Results in the change of location of any relocatable facility identified as a Title V source pursuant to paragraph (a)-(e), (g) or (h) of the definition of "major source of air pollution" at Rule 62-210.200, F.A.C.;
(i) Constitutes a change at an Acid Rain Source under the provisions of 40 CFR 72.81(a)(1),(2),or (3),(b)(1) or (b)(3), hereby incorporated by reference;
(j) Constitutes a change in a repowering plan, nitrogen oxides averaging plan, or nitrogen oxides compliance deadline extension at an Acid Rain Source;
(k) Is a request for industrial-utility unit exemption pursuant to Rule 62-214.340, F.A.C.

[Rules 62-213.400(1) & (2), F.A.C.]

33. Changes Without Permit Revision. Title V sources having a valid permit issued pursuant to Chapter 62-213, F.A.C., may make the following changes without permit revision, provided that sources shall maintain source logs or records to verify periods of operation in each alternative method of operation:

(1) Permitted sources may change among those alternative methods of operation allowed by the source's permit as provided by the terms of the permit;

(2) Permitted sources may implement the terms or conditions of a new or revised construction permit if;

(a) The application for construction permit complied with the requirements of Rule 62-213.420(3) and (4), F.A.C.;

(b) The terms or conditions were subject to federally enforceable preconstruction review pursuant to Chapter 62-212, F.A.C.; and,

(c) The new or revised construction permit was issued after the Department and the applicant complied with all the requirements of Rule 62-213.430(1), F.A.C.;

(3) A permitted source may implement operating changes, as defined in Rule 62-210.200, F.A.C., after the source submits any forms required by any applicable requirement and provides the Department and EPA with at least 7 days written notice prior to implementation. The source and the Department shall attach each notice to the relevant permit;

(a) The written notice shall include the date on which the change will occur, and a description of the change within the permitted source, the pollutants emitted and any change in emissions, and any term or condition becoming applicable or no longer applicable as a result of the change;

(b) The permit shield described in Rule 62-213.460, F.A.C., shall not apply to such changes;

(4) Permitted sources may implement changes involving modes of operation only in accordance with Rule 62-213.415, F.A.C.

[Rule 62-213.410, F.A.C.]

34. Immediate Implementation Pending Revision Process.

(1) Those permitted Title V sources making any change that constitutes a modification pursuant to the definition of modification at Rule 62-210.200, F.A.C., but which would not constitute a modification pursuant to 42 USC 7412(a) or to 40 CFR 52.01, 60.2, or 61.15, adopted and incorporated by reference at Rule 62-204.800, F.A.C., may implement such change prior to final issuance of a permit revision in accordance with this section, provided the change:

(a) Does not violate any applicable requirement;

(b) Does not contravene any permit term or condition for monitoring, testing, recordkeeping or reporting, or any compliance certification requirement;

(c) Does not require or change a case-by-case determination of an emission limitation or other standard, or a source-specific determination of ambient impacts, or a visibility or increment analysis under the provisions of Chapter 62-212 or 62-296, F.A.C.;

(d) Does not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and which the source has assumed to avoid an applicable requirement to which the source would otherwise be subject including any federally enforceable emissions cap or federally enforceable alternative emissions limit.

(2) A Title V source may immediately implement such changes after they have been incorporated into the terms and conditions of a new or revised construction permit issued pursuant to Chapter 62-212, F.A.C., and after the source provides to EPA, the Department, each affected state and any approved local air program having geographic jurisdiction over the source, a copy of the source's application for operation permit revision. The Title V source may conform its application for construction permit to include all information required by Rule 62-213.420, F.A.C., in lieu of submitting separate application forms.

(3) The Department shall process the application for operation permit revision in accordance with the provisions of Chapter 62-213, F.A.C., except that the Department shall issue a draft permit revision or a determination to deny the revision within 60 days of receipt of a complete application for operation permit revision or, if the Title V source has submitted a construction permit application conforming to the requirements of Rule 62-213.420, F.A.C., the Department shall issue a draft permit or a determination to deny the revision at the same time the Department issues its determination on issuance or denial of the construction permit application. The Department shall not take final action until all the requirements of Rules 62-213.430(1)(a), (c), (d), and (e), F.A.C., have been complied with.
(4) Pending final action on the operation permit revision application, the source shall implement the changes in accordance with the terms and conditions of the source's new or revised construction permit.
(5) The permit shield described in Rule 62-213.460, F.A.C., shall not apply to such changes until after the Department takes final action to issue the operation permit revision.
(6) If the Department denies the source's application for operation permit revision, the source shall cease implementation of the proposed changes.
[Rule 62-213.412, F.A.C.]

35. Permit Applications.
(1) Duty to Apply. For each Title V source, the owner or operator shall submit a timely and complete permit application in compliance with the requirements of Rules 62-213.420, F.A.C., and Rules 62-4.050(1) through (3), F.A.C.

(a) Timely Application.

3. For purposes of permit renewal, a timely application is one that is submitted in accordance with Rule 62-4.090, F.A.C.

(b) Complete Application.

1. Any applicant for a Title V permit, permit revision or permit renewal must submit an application on DEP Form No. 62-210.900(1), which must include all the information specified by Rule 62-213.420(3), F.A.C., except that an application for permit revision must contain only that information related to the proposed change. The applicant shall include information concerning fugitive emissions and stack emissions in the application. Each application for permit, permit revision or permit renewal shall be certified by a responsible official in accordance with Rule 62-213.420(4), F.A.C.
2. For those applicants submitting initial permit applications pursuant to Rule 62-213.420(1)(a)1., F.A.C., a complete application shall be an application that substantially addresses all the information required by the application form number 62-210.900(1), and such applications shall be deemed complete within sixty days of receipt of a signed and certified application unless the Department notifies the applicant of incompleteness within that time. For all other applicants, the applications shall be deemed complete sixty days after receipt, unless the Department, within sixty days after receipt of a signed application for permit, permit revision or permit renewal, requests additional documentation or information needed to process the application. An applicant making timely and complete application for permit, or timely application for permit renewal as described by Rule 62-4.090(1), F.A.C., shall continue to operate the source under the authority and provisions of any existing valid permit or Florida Electrical Power Plant Siting Certification, and in accordance with applicable requirements of the Acid Rain Program, until the conclusion of proceedings associated with its permit application or until the new permit becomes effective, whichever is later, provided the applicant complies with all the provisions of Rules 62-213.420(1)(b)3. and 4. F.A.C. Failure of the Department to request additional information within sixty days of receipt of a properly signed application shall not impair the Department's ability to request additional information pursuant to Rules 62-213.420(1)(b)3. and 4., F.A.C.
3. For those permit applications submitted pursuant to the provisions of Rule 62-213.420(1)(a)1., F.A.C., the Department shall notify the applicant if the Department becomes aware at any time during processing of the application that the application contains incorrect or incomplete information. The applicant shall submit the corrected or supplementary information to the Department within ninety days unless the applicant has requested and been granted additional time to submit the information. Failure of an applicant to submit corrected or supplementary information requested by the Department within ninety days or such additional time as requested and granted shall render the application incomplete.
4. For all applications other than those addressed at Rule 62-213.420(1)(b)3., F.A.C., should the Department become aware, during processing of any application that the application contains incorrect information, or should the Department become aware, as a result of comment from an affected State, an approved local air program, EPA, or the public that additional information is needed to evaluate the application, the Department shall notify the applicant within 30 days. When an applicant becomes aware that an application contains incorrect or incomplete information, the applicant shall submit the corrected or supplementary information to the Department. If the Department notifies an applicant that corrected or supplementary information is necessary to process the permit, and requests a response, the applicant shall provide the information to the Department within ninety days of the Department request unless the applicant has requested

and been granted additional time to submit the information or, the applicant shall, within ninety days, submit a written request that the Department process the application without the information. Failure of an applicant to submit corrected or supplementary information requested by the Department within ninety days, or such additional time as requested and granted, or to demand in writing within ninety days that the application be processed without the information shall render the application incomplete. Nothing in this section shall limit any other remedies available to the Department.

[Rules 62-213.420(1)(a)3. and 62-213.420(1)(b)1., 2., 3. & 4., F.A.C.]

36. Confidential Information. Whenever an applicant submits information under a claim of confidentiality pursuant to Section 403.111, F.S., the applicant shall also submit a copy of all such information and claim directly to EPA. **(also, see Condition No. 50.)**
[Rule 62-213.420(2), F.A.C.]

37. Standard Application Form and Required Information. Applications shall be submitted under Chapter 62-213, F.A.C., on forms provided by the Department and adopted by reference in Rule 62-210.900(1), F.A.C. The information as described in Rule 62-210.900(1), F.A.C., shall be included for the Title V source and each emissions unit. An application must include information sufficient to determine all applicable requirements for the Title V source and each emissions unit and to evaluate a fee amount pursuant to Rule 62-213.205, F.A.C.
[Rule 62-213.420(3), F.A.C.]

38. a. Permit Renewal and Expiration. Permits being renewed are subject to the same requirements that apply to permit issuance at the time of application for renewal. Permit renewal applications shall contain that information identified in Rules 62-210.900(1) and 62-213.420(3), F.A.C. Unless a Title V source submits a timely application for permit renewal in accordance with the requirements of Rule 62-4.090(1), F.A.C., the existing permit shall expire and the source's right to operate shall terminate. No Title V permit will be issued for a new term except through the renewal process.
b. Permit Revision Procedures. Permit revisions shall meet all requirements of Chapter 62-213, F.A.C., including those for content of applications, public participation, review by approved local programs and affected states, and review by EPA, as they apply to permit issuance and permit renewal, except that permit revisions for those activities implemented pursuant to Rule 62-213.412, F.A.C., need not meet the requirements of Rule 62-213.430(1)(b), F.A.C. The Department shall require permit revision in accordance with the provisions of Rule 62-4.080, F.A.C., and 40 CFR 70.7(f), whenever any source becomes subject to any condition listed at 40 CFR 70.7(f)(1), hereby adopted and incorporated by reference. The below requirements from 40 CFR 70.7(f) are adopted and incorporated by reference in Rule 62-213.430(4), F.A.C.:

o 40 CFR 70.7(f): Reopening for Cause. **(also, see Condition No. 4.)**

(1) This section contains provisions from 40 CFR 70.7(f) that specify the conditions under which a Title V permit shall be reopened prior to the expiration of the permit. A Title V permit shall be reopened and revised under any of the following circumstances:

(i) Additional applicable requirements under the Act become applicable to a major Part 70 source with a remaining permit term of 3 or more years. Such a reopening shall be completed not later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to 40 CFR 70.4(b)(10)(i) or (ii).

(ii) Additional requirements (including excess emissions requirements) become applicable to an affected source under the acid rain program. Upon approved by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the permit.

(iii) The permitting authority or EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.

(iv) The Administrator or the permitting authority determines that the permit must be revised or revoked to assure compliance with the applicable requirements.

(2) Proceedings to reopen and issue a permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of the permit for which cause to reopen exists. Such reopening shall be made as expeditiously as practicable.

(3) Reopenings under 40 CFR 70.7(f)(1) shall not be initiated before a notice of such intent is provided to the Part 70 source by the permitting authority at least 30 days in advance of the date that the permit is to be reopened, except that the permitting authority may provide a shorter time period in the case of an emergency.

[Rules 62-213.430(3) & (4), F.A.C.; and, 40 CFR 70.7(f)]

39. Insignificant Emissions Units or Pollutant-Emitting Activities.

(a) All requests for determination of insignificant emissions units or activities made pursuant to Rule 62-213.420(3)(m), F.A.C., shall be processed in conjunction with the permit, permit renewal or permit revision application submitted pursuant to Chapter 62-213, F.A.C. Insignificant emissions units or activities shall be approved by the Department consistent with the provisions of Rule 62-4.040(1)(b), F.A.C. Emissions units or activities which are added to a Title V source after issuance of a permit under Chapter 62-213, F.A.C., shall be incorporated into the permit at its next renewal, provided such emissions units or activities have been exempted from the requirement to obtain an air construction permit and also qualify as insignificant pursuant to Rule 62-213.430(6), F.A.C.

(b) An emissions unit or activity shall be considered insignificant if all of the following criteria are met:

1. Such unit or activity would be subject to no unit-specific applicable requirement;
2. Such unit or activity, in combination with other units or activities proposed as insignificant, would not cause the facility to exceed any major source threshold(s) as defined in Rule 62-213.420(3)(c)1., F.A.C., unless it is acknowledged in the permit application that such units or activities would cause the facility to exceed such threshold(s);
3. Such unit or activity would not emit or have the potential to emit:
    a. 500 pounds per year or more of lead and lead compounds expressed as lead;
    b. 1,000 pounds per year or more of any hazardous air pollutant;
    c. 2,500 pounds per year or more of total hazardous air pollutants; or
    d. 5.0 tons per year or more of any other regulated pollutant.

[Rule 62-213.430(6), F.A.C.]

40. Permit Duration. Permits for sources subject to the Federal Acid Rain Program shall be issued for terms of five years, provided that the initial Acid Rain Part may be issued for a term less than five years where necessary to coordinate the term of such part with the term of a Title V permit to be issued to the source. Operation permits for Title V sources may not be extended as provided in Rule 62-4.080(3), F.A.C., if such extension will result in a permit term greater than five years.
[Rule 62-213.440(1)(a), F.A.C.]

41. Monitoring Information. All records of monitoring information shall specify the date, place, and time of sampling or measurement and the operating conditions at the time of sampling or measurement, the date(s) analyses were performed, the company or entity that performed the analyses, the analytical techniques or methods used, and the results of such analyses.
[Rule 62-213.440(1)(b)2.a., F.A.C.]

42. Retention of Records. Retention of records of all monitoring data and support information shall be for a period of at least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.
[Rule 62-213.440(1)(b)2.b., F.A.C.]

43. Monitoring Reports. The permittee shall submit reports of any required monitoring at least every six (6) months. All instances of deviations from permit requirements must be clearly identified in such reports.
[Rule 62-213.440(1)(b)3.a., F.A.C.]

44. Deviation from Permit Requirements Reports. The permittee shall report in accordance with the requirements of Rules 62-210.700(6) and 62-4.130, F.A.C., deviations from permit requirements, including those attributable to upset conditions as defined in the permit. Reports shall include the probable cause of such deviations, and any corrective actions or preventive measures taken.
[Rule 62-213.440(1)(b)3.b., F.A.C.]

45. Reports. All reports shall be accompanied by a certification by a responsible official, pursuant to Rule 62-213.420(4), F.A.C.
[Rule 62-213.440(1)(b)3.c, F.A.C.]

46. If any portion of the final permit is invalidated, the remainder of the permit shall remain in effect.
[Rule 62-213.440(1)(d)1., F.A.C.]

47. It shall not be a defense for a permittee in an enforcement action that maintaining compliance with any permit condition would necessitate halting of or reduction of the source activity.
[Rule 62-213.440(1)(d)3., F.A.C.]

48. Any Title V source shall comply with all the terms and conditions of the existing permit until the Department has taken final action on any permit renewal or any requested permit revision, except as provided at Rule 62-213.412(2), F.A.C.
[Rule 62-213.440(1)(d)4., F.A.C.]

49. A situation arising from sudden and unforeseeable events beyond the control of the source which causes an exceedance of a technology-based emissions limitation because of unavoidable increases in emissions attributable to the situation and which requires immediate corrective action to restore normal operation, shall be an affirmative defense to an enforcement action in accordance with the provisions and requirements of 40 CFR 70.6(g)(2) and (3), hereby adopted and incorporated by reference.
[Rule 62-213.440(1)(d)5., F.A.C.]

50. Confidentiality Claims. Any permittee may claim confidentiality of any data or other information by complying with Rule 62-213.420(2), F.A.C. **(also, see Condition No. 36.)**.
[Rule 62-213.440(1)(d)6., F.A.C.]

51. Statement of Compliance. (a)2. The permittee shall submit a Statement of Compliance with all terms and conditions of the permit using DEP Form No. 62-213.900(7). Such statement shall be accompanied by a certification in accordance with Rule 62-213.420(4), F.A.C. Such statements shall be submitted (postmarked) to the Department and EPA:

a. Annually, within 60 days after the end of each calendar year during which the Title V permit was effective, or more frequently if specified by Rule 62-213.440(2), F.A.C., or by any other applicable requirement; and

b. Within 60 days after submittal of a written agreement for transfer of responsibility as required pursuant to 40 CFR 70.7(d)(1)(iv), adopted and incorporated by reference at Rule 62-204.800, F.A.C., or within 60 days after permanent shutdown of a facility permitted under Chapter 62-213, F.A.C.; provided that, in either such case, the reporting period shall be the portion of the calendar year the permit was effective up to the date of transfer of responsibility or permanent facility shutdown, as applicable.

3. The statement of compliance status shall include all the provisions of 40 CFR 70.6(c)(5)(iii), incorporated by reference at Rule 62-204.800, F.A.C.

(b) The responsible official may treat compliance with all other applicable requirements as a surrogate for compliance with Rule 62-296.320(2), Objectionable Odor Prohibited.

[Rules 62-213.440(3)(a)2. & 3. and (b), F.A.C.]

52. Permit Shield. Except as provided in Chapter 62-213, F.A.C., compliance with the terms and conditions of a permit issued pursuant to Chapter 62-213, F.A.C., shall, as of the effective date of the permit, be deemed compliance with any applicable requirements in effect, provided that the source included such applicable requirements in the permit application. Nothing in Rule 62-213.460, F.A.C., or in any permit shall alter or affect the ability of EPA or the Department to deal with an emergency, the liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance, or the requirements of the Federal Acid Rain Program.
[Rule 62-213.460, F.A.C.]

53. Forms and Instructions. The forms used by the Department in the Title V source operation program are adopted and incorporated by reference in Rule 62-213.900, F.A.C. The form is listed by rule number, which is also the form number, and with the subject, title, and effective date. Copies of forms may be obtained by writing to the Department of Environmental Protection, Division of Air Resources Management, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, or by contacting the appropriate permitting authority.

(1) Major Air Pollution Source Annual Emissions Fee Form. (Effective 01/03/2001)

(7) Statement of Compliance Form. (Effective 01/03/2001)

[Rule 62-213.900, F.A.C.: Forms (1) and (7)]

Chapter 62-256, F.A.C.

54. **Not federally enforceable.** Open Burning. This permit does not authorize any open burning nor does it constitute any waiver of the requirements of Chapter 62-256, F.A.C. Source shall comply with Chapter 62-256, F.A.C., for any open burning at the source. [Chapter 62-256, F.A.C.]

Chapter 62-281, F.A.C.

55. Refrigerant Requirements. Any facility having refrigeration equipment, including air conditioning equipment, which uses a Class I or II substance (listed at 40 CFR 82, Subpart A, Appendices A and B), and any facility which maintains, services, or repairs motor vehicles using a Class I or Class II substance as refrigerant must comply with all requirements of 40 CFR 82, Subparts B and F, and with Rule 62-281.100, F.A.C. Those requirements include the following restrictions:
(1) Any facility having any refrigeration equipment normally containing 50 (fifty) pounds of refrigerant, or more, must keep servicing records documenting the date and type of all service and the quantity of any refrigerant added pursuant to 40 CFR 82.166;
(2) No person repairing or servicing a motor vehicle may perform any service on a motor vehicle air conditioner (MVAC) involving the refrigerant for such air conditioner unless the person has been properly trained and certified as provided at 40 CFR 82.34 and 40 CFR 82.40, and properly uses equipment approved pursuant to 40 CFR 82.36 and 40 CFR 82.38, and complies with 40 CFR 82.42;
(3) No person may sell or distribute, or offer for sale or distribution, any substance listed as a Class I or Class II substance at 40 CFR 82, Subpart A, Appendices A and B, except in compliance with Rule 62-281.100, F.A.C., and 40 CFR 82.34(b), 40 CFR 82.42, and/or 40 CFR 82.166;
(4) No person maintaining, servicing, repairing, or disposing of appliances may knowingly vent or otherwise release into the atmosphere any Class I or Class II substance used as a refrigerant in such equipment and no other person may open appliances (except MVACs as defined at 40 CFR 82.152) for service, maintenance or repair unless the person has been properly trained and certified pursuant to 40 CFR 82.161 and unless the person uses equipment certified for that type of appliance pursuant to 40 CFR 82.158 and unless the person observes the practices set forth at 40 CFR 82.156 and 40 CFR 82.166;
(5) No person may dispose of appliances (except small appliances, as defined at 40 CFR 82.152) without using equipment certified for that type of appliance pursuant to 40 CFR 82.158 and without observing the practices set forth at 40 CFR 82.156 and 40 CFR 82.166;
(6) No person may recover refrigerant from small appliances, MVACs and MVAC-like appliances (as defined at 40 CFR 82.152), except in compliance with the requirements of 40 CFR 82, Subpart F.
[40 CFR 82; and, Chapter 62-281, F.A.C. **(Chapter 62-281, F.A.C., is not federally enforceable)**]

Chapter 62-296, F.A.C.

56. Industrial, Commercial, and Municipal Open Burning Prohibited. Open burning in connection with industrial, commercial, or municipal operations is prohibited, except when:

(a) Open burning is determined by the Department to be the only feasible method of operation and is authorized by an air permit issued pursuant to Chapter 62-210 or 62-213, F.A.C.; or,

(b) An emergency exists which requires immediate action to protect human health and safety; or,

(c) A county or municipality would use a portable air curtain incinerator to burn yard trash generated by a hurricane, tornado, fire or other disaster and the air curtain incinerator would otherwise be operated in accordance with the permitting exemption criteria of Rule 62-210.300(3), F.A.C.

[Rule 62-296.320(3), F.A.C.]

57. Unconfined Emissions of Particulate Matter.
(4)(c)1. No person shall cause, let, permit, suffer or allow the emissions of unconfined particulate matter from any activity, including vehicular movement; transportation of materials; construction; alteration; demolition or wrecking; or industrially related activities such as loading, unloading, storing or handling; without taking reasonable precautions to prevent such emissions.

3. Reasonable precautions include the following:

a. Paving and maintenance of roads, parking areas and yards.

b. Application of water or chemicals to control emissions from such activities as demolition of buildings, grading roads, construction, and land clearing.

c. Application of asphalt, water, oil, chemicals or other dust suppressants to unpaved roads, yards, open stock piles and similar activities.

d. Removal of particulate matter from roads and other paved areas under the control of the owner or operator of the facility to prevent reentrainment, and from buildings or work areas to prevent particulate from becoming airborne.

e. Landscaping or planting of vegetation.

f. Use of hoods, fans, filters, and similar equipment to contain, capture and/or vent particulate matter.

g. Confining abrasive blasting where possible.

h. Enclosure or covering of conveyor systems.

4. In determining what constitutes reasonable precautions for a particular facility, the Department shall consider the cost of the control technique or work practice, the environmental impacts of the technique or practice, and the degree of reduction of emissions expected from a particular technique or practice.

[Rules 62-296.320(4)(c)1., 3., & 4. F.A.C.]

[electronic file name: tv-4.doc]

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

In the matter of:	)	
	)	
Florida Electric Power Coordinating Group, Inc.,	)	ASP No. 97-B-01
	)	
Petitioner.	)	

ORDER ON REQUEST FOR ALTERNATE PROCEDURES AND REQUIREMENTS

Pursuant to Rule 62-297.620, Florida Administrative Code (F.A.C.), the Florida Electric Coordinating Group, Incorporated, (FCG) petitioned for approval to: (1) Exempt fossil fuel steam generators which burn liquid and/or solid fuel for less than 400 hours during the federal fiscal year from the requirement to conduct an annual particulate matter compliance test; and, (2) Exempt fossil fuel steam generators which burn liquid and/or solid fuel for less than 400 hours during the federal fiscal year from the requirement to conduct an annual particulate matter compliance test during the year prior to renewal of an operation permit. This Order is intended to clarify particulate testing requirements for those fossil fuel steam generators which primarily burn gaseous fuels including, but not necessarily limited to natural gas.

Having considered the provisions of Rule 62-296.405(1), F.A.C., Rule 62-297.310(7), F.A.C., and all supporting documentation, the following Findings of Fact, Conclusions of Law, and Order are entered:

FINDINGS OF FACT

1. The Florida Electric Power Coordinating Group, Incorporated, petitioned the Department to exempt those fossil fuel steam generators which have a heat input of more than 250 million Btu per hour and burn solid and/or liquid fuel less than 400 hours during the year from the requirement to conduct an annual particulate matter compliance test. [Exhibit 1]

2. Rule 62-296.405(1)(a), F.A.C., applies to those fossil fuel steam generators that are not subject to the federal standards of performance for new stationary sources (NSPS) in 40 CFR 60 and which have a heat input of more than 250 million Btu per hour.

3. Rule 62-296.405(1)(a), F.A.C., limits visible emissions from affected fossil fuel steam generators to, "20 percent opacity except for either one six-minute period per hour during which

not exceed 40 percent. The option selected shall be specified in the emissions unit's construction and operation permits. Emissions units governed by this visible emission limit shall test for particulate emission compliance annually and as otherwise required by Rule 62-297, F.A.C."

4. Rule 62-296.405(1)(a), F.A.C., further states, "Emissions units electing to test for particulate matter emission compliance quarterly shall be allowed visible emissions of 40 percent opacity. The results of such tests shall be submitted to the Department. Upon demonstration that the particulate standard has been regularly complied with, the Secretary, upon petition by the applicant, shall reduce the frequency of particulate testing to no less than once annually.

5. Rule 297.310(7)(a)1., F.A.C., states, "The owner or operator of a new or modified emissions unit that is subject to an emission limiting standard shall conduct a compliance test that demonstrates compliance with the applicable emission limiting standard prior to obtaining an operation permit for such emissions unit."

6. Rule 297.310(7)(a)2., F.A.C., states, "The owner or operator of an emissions unit that is subject to any emission limiting standard shall conduct a compliance test that demonstrates compliance with the applicable emission limiting standard prior to obtaining a renewed operation permit. Emissions units that are required to conduct an annual compliance test may submit the most recent annual compliance test to satisfy the requirements of this provision.

7. Rule 297.310(7)(a)3., F.A.C., further states, "In renewing an air operation permit pursuant to Rule 62-210.300(2)(a)3.b., c., or d., F.A.C., the Department shall not require submission of emission compliance test results for any emissions unit that, during the year prior to renewal: a. Did not operate; or, b. In the case of a fuel burning emissions unit, burned liquid and/or solid fuel for a total of no more than 400 hours."

8. Rule 297.310(7)(a)4., F.A.C., states, "During each federal fiscal year (October 1 -- September 30), unless otherwise specified by rule, order, or permit, the owner or operator of each emissions unit shall have a formal compliance test conducted for: a. Visible emissions, if there is an applicable standard; b. Each of the following pollutants, if there is an applicable standard, and if the emissions unit emits or has the potential to emit: 5 tons per year or more of lead or lead compounds measured as elemental lead; 30 tons per year or more of acrylonitrile; or 100 tons per year or more of any other regulated air pollutant...."

9. Rule 297.310(7)(a)5., F.A.C., states, "An annual compliance test for particulate matter emissions shall not be required for any fuel burning emissions unit that, in a federal fiscal year, does not burn liquid and/or solid fuel, other than during startup, for a total of more than 400 hours."

10. Rule 297.310(7)(a)6., F.A.C., states, "For fossil fuel steam generators on a semi-annual particulate matter emission compliance testing schedule, a compliance test shall not be

required for any six-month period in which liquid and/or solid fuel is not burned for more than 200 hours other than during startup."

11. Rule 297.310(7)(a)7., F.A.C., states, "For emissions units electing to conduct particulate matter emission compliance testing quarterly pursuant to Rule 62-296.405(2)(a), F.A.C., a compliance test shall not be required for any quarter in which liquid and/or solid fuel is not burned for more than 100 hours other than during startup." [Note: The reference should be to Rule 62-296.405(1)(a), F.A.C., rather than Rule 62-296.405(2)(a), F.A.C.]

12. The fifth edition of the U. S. Environmental Protection Agency's Compilation of Air Pollutant Emission Factors, AP-42, that emissions of filterable particulate from gas-fired fossil fuel steam generators with a heat input of more than about 10 million Btu per hour may be expected to range from 0.001 to 0.006 pound per million Btu. [Exhibit 2]

13. Rule 62-296.405(1)(b), F.A.C. and the federal standards of performance for new stationary sources in 40 CFR 60.42, Subpart D, limit particulate emissions from uncontrolled fossil fuel fired steam generators with a heat input of more than 250 million Btu to 0.1 pound per million Btu.

CONCLUSIONS OF LAW

1. The Department has jurisdiction to consider the matter pursuant to Section 403.061, Florida Statutes (F.S.), and Rule 62-297.620, F.A.C.

2. Pursuant to Rule 62-297.310(7), F.A.C., the Department may require Petitioner to conduct compliance tests that identify the nature and quantity of pollutant emissions, if, after investigation, it is believed that any applicable emission standard or condition of the applicable permits is being violated.

3. There is reason to believe that a fossil fuel steam generator which does not burn liquid and/or solid fuel (other than during startup) for a total of more than 400 hours in a federal fiscal year and complies with all other applicable limits and permit conditions is in compliance with the applicable particulate mass emission limiting standard.

ORDER

Having considered the requirements of Rule 62-296.405, F.A.C., Rule 62-297.310, F.A.C., and supporting documentation, it is hereby ordered that:

1. An annual compliance test for particulate matter emissions shall not be required for any fuel burning emissions unit that, in a federal fiscal year, does not burn liquid and/or solid fuel, other than during startup, for a total of more than 400 hours;

2. For fossil fuel steam generators on a semi-annual particulate matter emission compliance testing schedule, a compliance test shall not be required for any six-month period in which liquid and/or solid fuel is not burned for more than 200 hours other than during startup;

3. For emissions units electing to conduct particulate matter emission compliance testing quarterly pursuant to Rule 62-296.405(1)(a), F.A.C., a compliance test shall not be required for any quarter in which liquid and/or solid fuel is not burned for more than 100 hours other than during startup;

4. In renewing an air operation permit pursuant to Rule 62-210.300(2)(a)3.b., c., or d., F.A.C., the Department shall not require submission of particulate matter emission compliance test results for any fossil fuel steam generator emissions unit that burned liquid and/or solid fuel for a total of no more than 400 hours during the year prior to renewal.

5. Pursuant to Rule 62-297.310(7), F.A.C., owners of affected fossil fuel steam generators may be required to conduct compliance tests that identify the nature and quantity of pollutant emissions, if, after investigation, it is believed that any applicable emission standard or condition of the applicable permits is being violated.

6. Pursuant to Rule 62-297.310(8), F.A.C., owners of affected fossil fuel steam generators shall submit the compliance test report to the District Director of the Department district office having jurisdiction over the emissions unit and, where applicable, the Air Program Administrator of the appropriate Department-approved local air program within 45 days of completion of the test.

PETITION FOR ADMINISTRATIVE REVIEW

The Department will take the action described in this Order unless a timely petition for an administrative hearing is filed pursuant to sections 120.569 and 120.57 of the Florida Statutes, or a party requests mediation as an alternative remedy under section 120.573 before the deadline for filing a petition. Choosing mediation will not adversely affect the right to a hearing if mediation does not result in a settlement. The procedures for petitioning for a hearing are set forth below, followed by the procedures for requesting mediation.

A person whose substantial interests are affected by the Department's proposed decision may petition for an administrative hearing in accordance with sections 120.569 and 120.57 of the Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000. Petitions must be filed within 21 days of receipt of this Order. A petitioner must mail a copy of the petition to the applicant at the address indicated above, at the time of filing. The failure of any person to file a petition (or a request for mediation, as discussed below) within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under sections 120.569 and 120.57 of

the Florida Statutes, or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-5.207 of the Florida Administrative Code.

A petition must contain the following information:

(a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department File Number, and the county in which the project is proposed;

(b) A statement of how and when each petitioner received notice of the Department's action or proposed action;

(c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;

(d) A statement of the material facts disputed by each petitioner, if any;

(e) A statement of facts that the petitioner contends warrant reversal or modification of the Department's action or proposed action;

(f) A statement identifying the rules or statutes each petitioner contends require reversal or modification of the Department's action or proposed action; and,

(g) A statement of the relief sought by each petitioner, stating precisely the action each petitioner wants the Department to take with respect to the Department's action or proposed action in the notice of intent.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Department's final action may be different from the position taken by it in this Order. Persons whose substantial interests will be affected by any such final decision of the Department on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

A person whose substantial interests are affected by the Department's proposed decision, may elect to pursue mediation by asking all parties to the proceeding to agree to such mediation and by filing with the Department a request for mediation and the written agreement of all such parties to mediate the dispute. The request and agreement must be filed in (received by) the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, by the same deadline as set forth above for the filing of a petition.

A request for mediation must contain the following information:

(a) The name, address, and telephone number of the person requesting mediation and that person's representative, if any;

(b) A statement of the preliminary agency action;

(c) A statement of the relief sought; and

(d) Either an explanation of how the requester's substantial interests will be affected by the action or proposed action addressed in this notice of intent or a statement clearly identifying the petition for hearing that the requester has already filed, and incorporating it by reference.

The agreement to mediate must include the following:

(a) The names, addresses, and telephone numbers of any persons who may attend the mediation;

(b) The name, address, and telephone number of the mediator selected by the parties, or a provision for selecting a mediator within a specified time;

(c) The agreed allocation of the costs and fees associated with the mediation;

(d) The agreement of the parties on the confidentiality of discussions and documents introduced during mediation;

(e) The date, time, and place of the first mediation session, or a deadline for holding the first session, if no mediator has yet been chosen;

(f) The name of each party's representative who shall have authority to settle or recommend settlement; and

(g) The signatures of all parties or their authorized representatives.

As provided in section 120.573 of the Florida Statutes, the timely agreement of all parties to mediate will toll the time limitations imposed by sections 120.569 and 120.57 for requesting and holding an administrative hearing. Unless otherwise agreed by the parties, the mediation must be concluded within sixty days of the execution of the agreement. If mediation results in settlement of the administrative dispute, the Department must enter a final order incorporating the agreement of the parties. Persons whose substantial interests will be affected by such a modified final decision of the Department have a right to petition for a hearing only in accordance with the requirements for such petitions set forth above. If mediation terminates without settlement of the dispute, the Department shall notify all parties in writing that the administrative hearing processes under sections 120.569 and 120.57 remain available for disposition of the dispute, and the notice will

specify the deadlines that then will apply for challenging the agency action and electing remedies under those two statutes.

In addition to the above, a person subject to regulation has a right to apply for a variance from or waiver of the requirements of particular rules, on certain conditions, under section 120.542 of the Florida Statutes. The relief provided by this state statute applies only to state rules, not statutes, and not to any federal regulatory requirements. Applying for a variance or waiver does not substitute or extend the time for filing a petition for an administrative hearing or exercising any other right that a person may have in relation to the action proposed in this notice of intent.

The application for a variance or waiver is made by filing a petition with the Office of General Counsel of the Department, 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000.

The petition must specify the following information:

(a) The name, address, and telephone number of the petitioner;

(b) The name, address, and telephone number of the attorney or qualified representative of the petitioner, if any;

(c) Each rule or portion of a rule from which a variance or waiver is requested;

(d) The citation to the statute underlying (implemented by) the rule identified in (c) above;

(e) The type of action requested;

(f) The specific facts that would justify a variance or waiver for the petitioner;

(g) The reason why the variance or waiver would serve the purposes of the underlying statute (implemented by the rule); and

(h) A statement whether the variance or waiver is permanent or temporary and, if temporary, a statement of the dates showing the duration of the variance or waiver requested.

The Department will grant a variance or waiver, when the petition demonstrates both that the application of the rule would create a substantial hardship or violate principles of fairness, as each of those terms is defined in section 120.542(2) of the Florida Statutes, and that the purpose of the underlying statute will be or has been achieved by other means by the petitioner. Persons subject to regulation pursuant to any federally delegated or approved air program should be aware that Florida is specifically not authorized to issue variances or waivers from any requirements of any such federally delegated or approved program. The requirements of the program remain fully

each of those terms is defined in section 120.542(2) of the Florida Statutes, and that the purpose of the underlying statute will be or has been achieved by other means by the petitioner. Persons subject to regulation pursuant to any federally delegated or approved air program should be aware that Florida is specifically not authorized to issue variances or waivers from any requirements of any such federally delegated or approved program. The requirements of the program remain fully enforceable by the Administrator of the EPA and by any person under the Clean Air Act unless and until the Administrator separately approves any variance or waiver in accordance with the procedures of the federal program.

This Order constitutes final agency action unless a petition is filed in accordance with the above paragraphs. Upon timely filing of a petition, this Order will not be effective until further Order of the Department.

RIGHT TO APPEAL

Any party to this Order has the right to seek judicial review of the Order pursuant to Section 120.68, F.S., by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000; and, by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date the Notice of Agency Action is filed with the Clerk of the Department.

DONE AND ORDERED this 17 day of March, 1997 in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

Howard L. Rhodes

HOWARD L. RHODES, Director
Division of Air Resources Management
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400
(904) 488-0114

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that a copy of the foregoing was mailed to Rich Piper, Chair, Florida Power Coordinating Group, Inc., 405 Reo Street, Suite 100, Tampa, Florida 33609-1004, on this 18th day of March 1997.

Clerk Stamp

FILING AND ACKNOWLEDGMENT
FILED, on this date, pursuant to §120.52(7), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Martha M. Wise 3-18-97
Clerk Date

405 REO STREET, SUITE 100 • (813) 289-5644 • FAX (813) 289-5645
TAMPA, FLORIDA 33609-1004

January 28, 1997

Clair H. Fancy, P.E.
Chief, Bureau of Air Regulation
Florida Department of Environmental Protection
2600 Blair Stone Road, MS 5505
Tallahassee, FL 32301

RECEIVED
JAN 28 1997
BUREAU OF
AIR REGULATION

RE: Comments Regarding Draft Title V Permits

Dear Mr. Fancy:

The Florida Electric Power Coordinating Group, Inc. (FCG), which is made up of 36 utilities owned by investors, municipalities, and cooperatives, has been following the implementation of Title V in Florida and recently submitted comments to you on draft Title V permit conditions by letter dated December 4, 1996. As indicated in that letter, representatives from the FCG would like to meet with you and other members of your air permitting staff to discuss some significant concerns that FCG member companies have regarding conditions that may be included in Title V permits issued by your office. While we will be discussing these issues with you and your staff in greater detail at that meeting, we would like to explain some of our concerns in this letter.

Primarily, the FCG members are concerned that the Title V permits may contain conditions that are much different in important respects than those conditions currently included in existing air permits. During the rulemaking workshops and seminars conducted by the Department to discuss the rules implementing the Title V permitting program, representations were made on several occasions that industry could expect to see permit conditions that were substantively similar to existing permit conditions and that primarily the format was changing. Representations were also made to industry that Title V did not impose additional substantive requirements beyond what was already required under the Department's rules. Based on the first draft Title V permit that we have reviewed, we are concerned that there may be some attempt to change the substantive requirements on existing facilities through the Title V permitting process, and we would like to discuss this with you at the meeting we have scheduled for January 30, 1997.

1. Federal Enforceability--The FCG has long been concerned about the designation of non-federally enforceable permit terms and conditions. We are concerned about this issue because the Department's first draft Title V permits have included language stating that *all* terms and conditions would become federally enforceable once the permit is issued. This approach is consistent with the Department's guidance memorandum dated September 13, 1996 (DARM-PER/V-18), but we understand that the Department may now intend to remove all references to

Exhibit 1

the federal enforceability of permit terms and conditions. We are also concerned about this approach because a Title V permit is generally federally enforceable and, without any designation of non-federally enforceable terms and conditions, the entire permit could be interpreted to be federally enforceable. As we stated in the December 4 letter as well as our letter dated October 11, 1996, all terms and conditions in a Title V permit do *not* become enforceable by the U.S. Environmental Protection Agency and citizens under the Clean Air Act simply by inclusion in a Title V permit. To make it clear which provisions in a Title V permit are not federally enforceable (which are being included because of state or local requirements only), it is very important to specifically designate those conditions as having no federally enforceable basis. Such a designation is actually required under the federal Title V rules, which provide that permitting agencies are to "specifically designate as not being federally enforceable under the Act any terms and conditions included in the permit that are not required under the Act or under any of its applicable requirements." 40 CFR § 70.6(b). We would like to discuss with you our concerns about this issue and to again specifically request that when Title V permits are issued by the Department, conditions having no federally enforceable basis clearly be identified as such.

2. PM Testing on Gas--The FCG understands that the Department may attempt to require annual particulate matter compliance testing while firing natural gas to determine compliance with the 0.1 lb/mmBtu emission limit established under Rule 62-296.405(1)(b), F.A.C. The FCG member companies feel strongly that compliance testing for particulate matter should not be required while firing natural gas. The Department has not historically required particulate matter compliance testing while firing natural gas, it is not required under the current permits for these units, and it should not be necessary since natural gas is such a clean fuel. Typically only *de minimis* amounts of particulate matter would be expected from the firing of natural gas, so compliance testing would not provide meaningful information to the Department, and the expense to conduct such tests is not justified. We understand that Department representatives suggested that industry could pursue an alternative test procedure under Rule 62-297.620, F.A.C., to allow a visible emissions test to be used in lieu of a stack test for determining compliance with the particulate matter limit. While certainly a visible emissions test would be preferable over a stack test, neither of these tests should be needed to demonstrate compliance with the particulate matter limit of 0.1 lb/mmBtu while burning natural gas. The FCG strongly urges that the Department reconsider its position on this issue and clarify that compliance testing for particulate matter while firing natural gas is not required.

3. Excess Emissions--By letter dated December 5, 1996, the U.S. Environmental Protection Agency (EPA) submitted a letter commenting on a draft Title V permit that had been issued by the Department and indicated some concern regarding excess emission provisions included in conditions that were quoted from Rule 62-210.700, F.A.C. Because the permit conditions cited simply quote the applicable provisions of the Department's rules regarding

excess emissions and because these rules have been approved as part of Florida's State Implementation Plan, the permit conditions are appropriate to be included in the permit. We understand that the Department intends to include as applicable requirements in Title V permit conditions the provisions of Rule 62-210.700, F.A.C. If the Department receives any further adverse comments regarding the excess emissions rule under 62-210.700, F.A.C., we would appreciate your contacting us. Because this issue is so important to us, we would like to discuss it with you in greater detail at our meeting on January 30.

4. Compliance Testing for Combustion Turbines--While the Department's November 22, 1995, guidance regarding the compliance testing requirements for combustion turbines clearly states that the use of heat input curves based on ambient temperatures and humidities is to be included as a permit condition *only* if requested by a permittee, we understand that the Department may intend to include this requirement in Title V permits for all combustion turbines. As we are sure you recall, the FCG worked over a period of several months with the Department on the development of the guidance memorandum and it was clearly understood by FCG members that the heat input curves would not be mandated but would remain voluntary for any existing combustion turbine. It was also understood by FCG members that the requirement to conduct testing at 95 to 100 percent of capacity would be required only if the permit applicant requested the use of heat input curves. We understand that the Department may be interpreting the requirement to use heat input curves and to test at 95 to 100 percent of permitted capacity to be mandatory for all combustion turbines. We would like to clarify this with you during our meeting. Also, we would like to confirm that, regardless of whether a combustion turbine uses heat input curves or tests at 95 to 100 percent of permitted capacity, it is necessary to test at four load points and correct to ISO *only* to determine compliance with the nitrogen oxides (NOx) standard under New Source Performance Standard Subpart GG under 40 CFR § 60.332 and not annually thereafter.

5. Test Methods--The FCG is concerned about the possibility of the Department requiring a full permit revision to authorize the use of an approved test method not specifically identified in a Title V permit, even though the Department may have separately approved the use of the particular test method for a unit (i.e., through a compliance test protocol). It is the FCG's position that language should be included in all Title V permits indicating that other test methods approved by the Department may be used. Further, a full permit revision (including public notice) should *not* be necessary when a test method not previously identified in the permit is approved for use by a unit. The Department's subsequent approval of test methods should simply be included in the next permit renewal cycle. The FCG understands that the Department planned to confirm this approach with the U.S. Environmental Protection Agency Region IV, and we would like to discuss this issue with you at the January 30 meeting to learn of the agency's response.

6. Quarterly Reports--The FCG understands that the Department may be interpreting the quarterly reporting requirements under Rule 62-296.405(1)(g), F.A.C., to apply regardless of whether continuous emissions monitors were required under the preceding Rule 62-296.405(1)(f), F.A.C. It is the FCG's position that quarterly reports are required under Rule 62-296.405(1)(g) only when continuous emissions monitors are required under the preceding paragraph (f). While this may not be entirely clear from the language of the rules, paragraphs (f) and (g) were originally included in a separate rule on "continuous emission monitoring requirements" where it was very clear that the requirements of paragraph (g) applied *only* if continuous emission monitoring was required under paragraph (f). Research indicates that Rule 17-2.710, F.A.C. (copy attached), where these provisions were originally located, was first transferred to Rule 17-297.500, F.A.C. (which later became Rule 62-297.500), later repealed in November of 1994, and ultimately replaced with what is now Rule 62-296.405(1)(f) and (g), F.A.C. To the extent that an emissions unit is not subject to Rule 62-296.405(1)(f) and is not required to install and operate continuous emissions monitors (e.g., oil- and gas-fired units), the quarterly reporting requirements of paragraph (g) should not apply.

7. Trivial Activities--As you may recall, in May of 1996, the FCG submitted to the Department a list of small, *de minimis* emissions units and activities that it considered to be "trivial," consistent with the list developed by EPA as part of the Title V "White Paper" and incorporated by reference by the Department in its March 15, 1996, guidance memorandum (DARM-PER/V-15-Revised). We never received a response from the Department and now understand that the Department may not have made a determination as to whether any of the emission units or activities on the list should qualify as "trivial." This is an important issue to the FCG because only "trivial" activities can be omitted from the Title V permit application and permit, and ultimately omitted from emission estimates in the annual air operation reports under Rule 62-210.370(3), F.A.C. The FCG remains hopeful that the Department will consider its request to determine that most, if not all, of the emission units and activities on the May, 1996, list to be "trivial." We would like to discuss a possible resolution of this issue with you and your staff at the January 30 meeting.

8. Permit Shield--The FCG continues to be concerned about the language in Conditions 5 and 20 of Appendix TV-1, Title V Conditions, which circumvents the permit shield provisions under Section 403.0872(15), Florida Statutes, and Rule 62-213.460, F.A.C. The FCG believes that these conditions should be deleted in their entirety. To the extent that the Department attempt to caveat the applicability of those conditions, the FCG believes that it is important to cite to not only the regulatory citation for the permit shield but the statutory citation as well.

Thank you again for considering the FCG's comments on the draft Title V permits. We very much appreciate the cooperation we have received from the Department throughout the

Title V implementation process, and we look forward to our meeting later this week. If you have any questions in the meantime, please call me at 561-625-7661.

Sincerely,

Rich Piper

Rich Piper, Chair
FCG Air Subcommittee

Enclosures

cc: Howard L. Rhodes, DEP
John Brown, DEP
Pat Comer, DEP OGC
Scott M. Sheplak, DEP
Edward Svec, DEP
FCG Air Subcommittee
Angela Morrison, HGSS

S3601

AP-42
FIFTH EDITION
JANUARY 1995

COMPILATION OF AIR POLLUTANT EMISSION FACTORS

VOLUME I: STATIONARY POINT AND AREA SOURCES

Office Of Air Quality Planning And Standards
Office Of Air And Radiation
U. S. Environmental Protection Agency
Research Triangle Park, NC 27711

January 1995

Exhibit 2

1.4 Natural Gas Combustion

1.4.1 General[1-2]

Natural gas is one of the major fuels used throughout the country. It is used mainly for industrial process steam and heat production; for residential and commercial space heating; and for electric power generation. Natural gas consists of a high percentage of methane (generally above 80 percent) and varying amounts of ethane, propane, butane, and inerts (typically nitrogen, carbon dioxide, and helium). Gas processing plants are required for the recovery of liquefiable constituents and removal of hydrogen sulfide before the gas is used (see Section 5.3, Natural Gas Processing). The average gross heating value of natural gas is approximately 8900 kilocalories per standard cubic meter (1000 British thermal units per standard cubic foot), usually varying from 8000 to 9600 kcal/scm (900 to 1100 Btu/scf).

1.4.2 Emissions And Controls[3-5]

Even though natural gas is considered to be a relatively clean-burning fuel, some emissions can result from combustion. For example, improper operating conditions, including poor air/fuel mixing, insufficient air, etc., may cause large amounts of smoke, carbon monoxide (CO), and organic compound emissions. Moreover, because a sulfur-containing mercaptan is added to natural gas to permit leak detection, small amounts of sulfur oxides will be produced in the combustion process.

Nitrogen oxides (NO_x) are the major pollutants of concern when burning natural gas. Nitrogen oxide emissions depend primarily on the peak temperature within the combustion chamber as well as the furnace-zone oxygen concentration, nitrogen concentration, and time of exposure at peak temperatures. Emission levels vary considerably with the type and size of combustor and with operating conditions (particularly combustion air temperature, load, and excess air level in boilers).

Currently, the two most prevalent NO_x control techniques being applied to natural gas-fired boilers (which result in characteristic changes in emission rates) are low NO_x burners and flue gas recirculation. Low NO_x burners reduce NO_x by accomplishing the combustion process in stages. Staging partially delays the combustion process, resulting in a cooler flame which suppresses NO_x formation. The three most common types of low NO_x burners being applied to natural gas-fired boilers are staged air burners, staged fuel burners, and radiant fiber burners. Nitrogen oxide emission reductions of 40 to 85 percent (relative to uncontrolled emission levels) have been observed with low NO_x burners. Other combustion staging techniques which have been applied to natural gas-fired boilers include low excess air, reduced air preheat, and staged combustion (e.g., burners-out-of-service and overfire air). The degree of staging is a key operating parameter influencing NO_x emission rates for these systems.

In a flue gas recirculation (FGR) system, a portion of the flue gas is recycled from the stack to the burner windbox. Upon entering the windbox, the gas is mixed with combustion air prior to being fed to the burner. The FGR system reduces NO_x emissions by two mechanisms. The recycled flue gas is made up of combustion products which act as inerts during combustion of the fuel/air mixture. This additional mass is heated in the combustion zone, thereby lowering the peak flame temperature and reducing the amount of NO_x formed. To a lesser extent, FGR also reduces NO_x formation by lowering the oxygen concentration in the primary flame zone. The amount of flue gas recirculated is a key operating parameter influencing NO_x emission rates for these systems. Flue gas

recirculation is normally used in combination with low NO_x burners. When used in combination, these techniques are capable of reducing uncontrolled NO_x emissions by 60 to 90 percent.

Two post-combustion technologies that may be applied to natural gas-fired boilers to reduce NO_x emissions by further amounts are selective noncatalytic reduction and selective catalytic reduction. These systems inject ammonia (or urea) into combustion flue gases to reduce inlet NO_x emission rates by 40 to 70 percent.

Although not measured, all particulate matter (PM) from natural gas combustion has been estimated to be less than 1 micrometer in size. Particulate matter is composed of filterable and condensable fractions, based on the EPA sampling method. Filterable and condensable emission rates are of the same order of magnitude for boilers; for residential furnaces, most of the PM is in the form of condensable material.

The rates of CO and trace organic emissions from boilers and furnaces depend on the efficiency of natural gas combustion. These emissions are minimized by combustion practices that promote high combustion temperatures, long residence times at those temperatures, and turbulent mixing of fuel and combustion air. In some cases, the addition of NO_x control systems such as FGR and low NO_x burners reduces combustion efficiency (due to lower combustion temperatures), resulting in higher CO and organic emissions relative to uncontrolled boilers.

Emission factors for natural gas combustion in boilers and furnaces are presented in Tables 1.4-1, 1.4-2, and 1.4-3.[6] For the purposes of developing emission factors, natural gas combustors have been organized into four general categories: utility/large industrial boilers, small industrial boilers, commercial boilers, and residential furnaces. Boilers and furnaces within these categories share the same general design and operating characteristics and hence have similar emission characteristics when combusting natural gas. The primary factor used to demarcate the individual combustor categories is heat input.

Table 1.4-1 (Metric And English Units). EMISSION FACTORS FOR PARTICULATE MATTER (PM) FROM NATURAL GAS COMBUSTION[a]

Combustor Type (Size, 10^6 Btu/hr Heat Input) (SCC)[b]	Filterable PM[c]			Condensable PM[d]		
	$kg/10^6 m^3$	$lb/10^6 ft^3$	RATING	$kg/10^6 m^3$	$lb/10^6 ft^3$	RATING
Utility/large industrial boilers (> 100) (1-01-006-01, 1-01-006-04)	16 - 80	1 - 5	B	ND	ND	NA
Small industrial boilers (10 - 100) (1-02-006-02)	99	6.2	B	120	7.5	D
Commercial boilers (0.3 - < 10) (1-03-006-03)	72	4.5	C	120	7.5	C
Residential furnaces (< 0.3) (No SCC)	2.8	0.18	C	180	11	D

[a] References 9-14. All factors represent uncontrolled emissions. Units are kg of pollutant/10^6 cubic meters natural gas fired and lb of pollutant/10^6 cubic feet natural gas fired. Based on an average natural gas higher heating value of 8270 kcal/m^3 (1000 Btu/scf). The emission factors in this table may be converted to other natural gas heating values by multiplying the given emission factor by the ratio of the specified heating value to this average heating value. ND = no data. NA = not applicable.

[b] SCC = Source Classification Code.

[c] Filterable PM is that particulate matter collected on or prior to the filter of an EPA Method 5 (or equivalent) sampling train.

[d] Condensable PM is that particulate matter collected using EPA Method 202, (or equivalent). Total PM is the sum of the filterable PM and condensable PM. All PM emissions can be assumed to be less than 10 micrometers in aerodynamic equivalent diameter (PM-10).

Table 1.4-2 (Metric And English Units). EMISSION FACTORS FOR SULFUR DIOXIDE (SO_2), NITROGEN OXIDES (NO_x), AND CARBON MONOXIDE (CO) FROM NATURAL GAS COMBUSTION[a]

Combustor Type (Size, 10^6 Btu/hr Heat Input) (SCC)[b]	SO_2[c]			NO_x[d]			CO[e]		
	kg/10^6 m^3	lb/10^6 ft^3	RATING	kg/10^6 m^3	lb/10^6 ft^3	RATING	kg/10^6 m^3	lb/10^6 ft^3	RATING
Utility/large Industrial Boilers (> 100) (1-01-006-01, 1-01-006-04)									
Uncontrolled	9.6	0.6	A	8800	550[f]	A	640	40	A
Controlled - Low NO_x burners	9.6	0.6	A	1300	81[f]	D	ND	ND	NA
Controlled - Flue gas recirculation	9.6	0.6	A	850	53[f]	D	ND	ND	NA
Small Industrial Boilers (10 - 100) (1-02-006-02)									
Uncontrolled	9.6	0.6	A	2240	140	A	560	35	A
Controlled - Low NO_x burners	9.6	0.6	A	1300	81[f]	D	980	61	D
Controlled - Flue gas recirculation	9.6	0.6	A	480	30	C	590	37	C
Commercial Boilers (0.3 - <10) (1-03-006-03)									
Uncontrolled	9.6	0.6	A	1600	100	B	330	21	C
Controlled - Low NO_x burners	9.6	0.6	A	270	17	C	425	27	C
Controlled - Flue gas recirculation	9.6	0.6	A	580	36	D	ND	ND	NA
Residential Furnaces (<0.3) (No SCC)									
Uncontrolled	9.6	0.6	A	1500	94	B	640	40	B

[a] Units are kg of pollutant/10^6 cubic meters natural gas fired and lb of pollutant/10^6 cubic feet natural gas fired. Based on an average natural gas fired higher heating value of 8270 kcal/m^3 (1000 Btu/scf). The emission factors in this table may be converted to other natural gas heating values by multiplying the given emission factor by the ratio of the specified heating value to this average heating value. ND = no data. NA = not applicable.

[b] SCC = Source Classification Code.

[c] Reference 7. Based on average sulfur content of natural gas, 4600 g/10^6 Nm^3 (2000 gr/10^6 scf).

Table 1.4-2 (cont.).

[d] References 10,15-19. Expressed as NO_2. For tangentially fired units, use 4400 kg/10^6 m^3 (275 lb/10^6 ft^3). At reduced loads, multiply factor by load reduction coefficient in Figure 1.4-1. Note that NO_x emissions from controlled boilers will be reduced at low load conditions.

[e] References 9-10,16-18,20-21.

[f] Emission factors apply to packaged boilers only.

Table 1.4-3 (Metric And English Units). EMISSION FACTORS FOR CARBON DIOXIDE (CO_2) AND TOTAL ORGANIC COMPOUNDS (TOC) FROM NATURAL GAS COMBUSTION[a]

Combustor Type (Size, 10^6 Btu/hr Heat Input) (SCC)[b]	CO_2[c]			TOC[d]		
	kg/10^6 m^3	lb/10^6 ft^3	RATING	kg/10^6 m^3	lb/10^6 ft^3	RATING
Utility/large industrial boilers (> 100) (1-01-006-01, 1-01-006-04)	ND[e]	ND	NA	28[f]	1.7[f]	C
Small industrial boilers (10 - 100) (1-02-006-02)	1.9 E+06	1.2 E+05	D	92[g]	5.8[g]	C
Commercial boilers (0.3 - < 10) (1-03-006-03)	1.9 E+06	1.2 E+05	C	128[h]	8.0[h]	C
Residential furnaces (No SCC)	2.0 E+06	1.3 E+05	D	180[h]	11[h]	D

[a] All factors represent uncontrolled emissions. Units are kg of pollutant/10^6 cubic meters and lb of pollutant/10^6 cubic feet. Based on an average natural gas higher heating value of 8270 kcal/m^3 (1000 Btu/scf). The emission factors in this table may be converted to other natural gas heating values by multiplying the given factor by the ratio of the specified heating value to this average heating value. NA = not applicable.
[b] SCC = Source Classification Code.
[c] References 10,22-23.
[d] References 9-10,18.
[e] ND = no data.
[f] Reference 8: methane comprises 17% of organic compounds.
[g] Reference 8: methane comprises 52% of organic compounds.
[h] Reference 8: methane comprises 34% of organic compounds.

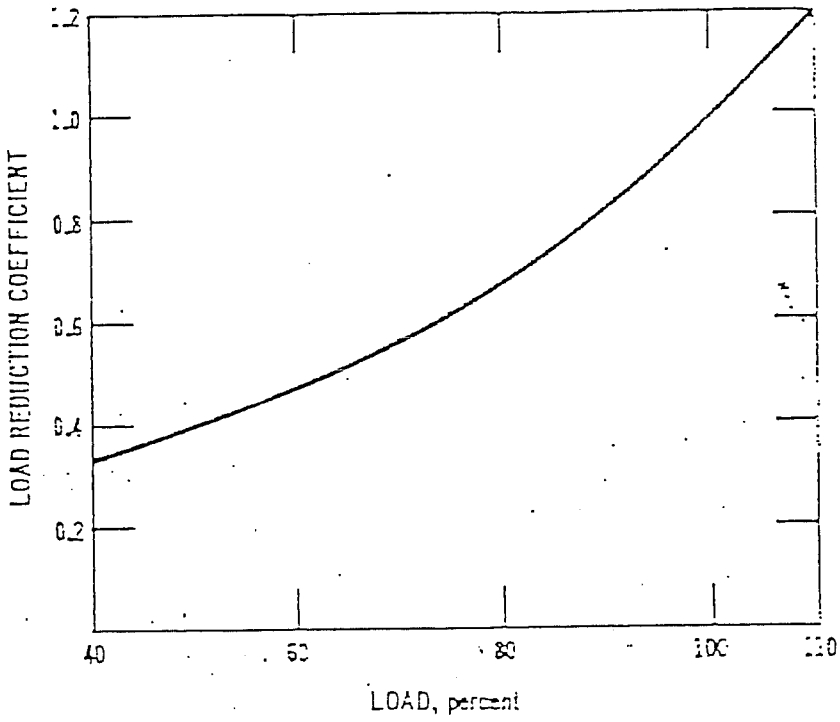

Figure 1.4-1. Load reduction coefficient as a function of boiler load. (Used to determine NO_x reductions at reduced loads in large boilers.)

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15. *Emissions Test on 200 HP Boiler at Kaiser Hospital in Woodland Hills*, Energy Systems Associates, Tustin, CA, June 1986.

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Department of Environmental Protection

Lawton Chiles
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Virginia B. Wetherell
Secretary

July 9, 1997

Certified Mail - Return Receipt Requested

Mr. Rich Piper, Chair
Florida Power Coordinating Group, Inc.
405, Reo Street, Suite 100
Tampa, Florida 33609-1004

Dear Mr. Piper:

Enclosed is a copy of a Scrivener's Order correcting an error in the Order concerning particulate matter testing of natural gas fired boilers.

If you have any questions concerning the above, please call Yogesh Manocha at 904/488-6140, or write to me.

Sincerely,

M. D. Harley, P.E., DEE
P.E. Administrator
Emissions Monitoring Section
Bureau of Air Monitoring and
Mobile Sources

MDH:ym

cc: Dotty Diltz, FDEP
Pat Comer, FDEP

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

In the matter of:	)	
	)	
Florida Electric Power Coordinating Group, Inc.,	)	ASP No. 97-B-01
	)	
Petitioner.	)	

ORDER CORRECTING SCRIVENER'S ERROR

The Order which authorizes owners of natural gas fired fossil fuel steam generators to forgo particulate matter compliance testing on an annual basis and prior to renewal of an operation permit entered on the 17th day of March, 1997, is hereby corrected on page 4, paragraph number 4, by deleting the words "pursuant to Rule 62-210.300(2)(a)3.b., c., or d., F.A.C.":

4. In renewing an air operation permit ~~pursuant to Rule 62-210.300(2)(a)3.b., c., or d., F.A.C.,~~ the Department shall not require submission of particulate matter emission compliance test results for any fossil fuel steam generator emissions unit that burned liquid and/or solid fuel for a total of no more than 400 hours during the year prior to renewal.

DONE AND ORDERED this 2 day of July, 1997 in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

HOWARD L. RHODES, Director
Division of Air Resources Management
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400
(904) 488-0114

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that a copy of the foregoing was mailed to Rich Piper, Chair, Florida Power Coordinating Group, Inc., 405 Reo Street, Suite 100, Tampa, Florida 33609-1004, on this 10TH day of July 1997.

Clerk Stamp

FILING AND ACKNOWLEDGMENT
FILED, on this date, pursuant to §120.52(7), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Martha Dwell Wise 7/10/97
Clerk Date

10.4.2 PPSA Modifications

List Of Hopkins Generating Station PPSA Modifications

Certification issued 5/20/75 by Pollution Control Board

Modified (A) 6/27/77; signed by Governor Graham

Modified (B) 05/30/79, signed by Secretary Varn

Modified (C) 10/05/84, signed by Secretary Tschinkel

Modified (D) 10/24/86, signed by Secretary Tschinkel

Modified (E) 10/21/87, signed by Secretary Twachtmann

Modified (F) 06/06/90, signed by Secretary Twachtmann

Modified (G) 05/18/94, signed by Secretary Wetherell

Modified (H) 01/03/01, signed by Deputy Secretary Green

Modified (I) 05/25/04, signed by Siting Administrator Oven

Modified (J) 11/29/04, signed by Siting Administrator Oven

Modified (K) 01/07/05; signed by Siting Administrator Oven

Modified (L) 01/07/05; signed by Siting Administrator Oven

Florida Department of Environmental Protection
City of Tallahassee
Arvah B. Hopkins Power Plant Site Certification Unit 2
Case No. PA 74-03M Modified 10/07/2005

CONDITIONS OF CERTIFICATION

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I. GENERAL

The following general and specific conditions shall apply to the construction and operation of the City of Tallahassee Arvah B. Hopkins Unit 2.

A. Definitions

The meaning of the terms used herein shall be governed by the definitions contained in Chapters 403, and 373, Florida Statutes (F.S.), and any regulation adopted pursuant thereto and the statutes and regulations of any agency. In the event of any dispute over the meaning of a term used in these conditions which is not defined in such statutes or regulations, such dispute shall be resolved by reference to the most relevant definitions contained in any other state or federal statute or regulation or, in the alternative, by the use of the commonly accepted meaning as determined by the Department. As used herein:

1. “Application” shall mean the Site Certification Application (SCA) for the
Arvah B. Hopkins Unit 2, as supplemented.

2. "DEP" or “Department” shall mean the Florida Department of Environmental Protection.

3. "DHR" shall mean the Florida Department of State, Division of Historical Resources.

4. "FWCC" shall mean the Florida Fish and Wildlife Conservation Commission.

5. "Licensee/permittee" shall mean an applicant which has obtained a certification order for the subject electrical power plant, in this instance, the City of Tallahassee.

6. "Project" and “power plant” shall mean the Arvah B Hopkins Unit 2 and all associated facilities, including but not limited to: the fossil fuel fired generating unit, fuel and water storage tanks, natural gas delivery pipes, industrial wastewater treatment facilities, air pollution control equipment, storm water control facilities, the cooling tower and related facilities.

7. “NWFWMD” shall mean the Northwest Florida Water Management District.

B. Applicable Rules

The construction and operation of the Arvah B Hopkins Unit 2 shall be in accordance with all applicable provisions of at least the following regulations of DEP: Chapters 62-4, 62-17, 62-25, 62-814, 62-256, 62-296, 62-297, 62-301, 62-302, 62-531, 62-532, 62-550, 62-610, 62-620, 62-621, 62-650, 62-699, 62-660, 62-701, 62-769, 62-770, and 62-814, Florida Administrative Code (F.A.C.), or their successors as they are renumbered.

II. CHANGE IN DISCHARGE

All discharges or emissions authorized herein shall be consistent with the terms and conditions of this certification. The discharge of any pollutant identified in this certification more frequent than or at a level in excess of that authorized shall constitute a violation of the certification. Any anticipated facility expansions, production increases, or process modifications which will result in new, different or increased discharges of pollutants or expansion in steam generating capacity must be reported by submission of a new application.

III. GENERAL CONDITIONS

A. Facilities Operation

1. The Licensee shall at all times maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems installed or used by the Licensee to achieve compliance with the terms and conditions of this certification.

2. In the event of a prolonged [thirty (30) days or more] equipment malfunction or shutdown of pollution control equipment, operation may be allowed to resume and continue to take place under an appropriate Department order, provided that the Licensee demonstrates that such operation will be in compliance with all applicable ambient air quality standards and PSD increments, solid waste rules, domestic wastewater rules and industrial wastewater rules. During such malfunction or shutdown, the operation of the Arvah Hopkins Unit 2 shall comply with all other requirements of this certification and all applicable state and federal emission and effluent standards not affected by the malfunction or shutdown which is the subject of the Department's order.

3. The Licensee shall insure that the project complies with the applicable provisions of stormwater discharge requirements of Rule 62-25, F.A.C. and the general conditions of Rule 62-4.540, F.A.C.

B. Non-Compliance Notification

If, for any reason, the Licensee (defined as the applicant or its successors and/or assigns), does not comply with or will be unable to comply with any limitation specified in this certification, the Licensee shall notify the Department's Northwest District office in Pensacola any noncompliance. Any information shall be provided orally within 24 hours from the time the Licensee becomes aware of the circumstances. A written submission shall also be provided within five days of the time the Licensee becomes aware of the circumstances. The written submission shall contain: a description of the noncompliance and its cause; the period of noncompliance including exact dates and time, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

C. Enforcement

The Department may take any and all lawful actions as it deems appropriate to enforce any condition of this certification.

D. Certification - General Conditions

1. This certification is transferable only upon Department approval in accordance with Section 403.516, F.S., Rules 62-4.120 and 62-730.300, F.A.C., as applicable. The City of Tallahassee shall be liable for any noncompliance of the approved activity until the transfer is approved by the Department.

2. These conditions of certification or a copy thereof shall be kept at the work site of the approved activity.

3. The City of Tallahassee shall comply with the following:

a. Upon request, the City of Tallahassee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.

b. The City of Tallahassee shall hold at the facility or other location designated by this approval records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the approval, copies of all reports required by this approval, and records of all data used to complete the application for this approval. These materials shall be retained at least three (3) years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule. Data utilized to prepare the application may be maintained at the following locations:

City of Tallahassee
Arvah B. Hopkins Generating Station
1125 Geddie Road
Tallahassee, FL 32304

City of Tallahassee
City Hall
300 South Adams Street
Tallahassee, FL 32301-1731

*or subsequent principle office location.

c. Records of monitoring information shall include:

i. the date, exact place, and time of sampling or measurements;

ii. the person responsible for performing the sampling or measurements;

iii. the dates analyses were performed;

iv. the person responsible for performing the analyses;

v. the analytical techniques or methods used;

vi. the results of such analyses.

4. The Licensee, by accepting these Conditions, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law, and at reasonable times, depending upon the nature of the concern being investigated, to

a. Enter upon the Licensee's premises where a regulated facility, system, or activity is located or conducted, or where records shall be kept under these Conditions;

b. Have access to and copy any records that shall be kept under the conditions of these Conditions;

c. To inspect any monitoring equipment or monitoring method required in this certification and to sample any discharge or pollutants; and

d. Sample or monitor any substances or parameters at any location necessary to assure compliance with these Conditions or Department rules.

5. When requested by the Department, the Licensee shall within a reasonable time provide any information required by law which is needed to determine compliance with the certification or any subsequently issued federally delegated or approved permit. The Licensee shall also provide to the Department upon request copies of records required by these Conditions to be kept. If the Licensee becomes aware of relevant facts that were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be promptly submitted or corrections promptly reported to the Department.

6. The Licensee shall give the Department written notice at least 60 days before inactivation or abandonment of a wastewater facility and shall specify what steps will be taken to safeguard public health and safety during and following inactivation or abandonment.

7. Water quality sampling and monitoring data shall be collected and analyzed in accordance with Rule 62-4.246, Chapters 62-160 and 62-601, F.A.C., and 40 CFR 136, as appropriate.

a. Monitoring results shall be reported at the intervals specified elsewhere in these Conditions and shall be reported on a Discharge Monitoring Report (DMR), DEP Form 62-620.910(10).

b. If the Licensee monitors any contaminant more frequently than required by the permit, using Department approved test procedures, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR.

c. Calculations for all limitations which require averaging of measurements shall use an arithmetic mean unless otherwise specified in these Conditions.

d. Under Chapter 62-160, F.A.C., filed procedures for sample collection and laboratory methods shall be performed by following the protocols described in DEP-SOP-001/01 (January 2002). Alternate field procedures and laboratory methods may be used where they have been approved according to the requirements of Rules 62-160.220, 62-160.330, and 62-160.600, F.A.C.

E. Laboratories and Quality Assurance for Wastewater Discharges

1. Any laboratory test required by this permit shall be performed by a laboratory that has been certified by the Department of Health (DOH) under Chapter 64E-1, F.A.C., where such certification is required by Rule 62-160.300(4), F.A.C. For domestic

wastewater facilities, the on-site test procedures specified in Rule 62-160.300(4), F.A.C., shall be performed by a laboratory certified test for those parameters or under the direction of an operator certified under Chapter 62-602, F.A.C.

2. When a contract laboratory is used to analyze samples required pursuant to this certification, the Licensee is required to have the samples taken by qualified personnel following EPA and Department approved sampling procedures and chain-of-custody requirements in accordance with Rule 62-160, F.A.C.

F. Procedures for Post-Certification Submittals

1. Purpose of Submittals

Conditions of certification which provide for the post-certification submittal of information to DEP by the City of Tallahassee are for the purpose of facilitating DEP's monitoring of the effects arising from the location of the transmission line ROW and the construction and maintenance of the reclaimed water pipeline and the plant facilities. This monitoring is for DEP to assure, in consultation with other agencies with applicable regulatory jurisdiction, continued compliance with the conditions of certification, without any further agency action.

2. Filings

All post-certification submittals of information by the City of Tallahassee are to be filed with DEP. Copies of each submittal shall be simultaneously submitted to any other agency indicated in the specific conditions requiring the post-certification submittals.

3. Completeness

The DEP shall promptly review each post-certification submittal for completeness. This review shall include consultation with the other agencies receiving the post-certification submittal. For the purposes of this condition, completeness shall mean that the information submitted is both complete and sufficient. If found to be incomplete, The City of Tallahassee shall be so notified. Failure to issue such a notice within forty-five (45) days after filing of the submittal shall constitute a finding of completeness.

4. Interagency Meetings

Within sixty (60) days of the filing of a complete post-certification submittal, DEP may conduct an interagency meeting with other agencies which received copies of the submittal. The purpose of such an interagency meeting shall be for the agencies with regulatory jurisdiction over the matters addressed in the post-certification submittal to discuss whether reasonable assurance of compliance with the conditions of certification has been provided. Failure of any agency to attend an interagency meeting shall not be grounds for DEP to withhold a determination of compliance with these conditions nor to delay the time frames for review established by these conditions.

5. Reasonable Assurance of Compliance

Within ninety (90) days of the filing of a complete post-certification submittal, or 45 days after a submittal is made by the applicant, or unless another date is specified herein, DEP shall give written notification to the City of Tallahassee and the agencies to which the post-certification information was submitted of its determination whether there is reasonable assurance of compliance with the conditions of certification. If it is determined that reasonable assurance has not been provided, the City of Tallahassee shall be notified with particularity and possible corrective measures suggested. Failure to notify The City of Tallahassee in writing within ninety (90) days of receipt of a complete post-certification submittal shall constitute a compliance determination.

IV. ADVERSE IMPACT

The Licensee shall take all reasonable steps to minimize any adverse impact resulting from noncompliance with any limitation specified in this certification, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge. The Licensee shall not adversely impact any jurisdictional wetland without prior approval. (403.511(5)(a), F.S., 62-4.050, F.A.C. and 62-343, F.A.C.)

V. RIGHT OF ENTRY

The Licensee shall allow during normal business hours the Secretary of the Florida Department of Environmental Protection and/or authorized representatives, including representatives of the NWFWMD upon the presentation of credentials:

A. To enter upon the Licensee's premises where an emission or effluent source is located or in which records are required to be kept under the terms and conditions of this certification

B. To have access during normal business hours (Monday - Friday, 7:00 a.m. to 3:30 p.m.) to any records required to be kept under the conditions of this certification for examination and copying;

C. To inspect and test any monitoring equipment or monitoring method required in this certification and to sample any discharge or pollutants, or monitor any substances or parameters at any location reasonably necessary to assure compliance with this certification or Department rules; and,

D. To assess any damage to the environment or violation of ambient standards.

VI. REVOCATION OR SUSPENSION

After notice and opportunity for a hearing, this certification may be suspended, or revoked in whole or in part during its terms for cause including, but not limited to, the provision or Section 403.512, Chapter 403, Florida Statutes.

VII. CIVIL AND CRIMINAL LIABILITY

Nothing in this certification shall preclude the institution of any legal action or relieve the from responsibilities, or penalties established pursuant to any applicable State Statutes, or Regulation, including Departmental rules and regulations promulgated by the Department pursuant to Chapter 403, F.S.

VIII. PROPERTY RIGHTS

The issuance of this certification does not convey any property rights in either real or personal property, nor any exclusive privileges, nor does it authorize any injury to public or private property or any invasion of personal rights nor any infringement of federal, state or local laws or regulations. This certification conveys no title to land or water, does not constitute state recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.

IX. SEVERABILITY

The provisions of this certification are severable, and if any provision of this certification or the application of any provision of this certification to any circumstances, is held invalid, the application of such provisions to other circumstances and the remainder of the certification shall not be affected thereby.

X. REVIEW OF SITE CERTIFICATION

The certification shall be final unless revised, revoked, or suspended pursuant to law. At least every five (5) years from the date of issuance of certification the Department may review these conditions of certification and propose any needed changes.

XI. CERTIFICATION PERIOD

This certification shall be in perpetuity as to the use as a steam electric generating unit, provided all conditions of certification are complied with, and subject to the Florida Electric Power Plant Siting Law, Section 403.501-403.519, F.S., and amendments thereto.

XII. MODIFICATION OF CONDITIONS

A. The Department may modify the provisions of the special conditions dealing with sampling, monitoring, reporting, and specifications for control equipment or related time schedules as necessary to attain the objectives of Chapter 403, Florida Statutes, upon mutual agreement with the Licensee. Such modifications and agreement shall be in writing. Such modifications will not take effect until after prominent public notice giving a period of thirty (30) days for public review and comment of the Department's intent to modify said special conditions. If requested, the Secretary may provide opportunity for a public hearing on the proposed modifications prior to taking final agency action.

B. For modifications in relation to federally delegated or approved permit programs, if no written objection is raised following notice to the parties and the public pursuant to Section 403.516(1)(b), F.S., the department shall modify a certification order and conditions of certification to conform to any subsequent department-issued amendments, modifications or renewals of any separately-issued prevention of significant deterioration (PSD) permit, Title V Air Operation permit, National Pollutant Discharge Elimination System (NPDES) permit or any other permit for the certified electrical power plant issued by the department under a federally delegated or approved permit program so long as no state rule exists which conflicts or is more stringent than the provisos of the federal permits.

XIII. AIR

Arvah Hopkins Unit No. 2 shall be operated in accordance with Title V Air Operation Permit No. 0730003-007-AV and Chapters 62-210, 62-212, 62-213, 62-296, and 62-297, F.A.C.

A. Operation

1. Permitted Capacity. The maximum operation heat input rate is as follows:

Emission Unit No.	mmBtu/hr Heat Input	Fuel Type

-004	2,500	Natural Gas
	2,325	No. 2 - No. 6 Fuel Oil; On-Specification Used Oil

Note: When a blend of fuel oil and natural gas is fired, the allowable heat input is prorated based on the percent heat input of each fuel.
[Rules 62-4.160(2), 62-210.200(PTE) & 62-296.405, F.A.C.; and, Applicant request dated June 8, 1997.]

{Permitting note: The heat input limitations have been placed in each permit to identify the capacity of each unit for the purposes of confirming that emissions testing is conducted within 90 to 100 percent of the unit's rated capacity (or to limit future operation to 110 percent of the test load), to establish appropriate emission limits and to aid in determining future rule applicability. Regular record keeping is not required for heat input. Instead, the owner or operator is expected to determine heat input whenever emission testing is required, to demonstrate at what percentage of the rated capacity that the unit was tested. Rule 62-297.310(5), F.A.C., included in the permit, requires measurement of the process variables for emission tests. Such heat input determination may be based on measurements of fuel consumption by various methods including but not limited to fuel flow metering or tank drop measurements, using the heat value of the fuel determined by the fuel vendor or the owner or operator, to calculate average hourly heat input during the test.}

2. Emissions Unit Operating Rate Limitation After Testing. See specific condition C.10**.** [Rule 62-297.310(2), F.A.C.]

3. Methods of Operation.

a. Fuels. The fuels that are allowed to be burned in this boiler are natural gas and/or new No. 2 through No. 6 fuel oil and/or on-specification used oil (See Specific Condition XIII.D). In case of a natural gas curtailment, liquefied petroleum gas (LPG) may be used as an igniter fuel for the fuel oil.

b. Other. Fuel additives typically of a magnesium oxide, hydroxide, sulfonate, or calcium nitrate origin may be used.
[Rule 62-213.410, F.A.C.; and, Applicant's request in Title V permit renewal application dated July 1, 2002.]

4. Hours of Operation. This emissions unit may operate continuously, i.e. 8760 hours/year. The permittee shall maintain an operation log available for Department inspection that documents the total hours of annual operation, including a detailed account of the hours operated on each of the allowable fuels.
[Rule 62-210.200(PTE), F.A.C.; and, applicant request in Title V permit renewal application received July 1, 2002.]

B. Emission Limitations and Standards.

1. Visible Emissions. Visible emissions shall not exceed 20 percent opacity, except for one six-minute period per hour during which opacity shall not exceed 27 percent.
[Rule 62-296.405(1)(a), F.A.C.; and applicant request.]

2. Visible Emissions. Visible emissions shall not exceed 60 percent opacity during the 3-hours in any 24 hour period of excess emissions allowed for boiler

cleaning (soot blowing) and load change.
[Rule 62-210.700(3), F.A.C.]

3. Particulate Matter. Particulate matter emissions shall not exceed 0.1 pound per million Btu heat input, as measured by applicable compliance methods.
[Rule 62-296.405(1)(b), F.A.C.]

4. Particulate Matter. Particulate matter emissions shall not exceed an average of 0.3 pound per million Btu heat input during the 3-hours in any 24 hour period of excess emissions allowed for boiler cleaning (soot blowing) and load change.

A load change occurs when the operational capacity of a unit is in the 10 percent to 100 percent capacity range, other than startup or shutdown, which exceeds 10 percent of the unit's rated capacity and which occurs at a rate of 0.5 percent per minute or more.
[Rule 62-210.700(3), F.A.C.]

5. Sulfur Dioxide. Sulfur dioxide emissions when burning liquid fuel shall not exceed 1.87 pounds per million Btu heat input, as measured by applicable compliance methods. [Rule 62-296.405(1)(c)1.h., F.A.C.]

6. Sulfur Dioxide. For compliance purposes, the following limit supersedes the limit contained in Condition B.5. Sulfur dioxide emissions shall not exceed 1.4 pounds per million Btu heat input, as measured by applicable compliance methods. Any calculations used to demonstrate compliance shall be based solely on the heating value, quantities, and the percent sulfur of the liquid and gaseous fuels being burned. (See specific conditions XIII.B.7**.** & XIII.C.8.)
[Rule 62-204.220 & .240, F.A.C.; AO37-242825 specific condition 4; and, Applicant's request in Title V permit renewal application received July 1, 2002.]

7. Fuel Sulfur. Fuel sulfur content (percent, by weight) shall be determined by a fuel analysis representative of all "as-fired" fuels. Prior to burning any fuels in the boiler pursuant to this permit, receipts of the analyses of the existing fuels shall have been received by the City in order to use their values and calculate a maximum allowable fuel blend of natural gas and fuel oil. Upon subsequent fuel deliveries, if the vendor's delivery receipts indicate that the sulfur content of the delivered fuel is greater than the sulfur content established by the previous analysis, then a new maximum allowable fuel blend shall be calculated using the assumption that any future fuel fired contains the higher sulfur content. The resulting maximum allowable fuel blend shall be adhered to until such time that a more accurate analysis has been provided. If the vendor's delivery receipt indicates that the sulfur content of the delivered fuel is less than the sulfur content previously established, a new analysis is only necessary if the permittee wishes to adjust the previously established maximum allowable fuel blend. (See specific conditions XIII.B.7**.** and XIII.C.8.)
[Rules 62-4.070(3) & 62-296.405(1)(c)3., F.A.C.; and, Applicant Requests dated June 18, 1997 & July 1, 2002.]

8. Nitrogen Oxide. Nitrogen oxide emissions shall not exceed 0.3 pounds

per million Btu heat input, as measured by applicable compliance methods.
[Rule 62-296.405(1)(d)3., F.A.C.]

Excess Emissions.

9. Excess emissions resulting from malfunction shall be permitted provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration.
[Rule 62-210.700(1), F.A.C.]

10. Excess emissions resulting from startup or shutdown shall be permitted provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized.
[Rule 62-210.700(2), F.A.C.]

11. Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown or malfunction shall be prohibited.
[Rule 62-210.700(4), F.A.C.]

12. Excess visible emissions resulting from fuel switching, startup or shutdown of an individual burner, or minor load changes shall be permitted provided that best operational practices to minimize emissions are adhered to and the duration of such excess visible emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration. A "minor load" change means a change in the operational load of the unit, other than startup or shutdown, which is between 2 percent and 10 percent of the unit's rated capacity and occurs at a rate of 0.5 percent per minute or more.
[Rule 62-210/700(5), F.A.C.; and 0730003-006-AC]

C. Monitoring of Operations.

{Permitting Note: In accordance with the Acid Rain Phase II requirements, the following continuous monitors are installed on this unit: Gas Fuel Flow, Oil Fuel Flow, NO_X and CO_2.}
[Rules 62-296.405(1)(f)1.c. & d., 62-214.320 and 62-214.330, F.A.C.; 40 CFR Part 75 Appendix D, Section 2.1]}

1. Sulfur Dioxide. The Licensee elected to demonstrate compliance using fuel sampling and analysis. This protocol is allowed because the emissions unit does not have an operating flue gas desulfurization device. See specific conditions XIII.B.7. and XIII.C.8**.** of these conditions. [Rule 62-296.405(1)(f)1.b., F.A.C.]

2. Nitrogen Oxides. For emission units that are subject to continuous monitoring requirements under 42 U.S.C. sections 7661-7661f or 40 CFR Part 75, compliance with nitrogen oxides emission limits shall be demonstrated based on a 30-day rolling average, except as specifically provided by 40 CFR Parts 60 or 76.
[Rule 62-296.405(1)(e)4., F.A.C.]

3. Determination of Process Variables.

a. Required Equipment. The owner or operator of an emissions unit for which compliance tests are required shall install, operate, and maintain equipment or instruments necessary to determine process variables, such as process weight input or heat input, when such data are needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.

b. Accuracy of Equipment. Equipment or instruments used to directly or indirectly determine process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value.
[Rule 62-297.310(5), F.A.C.]

4. Visible emissions. The test method for visible emissions shall be DEP Method 9, incorporated in Chapter 62-297, F.A.C. A transmissometer may be used and calibrated according to Rule 62-297.520, F.A.C. See specific condition XII.C.5.
[Rule 62-296.405(1)(e)1., F.A.C.]

5. DEP Method 9. The provisions of EPA Method 9 (40 CFR 60, Appendix A) are adopted by reference with the following exceptions:

a. EPA Method 9, Section 2.4, Recording Observations. Opacity observations shall be made and recorded by a certified observer at sequential fifteen second intervals during the required period of observation.

b. EPA Method 9, Section 2.5, Data Reduction. For a set of observations to be acceptable, the observer shall have made and recorded, or verified the recording of, at least 90 percent of the possible individual observations during the required observation period. For single-valued opacity standards (e.g., 20 percent opacity), the test result shall be the highest valid six-minute average for the set of observations taken. For multiple-valued opacity standards (e.g., 20 percent opacity, except that an opacity of 40 percent is permissible for not more than two minutes per hour) opacity shall be computed as follows:

i. For the basic part of the standard (i.e., 20 percent opacity), the opacity shall be determined as specified above for a single-valued opacity standard.

ii. For the short-term average part of the standard, opacity shall be the highest valid short-term average (i.e., two-minute, three-minute average) for the set of observations taken.

In order to be valid, any required average (i.e., a six-minute or two-minute average) shall be based on all of the valid observations in the sequential subset of observations selected, and the selected subset shall contain at least 90 percent of the observations possible for the required averaging time. Each required average shall be calculated by summing the opacity value of each of the valid observations in the

appropriate subset, dividing this sum by the number of valid observations in the subset, and rounding the result to the nearest whole number. The number of missing observations in the subset shall be indicated in parenthesis after the subset average value. [Rule 62-297.401(9)(c), F.A.C.]

6. Particulate Matter. The test methods for particulate emissions shall be EPA Methods 17, 5, 5B, or 5F, incorporated by reference in Chapter 62-297, F.A.C. The minimum sample volume shall be 30 dry standard cubic feet. EPA Method 5 may be used with filter temperature no more than 320 degrees Fahrenheit. For EPA Method 17, stack temperature shall be less than 375 degrees Fahrenheit. The owner or operator may use EPA Method 5 to demonstrate compliance. EPA Method 3 or 3A with Orsat analysis shall be used when the oxygen based F-factor, computed according to EPA Method 19, is used in lieu of heat input. Acetone wash shall be used with EPA Method 5 or 17.
[Rules 62-296.405(1)(e)2. and 62-297.401, F.A.C.]

7. Sulfur Dioxide. The test methods for sulfur dioxide emissions shall be EPA Methods 6, 6A, 6B, or 6C, incorporated by reference in Chapter 62-297, F.A.C. Fuel sampling and analysis may be used as an alternate sampling procedure if such a procedure is incorporated into the operation permit for the emissions unit. If the emissions unit obtains an alternate procedure under the provisions of Rule 62-297.620, F.A.C., the procedure shall become a condition of the emissions unit's permit. The Department will retain the authority to require EPA Method 6 or 6C if it has reason to believe that exceedances of the sulfur dioxide emissions limiting standard are occurring. Results of an approved fuel sampling and analysis program shall have the same effect as EPA Method 6 test results for purposes of demonstrating compliance or noncompliance with sulfur dioxide standards. The Licensee may use the EPA test methods, referenced above, to demonstrate compliance; however, as an alternate sampling procedure authorized by permit, the Licensee elected to demonstrate compliance by using fuel sampling and analysis. See specific conditions B.7. and C.8.
[Rules 62-213.440, 62-296.405(1)(e)3., 62-296.405(1)(f)1.b. and 62-297.401, F.A.C.; and, AO37-242825.]

8. The following fuel sampling and analysis protocol shall be used as an alternate sampling procedure authorized by permit to demonstrate compliance with the sulfur dioxide standard and to provide the necessary values needed to calculate a maximum allowable fuel blend:

a. Establish and maintain a record of the sulfur content (percent, by weight) of the "as-fired" fuel oil using either ASTM D2622-92, ASTM D4294-90, both ASTM D4057-88 and ASTM D129-91, or equivalent, to analyze a representative sample of the blended fuel following each fuel delivery. This record may be maintained either by;

i. retaining the delivery receipts that are provided by the fuel oil vendor (which indicates that the proper ASTM test methods have been followed) each time a fuel oil delivery is received, or;

ii. by “as-fired” sample results provided by the Licensee.

b. Establish and maintain a record of the sulfur content of the “as-fired” natural gas using either ASTM D1072-90(94)E-1, ASTM D3031-81(86), ASTM D3246-92, ASTM D4084-94, ASTM D5504-94, or equivalent. This record may be maintained either by;

i. retaining delivery receipts provided by the natural gas vendor (which indicates that the proper ASTM test methods have been followed and which shall be provided, at a minimum, each time there is a measurable increase in the sulfur content of the natural gas), or;

ii. by on-site sample results provided by the Licensee, or;

iii. by utilizing the FERC Tariff guaranteed maximum sulfur content of 10 grains per 100 cubic feet of natural gas as a “default value”.

c. Establish and maintain a record of either the density (using ASTM D 1298-80, or equivalent), or the mass, and the calorific heat value in Btu per pound (using ASTM D 240-76, or equivalent), of the fuel oil combusted. This record may be maintained either by;

i. retaining the delivery receipts that are provided by the fuel oil vendor (which indicates that the proper ASTM test methods have been followed) each time a fuel oil delivery is received, or;

ii. by on-site sample results provided by the Licensee, or;

iii. by utilizing data provided by a certified continuous mass flow monitor in accordance with 40 CFR 75, Appendix D.

d. Record daily the amount of each fuel fired, the sulfur content (percent, by weight) of each fuel, either the density or mass of the fuel oil, and the calorific heat value of each fuel. For all fuels fired, the highest value for any parameter (i.e., density, calorific heat value, etc.) that has been established by the vendor’s receipt shall be utilized until an as-fired fuel analysis is received to establish a new value for the parameter in question.

e. Utilize the information in a., b. c. and d., above, to calculate the SO_2 emission rate to ensure compliance at all times.

[Rules 62-213.440, 62-296.405(1)(e)3., 62-296.405(1)(f)1.b. & 62-297.440, F.A.C.; and, Applicant Requests dated July 10, 1997 & July 1, 2002]

9. Required Number of Test Runs. For mass emission limitations, a compliance test shall consist of three complete and separate determinations of the total air pollutant emission rate through the test section of the stack or duct and three complete and separate determinations of any applicable process variables corresponding to the three distinct time periods during which the stack emission rate was measured provided,

however, that three complete and separate determinations shall not be required if the process variables are not subject to variation during a compliance test, or if three determinations are not necessary in order to calculate the unit's emission rate. The three required test runs shall be completed within one consecutive five day period. In the event that a sample is lost or one of the three runs must be discontinued because of circumstances beyond the control of the owner or operator, and a valid third run cannot be obtained within the five day period allowed for the test, the Secretary or his or her designee may accept the results of the two complete runs as proof of compliance, provided that the arithmetic mean of the results of the two complete runs is at least 20 percent below the allowable emission limiting standards.
[Rule 62-297.310(1), F.A.C.]

10. Operating Rate During Testing.

Testing of emissions shall be conducted with the source operating at permitted capacity. Permitted capacity is defined as 90-100% of the maximum operating rate allowed by this certification. If it is impracticable to test at permitted capacity, then sources may be tested at less than capacity; in this case subsequent source operation is limited to 110% of the test load until a new test is conducted. Once the unit is so limited, then operation at higher capacities is allowed for no more than fifteen consecutive days for purposes of additional compliance testing to regain the permitted capacity in the conditions of certification.
[Rules 62-297.310(2) & (2)(b), F.A.C.]

11. Operating Conditions During Testing. If particulate matter and visible emissions tests are required, the tests shall be conducted concurrently and shall be performed using the maximum fuel oil to natural gas ratio that can be fired while meeting the standards.
[Rule 62-4.070(3), F.A.C.; and, Applicant requests dated June 18, 1997 & July 1, 2002.]

12**.** Calculation of Emission Rate. The indicated emission rate or concentration shall be the arithmetic average of the emission rate or concentration determined by each of the separate test runs unless otherwise specified in a particular test method or applicable rule. [Rule 62-297.310(3), F.A.C.]

13. Applicable Test Procedures.

a. Required Sampling Time.

i. Unless otherwise specified in the applicable rule, the required sampling time for each test run shall be no less than one hour and no greater than four hours, and the sampling time at each sampling point shall be of equal intervals of at least two minutes.

ii. Opacity Compliance Tests. When either EPA Method 9 or DEP Method 9 is specified as the applicable opacity test method, the required minimum

period of observation for a compliance test shall be sixty (60) minutes for emissions units which emit or have the potential to emit 100 tons per year or more of particulate matter, and thirty (30) minutes for emissions units which have potential emissions less than 100 tons per year of particulate matter and are not subject to a multiple-valued opacity standard. The opacity test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur. Exceptions to these requirements are as follows:

iii. The minimum observation period for opacity tests conducted by employees or agents of the Department to verify the day-to-day continuing compliance of a unit or activity with an applicable opacity standard shall be twelve minutes.

b. Minimum Sample Volume. Unless otherwise specified in the applicable rule, the minimum sample volume per run shall be 25 dry standard cubic feet.

c. Required Flow Rate Range. For EPA Method 5 particulate sampling, acid mist/sulfur dioxide, and fluoride sampling which uses Greenburg Smith type impingers, the sampling nozzle and sampling time shall be selected such that the average sampling rate will be between 0.5 and 1.0 actual cubic feet per minute, and the required minimum sampling volume will be obtained.

d. Calibration of Sampling Equipment. Calibration of the sampling train equipment shall be conducted in accordance with the schedule shown in Table 297.310-1.

e. Allowed Modification to EPA Method 5. When EPA Method 5 is required, the following modification is allowed: the heated filter may be separated from the impingers by a flexible tube. [Rule 62-297.310(4), F.A.C.]

TABLE 297.310-1
CALIBRATION SCHEDULE

ITEM	MINIMUM CALIBRATION FREQUENCY	REFERENCE INSTRUMENT	TOLERANCE
Liquid in glass thermometer	Annually	ASTM Hg in glass ref. thermometer or equivalent, or thermometric points	+/-2%
Bimetallic thermometer	Quarterly	Calib. liq. in glass thermometer	5 degrees F
Thermocouple	Annually	ASTM Hg in glass ref. thermometer, NBS calibrated reference and potentiometer	5 degrees F
Barometer	Monthly	Hg barometer or NOAA station	+/-1% scale

Pitot Tube	When required or when damaged	By construction or measurements in wind tunnel D greater than 16" and standard pitot tube	See EPA Method 2, Fig. 2-2 & 2-3
Probe Nozzles	Before each test or when nicked, dented, or corroded	Micrometer	+/-0.001" mean of at least three readings Max. deviation between readings .004"
Dry Gas Meter and Orifice Meter	1. Full Scale: When received, When 5% change observed, Annually 2. One Point: Semiannually 3. Check after each test series	Spirometer or calibrated wet test or dry gas test meter Comparison check	2% 5%

14. Required Stack Sampling Facilities. When a mass emissions stack test is required, the Licensee shall comply with the requirements contained in Appendix SS-1, Stack Sampling Facilities, attached to permit 0730003-00~~3~~7-AV.

A suitably installed and accessible stack sampling platform as approved by the Department of Environmental Protection will be provided on the Unit No. 2 stack. Stack Sampling tests for particulates shall be performed annually before the end of the federal fiscal year (September 30th) in conformance with Chapter 62-297, F.A.C, and in conformance with DEP methods or EPA methods 1, 2, 3, and 5 or 17 or as otherwise approved by the Department. In accordance with Rule 62-297.310(7)(a)5., F.A.C., no particulate or visible emission tests shall be required in any federal fiscal year in which the fossil fuel steam generator did not burn fuel oil for more than 400 hours other than during startup. Results of the stack tests shall be submitted to the Northwest District Office of the Department within 45 days after completion of the tests. The City of Tallahassee shall notify the Department at least 15 days prior to the stack test to allow witnessing, whenever possible, of the test. The Department may waive the 15-day notice requirement on a case-by-case basis. [Rule 62-297.310(6), F.A.C.]

15. Frequency of Compliance Tests. The following provisions apply only to those emissions units that are subject to an emissions limiting standard for which compliance testing is required.

a. General Compliance Testing.

i. For excess emission limitations for particulate matter specified in Rule 62-210.700, F.A.C., a compliance test shall be conducted annually while the emissions unit is operating under soot blowing conditions in each federal fiscal year

during which soot blowing is part of normal emissions unit operation, except that such test shall not be required in any federal fiscal year in which a fossil fuel steam generator does not burn liquid for more than 400 hours other than during startup.

ii. The owner or operator of an emissions unit that is subject to any emission limiting standard shall conduct a compliance test that demonstrates compliance with the applicable emission limiting standard prior to obtaining a renewed operation permit. Emissions units that are required to conduct an annual compliance test may submit the most recent annual compliance test to satisfy the requirements of this provision. In renewing an air operation permit pursuant to Rule 62-210.300(2)(a)3.b., c., or d., F.A.C., the Department shall not require submission of emission compliance test results for any emissions unit that, during the year prior to renewal:

1) Did not operate; or,

2) In the case of a fuel burning emissions unit, burned liquid fuel for a total of no more than 400 hours.

iii. During each federal fiscal year (October 1 - September 30), unless otherwise specified by rule, order, or permit, the owner or operator of each emissions unit shall have a formal compliance test conducted for:

1) Visible emissions, if there is an applicable standard (see specific condition C.16**.**);

2) Each of the following pollutants, if there is an applicable standard, and if the emissions unit emits or has the potential to emit: 5 tons per year or more of lead or lead compounds measured as elemental lead; 30 tons per year or more of acrylonitrile; or 100 tons per year or more of any other regulated air pollutant; and

3) Each NESHAP pollutant, if there is an applicable emission standard.

iv. An annual compliance test for particulate matter emissions shall not be required for any fuel burning emissions unit that, in a federal fiscal year, does not burn liquid fuel, other than during startup, for a total of more than 400 hours (see specific condition C.17.);

v. The owner or operator shall notify the Department, at least 15 days prior to the date on which each formal compliance test is to begin, of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted for the owner or operator.

b. Special Compliance Tests. When the Department, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it may require the owner or operator of the emissions unit to conduct

compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the Department.

c. Waiver of Compliance Test Requirements. If the owner or operator of an emissions unit that is subject to a compliance test requirement demonstrates to the Department, pursuant to the procedure established in Rule 62-297.620, F.A.C., that the compliance of the emissions unit with an applicable weight emission limiting standard can be adequately determined by means other than the designated test procedure, such as specifying a surrogate standard of no visible emissions for particulate matter sources equipped with a bag house or specifying a fuel analysis for sulfur dioxide emissions, the Department shall waive the compliance test requirements for such emissions units and order that the alternate means of determining compliance be used, provided, however, the provisions of Rule 62-297.310(7)(b), F.A.C., shall apply. [Rule 62-297.310(7), F.A.C.; and, SIP Approved.]

16. Visible Emissions Testing - Annual. By this permit, annual emissions compliance testing for visible emissions is not required for these emissions units while burning:

a. only gaseous fuel(s); or,

b. gaseous fuel(s) in combination with any amount of liquid fuel(s) for less than 400 hours per year; or,

c. only liquid fuel(s) for less than 400 hours per year.
[Rule 62-297.310(7)(a)4., F.A.C.]

17. Particulate Matter Testing - Annual and Permit Renewal. Annual and permit renewal compliance testing for particulate matter emissions is not required for these emissions units while burning:

a. only gaseous fuel(s); or,

b. gaseous fuel(s) in combination with any amount of liquid fuel(s) for less than 400 hours per year; or,

c. only liquid fuel(s) for less than 400 hours per year.
[Rules 62-297.310(7)(a)3. & 5., F.A.C.; and, ASP Number 97-B-01.]

D. Recordkeeping and Reporting Requirements.

1. The owner or operator shall maintain continuous records of fuel consumption and each analysis that provides the heating value and sulfur content for all fuels fired. These records must be of sufficient detail to determine compliance with the allowable sulfur dioxide emission limitation. [Rule 62-4.070(3), F.A.C.]

2. In the case of excess emissions resulting from malfunctions, each

owner or operator shall notify the Department in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department. [Rule 62-210.700(6), F.A.C.]

3. Quarterly Reports. Submit to the Department a written report of emissions in excess of emission limiting standards as set forth in Rule 62-296.405(1), F.A.C., for each calendar quarter. The nature and cause of the excess emissions shall be explained. This report does not relieve the owner or operator of the legal liability for violations. All recorded data shall be maintained on file by the Source for a period of five years.
[Rules 62-213.440 and 62-296.405(1)(g), F.A.C.]

4. Test Reports.

a. The owner or operator of an emissions unit for which a compliance test is required shall file a report with the Department on the results of each such test.

b. The required test report shall be filed with the Department as soon as practical but no later than 45 days after the last sampling run of each test is completed.

c. The test report shall provide sufficient detail on the emissions unit tested and the test procedures used to allow the Department to determine if the test was properly conducted and the test results properly computed. As a minimum, the test report, other than for an EPA or DEP Method 9 test, shall provide the following information:

i. The type, location, and designation of the emissions unit tested.

ii. The facility at which the emissions unit is located.

iii. The owner or operator of the emissions unit.

iv. The normal type and amount of fuels used and materials processed, and the types and amounts of fuels used and material processed during each test run.

v. The means, raw data and computations used to determine the amount of fuels used and materials processed, if necessary to determine compliance with an applicable emission limiting standard.

vi. The type of air pollution control devices installed on the emissions unit, their general condition, their normal operating parameters (pressure drops, total operating current and GPM scrubber water), and their operating parameters during each test run.

vii. A sketch of the duct within 8 stack diameters upstream and 2 stack diameters downstream of the sampling ports, including the distance to any upstream and downstream bends or other flow disturbances.

viii. The date, starting time and duration of each sampling run.

ix. The test procedures used, including any alternative procedures authorized pursuant to Rule 62-297.620, F.A.C. Where optional procedures are authorized in this chapter, indicate which option was used.

x. The number of points sampled and configuration and location of the sampling plane.

xi. For each sampling point for each run, the dry gas meter reading, velocity head, pressure drop across the stack, temperatures, average meter temperatures and sample time per point.

xii. The type, manufacturer and configuration of the sampling equipment used.

xiii. Data related to the required calibration of the test equipment.

xiv. Data on the identification, processing and weights of all filters used.

xv. Data on the types and amounts of any chemical solutions used.

xvi. Data on the amount of pollutant collected from each sampling probe, the filters, and the impingers, are reported separately for the compliance test.

xvii. The names of individuals who furnished the process variable data, conducted the test, analyzed the samples and prepared the report.

xviii. All measured and calculated data required to be determined by each applicable test procedure for each run.

xix. The detailed calculations for one run that relate the collected data to the calculated emission rate.

xx. The applicable emission standard, and the resulting maximum allowable emission rate for the emissions unit, plus the test result in the same

form and unit of measure.

xxi. A certification that, to the knowledge of the owner or his authorized agent, all data submitted are true and correct. When a compliance test is conducted for the Department or its agent, the person who conducts the test shall provide the certification with respect to the test procedures used. The owner or his authorized agent shall certify that all data required `and provided to the person conducting the test are true and correct to his knowledge. [Rules 62-213.440 and 62-297.310(8), F.A.C.]

E. Fuel Oil

The sulfur content of fuel oils consumed shall be analyzed and records of such analyses shall be maintained for inspection by the Department. Burning of on-specification used oil is allowed in this emissions unit in accordance with all other conditions of this permit and the following conditions:

1. On-specification Used Oil Emissions Limitations. This emissions unit is permitted to burn on-specification used oil, which contains a PCB concentration of less than 50 ppm. On-specification used oil is defined as used oil that meets the specifications of 40 CFR 279 - Standards for the Management of Used Oil, listed below. "Off-specification" used oil shall not be burned. Used oil which fails to comply with any of these specification levels is considered "off-specification" used oil.

CONSTITUENT/PROPERTY	ALLOWABLE LEVEL
Arsenic	5 ppm maximum
Cadmium	2 ppm maximum
Chromium	10 ppm maximum
Lead	100 ppm maximum
Total Halogens	1000 ppm maximum
Flash point	100 degrees F minimum

2. Quantity Limitation. This emissions unit is permitted to burn "on-specification" used oil that is generated by the City of Tallahassee, not to exceed 10,000 gallons during any calendar year.

3. PCB Limitation. Used oil containing a PCB concentration of 50 or more ppm shall not be burned at this facility. Used oil shall not be blended to meet this requirement.

4. Operational Requirements. On-specification used oil with a PCB concentration of 2 to less than 50 ppm shall be burned only at normal source operating temperatures. On-specification used oil with a PCB concentration of 2 to less than 50 ppm shall not be burned during periods of startup or shutdown.

5. Testing Requirements: For each batch of used oil to be burned, the owner or operator must be able to demonstrate that the used oil qualifies as on-

specification used oil and that the PCB content is less than 50 ppm.

The requirements of this demonstration are governed by the following federal regulations:

Analysis of used oil fuel. A generator, transporter, processor/re-refiner, or burner may determine that used oil that is to be burned for energy recovery meets the fuel specifications of Sec. 279.11 by performing analyses or obtaining copies of analyses or other information documenting that the used oil fuel meets the specifications.
[40 CFR 279.72(a)]

Testing of used oil fuel. Used oil to be burned for energy recovery is presumed to contain quantifiable levels (2 ppm) of PCB unless the marketer obtains analyses (testing) or other information that the used oil fuel does not contain quantifiable levels of PCBs.

a. The person who first claims that a used oil fuel does not contain quantifiable level (2 ppm) PCB must obtain analyses or other information to support that claim.

b. Testing to determine the PCB concentration in used oil may be conducted on individual samples, or in accordance with the testing procedures described in Sec. 761.60(g)(2). However, for purposes of this part, if any PCBs at a concentration of 50 ppm or greater have been added to the container or equipment, then the total container contents must be considered as having a PCB concentration of 50 ppm or greater for purposes of complying with the disposal requirements of this part.

c. Other information documenting that the used oil fuel does not contain quantifiable levels (2 ppm) of PCBs may consist of either personal, special knowledge of the source and composition of the used oil, or a certification from the person generating the used oil claiming that the oil contains no detectable PCBs. [40 CFR 761.20(e)(2)]

When testing is required, the owner or operator shall sample and analyze each batch of used oil to be burned for the following parameters:

Arsenic, cadmium, chromium, lead, total halogens, flash point and PCBs.

Testing (sampling, extraction and analysis) shall be performed using approved methods specified in EPA Publication SW-846 (Test Methods for Evaluating Solid Waste, Physical/Chemical Methods).

In addition to the above requirements, the owner or operator shall sample and analyze each batch of used oil to be burned for the sulfur content (by weight), density and heat content in accordance with approved test methods.

6. Record Keeping Requirements: The owner or operator shall

obtain, make, and keep the following records related to the use of used oil in a form suitable for inspection at the facility by the Department:

a. The gallons of on-specification used oil placed into inventory to be burned and the gallons of on-specification used oil burned each month.

b. Results of the analyses of each deposit of used oil, as required by the above conditions.

c. Other information, besides testing, used to make a claim that the used oil meets the requirements of on-specification used oil or that the used oil contains less than 50 ppm of PCBs. [40 CFR 279.72(b), 40 CFR 279.74(b) and 40 CFR 761.20(e)]

7. Reporting Requirements: The owner or operator shall submit, with the Annual Operation Report form, the analytical results required above and the total amount of on-specification used oil placed into inventory to be burned and the total amount of on-specification used oil burned during the previous calendar year.
[Rule 62-4.070(3) and 62-213.440, F.A.C., 40 CFR 279 and 40 CFR 761, unless otherwise noted.]

F. Stack Height

The stack serving Unit No. 2 shall be not less than 250 feet high.

G. Annual Reporting

An annual operation report shall be submitted by the City by March 1 of each year utilizing DEP Form 62-210.900(5), F.A.C.

H. Emission Units 08 – 030

The following Specific Conditions apply to the turbine-generator sets:

PERFORMANCE RESTRICTIONS

1. Licensee is authorized to temporarily site, tune, and operate twenty three turbine-generator sets, each with nominal generating capacity of 5.5 megawatts, at the Arvah B. Hopkins Generation Station. The semi-trailer mounted generators are designed to produce a nominal 126.5 MW of electrical power. Operation of these emission units will cease after September 30, 2004. **[Applicant Request]**

2. The combined hours of operation for the turbine-generator sets shall not exceed 11,500 hours. This restriction is based on the Licensee's request, which formed the basis of the PSD non-applicability determination and resulted in the emission standards specified in this permit. For any request to modify this emission unit (whether a physical or operational modification, including an increase in the allowable hours of operation or heat input), the Licensee shall, if required under the Department's rules, submit a request for permit revision. **[Rules 62-212.400(2)(g) and 62-212.400(6)(b), F.A.C.]**

3. Allowable Fuel: The turbine-generator sets shall be fired only with natural gas. The Licensee shall demonstrate compliance with the limitation on operating hours by keeping the records specified in this permit. **[Applicant Request, Rule 62-210.200, F.A.C. (Definition - PTE)]**

EMISSION STANDARDS

4. Nitrogen Oxides (NO_X): NO_x emissions from each turbine-generator set shall not exceed 25 ppmvd@15% O_2. **[Rule 62-212.400, F.A.C. (PSD avoidance)]**

5. General Visible Emissions Standard:

Except for emissions units that are subject to a particulate matter or opacity limit set forth or established by rule and reflected by conditions in this permit, no person shall cause, let, permit, suffer, or allow to be discharged into the atmosphere the emissions of air pollutants from any activity, the density if which is equal to or greater than that designated as Number 1 on the Ringelmann Chart (20% opacity). The test method for visible emissions shall be EPA Method 9, incorporated and adopted by reference in Chapter 62-297, F.A.C. Test procedures shall meet all applicable requirements of Chapter 62-297, F.A.C. **[Rule 62-296.320(4)(b)1, F.A.C.]**

Excess Emissions

6. Excess Emissions Allowed: Excess emissions resulting from startup, shutdown or malfunction of any emissions unit shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration. **[Rule 62-210.700(1), F.A.C.]**

7. Excess Emissions Prohibited: Excess emissions caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure that may reasonably be prevented during startup, shutdown or malfunction, shall be prohibited. **[Rule 62-210.700(4), F.A.C.]**

OPERATIONAL LIMITATIONS

8. Permitted Capacity: The heat input to each turbine-generator set shall not

exceed 63.07 MMBtu per hour on a lower heating value basis at ISO conditions. This information is being provided to identify the capacity of each unit for the purpose of confirming that emissions testing is conducted within 90 to 100 percent of each unit's rated capacity. Regular recordkeeping is not required for heat input. The owner or operator is expected to determine heat input when emissions testing is required, to demonstrate what percentage of the rated capacity that the unit was tested. **[Rules 62-4.160(2), 62-210.200(PTE), and construction permit application]**

9. Hours of Operation: The total operating hours for all twenty three turbine-generator sets shall not exceed 11,500 hours combined. **[Rule 62-210.200, F.A.C. (Definitions - PTE)]**

EMISSIONS PERFORMANCE TESTING

10. Performance Test Methods: Compliance tests shall be performed in accordance with the following reference methods as described in 40 CFR 60, Appendix A, and adopted by reference in Chapter 62-204.800, F.A.C.

a. EPA Method 20, 7 or 7E – Determination of Nitrogen Oxide Emissions from Stationary Sources (I);

b. EPA Method 9 - Visual Determination of the Opacity of Emissions from Stationary Sources (I);

No other test methods may be used for compliance testing unless prior DEP approval is received, in writing, from the DEP Emissions Monitoring Section Administrator.

11. Test Notification: Due to the expedited nature of this project and the requirement to test the turbine-generator sets expeditiously, the Licensee shall notify the Compliance Authority at least 7 days prior to the date on which each formal compliance test is to begin, of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted for the owner or operator. **[Rule 62-297.310(7)(a)9., F.A.C.]**

12. Initial Tests Required: Initial performance tests to demonstrate compliance with the emission standards specified in this permit shall be conducted once operation of one of the turbine-generator sets exceeds 100 hours. Initial performance tests shall be conducted for NO_X and visible emissions on a sample of 4 (four) representative (but separate) turbine-generator sets. Each turbine-generator set tested will represent ¼ (approximately six) of the turbine-generator sets. **[Rule 62-297.310(7)(a)1., and 62-297.310(7)(c), F.A.C.]**

13. Turbine-Generator Set Testing Capacity: Performance tests for compliance with standards specified in this permit shall be conducted with the emission unit

operating at permitted capacity. Permitted capacity is defined as 90-100 percent of the maximum heat input rate allowed by the permit. If it is impracticable to test at permitted capacity, the source may be tested at less than permitted capacity. However, subsequent operation of all represented turbine-generator sets is limited to 110 percent of the value reached during the test until a new test is conducted. Once the unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purposes of additional compliance testing to regain the permitted capacity. Emissions performance tests shall meet all applicable requirements of Chapters 62-204 and 62-297, F.A.C. **[Rule 62-297.310(2), F.A.C.]**

14. Calculation of Emission Rate: For each emissions performance test, the indicated emission rate or concentration shall be the arithmetic average of the emission rate or concentration determined by each of the three separate test runs unless otherwise specified in a particular test method or applicable rule. **[Rule 62-297.310(3), F.A.C.]**

15. Applicable Test Procedures

a. Required Sampling Time.

i. Unless otherwise specified in the applicable rule, the required sampling time for each test run shall be no less than one hour and no greater than four hours, and the sampling time at each sampling point shall be of equal intervals of at least two minutes. **[Rule 62-297.310(4)(a)1., F.A.C.]**

ii. The minimum observation period for a visible emissions compliance test shall be thirty (30) minutes. The observation period shall include the period during which the highest opacity can reasonably be expected to occur. **[Rule 62-297.310(4)(a)2., F.A.C.]**

b. Minimum Sample Volume. Unless otherwise specified in the applicable rule or test method, the minimum sample volume per run shall be 25 dry standard cubic feet. **[Rule 62-297.310(4)(b), F.A.C.]**

c. Calibration of Sampling Equipment. Calibration of the sampling train equipment shall be conducted in accordance with the schedule shown in Table 297.310-1, F.A.C. **[Rule 62-297.310(4)(d), F.A.C.]**

16. Determination of Process Variables

a. Required Equipment. The owner or operator of an emissions unit for which compliance tests are required shall install, operate, and maintain equipment

or instruments necessary to determine process variables, such as process weight input or heat input, when such data are needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards. **[Rule 62-297.310(5)(a), F.A.C.]**

b. Accuracy of Equipment. Equipment or instruments used to directly or indirectly determine process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value. **[Rule 62-297.310(5)(b), F.A.C.]**

17. Special Compliance Tests: When the Department, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it shall require the owner or operator of the emissions unit to conduct compliance tests as it deems necessary in order to identify the nature and quantity of pollutant emissions from the emissions unit(s) and the owner or operator shall provide a report on the results of said tests to the Department. **[Rule 62-297.310(7)(b), F.A.C.]**

RECORDKEEPING AND REPORTING REQUIREMENTS

18. Records Retention: All measurements, records, and other data required by this permit shall be documented in a permanent, legible format and retained for at least five (5) years following the date on which such measurements, records, or data are recorded. Records shall be made available to the Department upon request. **[Rules 62-4.160(14) and 62-213.440(1)(b)2., F.A.C.]**

19. Emissions Performance Test Reports: A report indicating the results of any required emissions performance test shall be submitted to the Compliance Authority no later than 45 days after completion of the last test run. The test report shall provide sufficient detail on the tested emission unit and the procedures used to allow the Department to determine if the test was properly conducted and if the test results were properly computed. At a minimum, the test report shall provide the applicable information listed in Rule 62-297.310(8)(c), F.A.C. **[Rule 62-297.310(8), F.A.C.]**

20. The Licensee shall record the total operating hours of the turbine-generator sets. The information shall be recorded in a written or electronic log and shall be available for inspection from the Compliance Authority. **[Rule 62-4.160(15), F.A.C.]**

21. Annual Operating Report: The Licensee shall submit an annual report that summarizes the actual operating rates and emissions from this facility. Annual reports shall be submitted to the Compliance Authority by March 1st of each year. **[Rule 62.210.370(2), F.A.C.]**

22. NSPS, Subpart GG: The Licensee shall maintain the records of fuel nitrogen and sulfur content specified in 40 CFR 60, Subpart GG **[62-204.800(8)(b)39., F.A.C.]**

I. Emission Units 031 – 032

General Electric LM 6000 Sprint Combustion Turbines capable of inlet chilling to 48°F.

1. BACT Determinations: The emission unit addressed in this section is subject to a Best Available Control Technology (BACT) determination for nitrogen oxides (NOX), sulfur dioxide (SO2), sulfuric acid mist (SAM) and particulate matter (PM10). [Rule 62-212.400, F.A.C.]

2. NSPS Requirements: The combustion turbine shall comply with all applicable requirements of 40 CFR 60, adopted by reference in Rule 62-204.800(7) (b), F.A.C.

3. Combustion Turbines: The permittee is authorized to install, tune, operate and maintain two new inlet chilled combustion turbines with electrical generator sets (General Electric Model LM6000PC SPRINT). Each unit is designed to produce approximately 50 MW of electrical power.

4. Permitted Capacity: The heat input to each combustion turbine from firing natural gas shall not exceed 445 MMBtu per hour based on the following: 100% base load, a lower heating value (LHV) for natural gas and a compressor inlet air temperature of 29° F. The heat input to each combustion turbine from firing No. 2 fuel oil shall not exceed 434 MMBtu per hour based on the following: 100% base load, LHV and a compressor inlet air temperature of 29° F. The permittee shall provide manufacturer's performance curves (or equations) that correct for site conditions to the Permitting and Compliance Authorities within 45 days of completing the initial compliance testing. Heat input rates will vary depending upon compressor conditions and the combustion turbine characteristics. Operating data may be adjusted for the appropriate site conditions in accordance with the performance curves on file with the Department. [Design, Rule 62-210.200, F.A.C. (Definition - PTE)]

5. Simple Cycle, Intermittent Operation: Each combustion turbine shall operate only in simple cycle mode not to exceed the permitted hours of operation allowed by this certification. This restriction is based on the permittee's request, which formed the basis of the PSD applicability and BACT determination and resulted in the emission standards specified in this certification. For any request to convert this unit to combined cycle operation by installing/connecting to heat recovery steam generators or increasing the

allowable hours of operation, including changes to the fuel quality or quantity which may cause an increase in short or long-term emissions, the permittee may be required submit a full PSD permit application complete with a new proposal of the best available control technology as if the unit had never been built. [Rules 62-212.400(2) (g) and 62-212.400(6) (b), F.A.C.]

6. Allowable Fuels: Each combustion turbine shall only be fired with natural gas containing no more than 2 grains of sulfur per 100 dry standard cubic feet of gas (monthly average) and 0.05% sulfur distillate oil (or superior). The permittee shall demonstrate compliance with the fuel sulfur limit by keeping the records specified in this certification. [Applicant Request, Rule 62-210.200, F.A.C.

7. Hours of Operation: Each combustion turbine shall operate no more than 5840 hours during any consecutive 12-month period, 4000 of which may be on distillate fuel oil. The permittee shall install, calibrate, operate and maintain a monitoring system to measure and accumulate the hours of operation. [Rule 62-212.400, F.A.C. (BACT); Rule 62-210.200, F.A.C. (PTE)]

8. Operating Procedures: The Best Available Control Technology (BACT) determinations established by this certification rely on “good operating practices” to minimize emissions. Therefore, all operators and supervisors shall be properly trained to operate and maintain the combustion turbine and pollution control systems in accordance with the guidelines and procedures established by the manufacturer. The training shall include good operating practices as well as methods of minimizing excess emissions. [Applicant Request; Rule 62-4.070(3); Rule 62-212.400, F.A.C. (BACT)]

9. Plant Operation - Problems: If temporarily unable to comply with any of the conditions of the certification due to breakdown of equipment or destruction by fire, wind or other cause, the permittee shall notify the Compliance Authority as soon as possible, but at least within one working day, excluding weekends and holidays. The notification shall include: pertinent information as to the cause of the problem; steps being taken to correct the problem and prevent future recurrence; and, where applicable, the owner’s intent toward reconstruction of destroyed facilities. Such notification does not release the permittee from any liability for failure to comply with the conditions of this certification or the regulations. [Rule 62-4.130, F.A.C.]

10. Unconfined Particulate Emissions: During the construction period, unconfined particulate matter emissions shall be minimized by dust suppressing techniques such as covering, confining, or applying water or chemicals to the affected areas, as necessary. [Rule 62-296.320(4) (c), F.A.C.]

11. Water Injection Technology: The permittee shall install, calibrate, tune, operate, and maintain a water injection system for the unit. The system shall be designed and operated so as to ensure that NOX emissions prior to the SCR are sufficient to achieve the NOx emission limits in Condition I.I.12. below. [Applicant request; Rule 62-4.070(3); Rule 62-212.400, F.A.C. (BACT)]

12. SCR/Oxidation Catalyst: To control NOX and CO emissions, the combustion turbine shall include an SCR system and an oxidation catalyst. The catalyst systems shall be designed in order to achieve the following emissions, regardless of fuel

being combusted: 5 ppmvd NOX @ 15% O2 and 6 ppmvd CO @ 15% O2. [Design and Rule 62-212.400, F.A.C.]

13. Circumvention: The permittee shall not circumvent the air pollution control equipment or allow the emission of air pollutants without this equipment operating properly. [Rule 62-210.650, F.A.C.]

14. Summary: The following table summarizes the emissions standards for each pollutant and total emissions in lb/hr and TPY for informational and convenience purposes (PTE) only. This table does not supersede any of the terms or conditions of this certification.

Pollutant	Emission Standard	CT Emissions (lb/hr)		One CT (lb/year)	TPY for 2 CT's
		OIL	GAS		
NOX	5 ppmvd @ 15% O2	8.67	8.62	50,541	50.5
CO	6 ppmvd @ 15% O2	6.35	6.27	36,937	36.9
SO2	NG & 0.05% S oil	10.31	1.13	43,319	43.4
PM10	VE	14.94	2.45	64,268	64.2
PM	VE	14.94	2.45	64,268	64.2
VOC	3 ppmvd @ 15% O2	2.66	1.79	13,934	13.9
SAM	NG & 0.05% S oil	9.66	1.15	40,756	40.8

Note: Annual emissions, for the purposes of this table only, are based on 4000 hours of oil operation and 1840 hours of natural gas operation.

15. Carbon Monoxide (CO): CO emissions from the combustion turbine shall not exceed 6.0 ppmvd corrected to 15% oxygen for each fuel. The permittee shall demonstrate compliance with this standard by conducting performance tests and emissions monitoring in accordance with EPA Method 10 and the requirements of this certification. [Rule 62-212.400, F.A.C. (PSD Avoidance)]

16. Nitrogen Oxides (NOX): NOX emissions from the combustion turbine shall not exceed 5.0 ppmvd corrected to 15% oxygen for each fuel. The permittee shall demonstrate compliance with this standard by conducting performance tests and emissions monitoring in accordance with 40 CFR Part 60 Subpart GG and based on a 24-hour block average for data collected from the continuous emissions monitor. The ammonia slip rate shall be limited to 10 ppmvd @ 15% O2. [Rule 62-212.400, F.A.C. (BACT)]

17. Particulate Matter (PM/PM10), Sulfuric Acid Mist (SAM) and Sulfur Dioxides (SO2)

a. Fuel Specifications. Emissions of PM, PM10, SAM, and SO2 shall be limited by the use of pipeline-quality natural gas containing no more than 2 grain per standard cubic feet, the use of 0.05% Sulfur oil and good combustion techniques as specified in this certification. The permittee shall demonstrate compliance with the fuel sulfur limit by maintaining the records specified by this certification. [Rule 62-212.400, F.A.C. (PSD Applicability)].

b. VE Standard. Visible emissions from the combustion turbine shall not exceed 10% opacity, based on a 6-minute average. This work practice standard

is established as a means of ensuring the non-applicability of BACT. The permittee shall demonstrate compliance with this standard by conducting tests in accordance with EPA Method 9 and the performance testing requirements of this certification. [Rule 62-212.400, F.A.C. (PSD Applicability)]

18. Volatile Organic Compounds (VOC): VOC emissions from the combustion turbine shall not exceed 3.0 ppmvd corrected to 15% oxygen for each fuel. The VOC emissions shall be measured and reported in terms of methane. The permittee shall demonstrate compliance with these standards by conducting initial tests in accordance with EPA Methods 25 and/or 25A and the performance testing requirements of this certification. Optional testing in accordance with EPA Method 18 may be conducted to account for the actual methane fraction of the measured VOC emissions. [Application, Design, Rule 62-4.070(3), F.A.C.]

19. Excess Emissions Prohibited: Excess emissions caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure that may reasonably be prevented during startup, shutdown or malfunction, shall be prohibited. These emissions shall be included in the calculation of the 24-hour averages to demonstrate compliance with the continuous NOX emissions standard. [Rule 62-210.700(4), F.A.C.]

20. Excess Emissions Allowed: Providing the permittee adheres to best operational practices to minimize the amount and duration of excess emissions, the following conditions shall apply:

a. During startup and shutdown, visible emissions excluding water vapor shall not exceed 20% opacity for more than 2 hours in any 24-hour period. [Design; Rule 62-210.700(1) and (5), F.A.C.]

b. During all startups, shutdowns, and malfunctions, the continuous emissions monitor (CEM) shall monitor and record emissions. However, up to 2 hours of monitoring data during any 24-hour period may be excluded from continuous compliance demonstrations as a result of startups, shutdowns, and documented malfunctions. A documented malfunction means a malfunction that is documented within one working day of detection by contacting the Compliance Authority by telephone, facsimile, or electronic mail. In case of malfunctions, the permittee shall notify the Compliance Authorities within one working day. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department. [Design; Rules 62-210.700(1), (5), and 62-4.130, F.A.C.]

21. Sampling Facilities: The permittee shall design the combustion turbine stack to accommodate adequate testing and sampling locations in order to determine compliance with the applicable emission limits specified by this certification. Permanent stack sampling facilities shall be installed in accordance with Rule 62-297.310(6), F.A.C. [Rules 62-4.070 and 62-204.800, F.A.C., and 40 CFR 60.40a (b)]

22. Performance Test Methods: Compliance tests shall be performed in accordance with the following reference methods as described in 40 CFR 60, Appendix A, and adopted by reference in Chapter 62-204.800, F.A.C.

a. EPA Method 9 - Visual Determination of the Opacity of Emissions from Stationary Sources;

b. EPA Method 10 - Determination of Carbon Monoxide Emissions from Stationary Sources;

c. EPA Method 7e - Determination of Nitrogen Oxides Emissions from Stationary Sources (Instrumental Analyzer Procedure); or EPA Method 20 - Determination of Oxides of Nitrogen Oxide, Sulfur Dioxide and Diluent Emissions from Stationary Gas Turbines; or ASTM D6522-00 Standard Test Method for Determination of Nitrogen Oxides, Carbon Monoxide and Oxygen Concentrations in Emissions from Natural Gas-Fired Reciprocating Engines, Combustion Turbines, Boilers and Process Heaters Using Portable Analyzers, as specified in 40 CFR 60.335;

d. EPA Method 25 or 25A - Determination of Volatile Organic Concentrations. (EPA Method 18 may be conducted to account for the non-regulated methane portion of the VOC emissions); and

e. Conditional Test Method 027 – Measurement of Ammonia Slip

f. No other test methods may be used for compliance testing unless prior DEP approval is received, in writing, from the DEP Emissions Monitoring Section Administrator in accordance with an alternate sampling procedure specified in Rule 62-297.620, F.A.C.

23. Test Notification: The permittee shall notify the Compliance Authority in writing at least 30 days prior to initial NSPS performance tests and at least 15 days prior to any other required tests. [40 CFR 60.7, 40 CFR 60.8 and Rule 62-297.310(7) (a) 9. F.A.C.]

24. Initial Tests Required: Initial performance tests to demonstrate compliance with the emission standards specified in this certification shall be conducted within 60 days after achieving at least 90% of permitted capacity, but not later than 180 days after initial operation of the emissions unit. Initial performance tests shall be conducted for CO, NOX, VOC, ammonia slip and visible emissions while combusting each fuel. Initial NOX performance tests shall be conducted in accordance with the requirements of NSPS Subpart GG and shall also be converted into units of the NSPS emissions standard. [Rule 62-297.310(7) (a) 1. F.A.C.]

25. Annual Performance Tests: To demonstrate compliance with the emission standards specified in this certification, the permittee shall conduct annual performance tests for NOX, CO, and visible emissions from the combustion turbine for each fuel. Testing for ammonia slip is required during the first scheduled annual performance tests after the cumulative hours of operation on each combustion turbine exceed 1,500 hours of oil firing or 5,000 hours of gas firing starting from the initial installation of the SCR catalysts. Thereafter, ammonia testing is required during the first scheduled annual performance tests after subsequent cumulative 1,500 hours of oil firing and 5,000 hours of gas firing in each combustion turbine or after regeneration, replacement or addition to the SCR catalyst system. If conducted at permitted capacity, NOX emissions data collected during the annual NOX continuous monitor RATA required pursuant to 40 CFR 75 may be substituted for the required annual performance test. Tests required on an

annual basis shall be conducted at least once during each federal fiscal year (October 1st to September 30th). In the event that the operation of the CT is less than 400 hours per year on natural gas or distillate oil, annual testing is not required for that year and that fuel. [Rule 62-297.310(7) (a), F.A.C.]

26. Tests Prior to Permit Renewal: Prior to renewing the air operation permit, the permittee shall conduct performance tests for CO, NOX, and visible emissions from the combustion turbine. VOC emission tests are not required prior to permit renewal provided the CO emission standards are met. Testing for ammonia slip meeting the requirements of Condition 25, Annual Performance Tests will meet the requirements of this condition. These tests shall be conducted within the 12-month period prior to renewing the air operation permit. For pollutants required to be tested annually, the permittee may submit the most recent annual compliance test to satisfy the requirements of this provision. [Rule 62-297.310(7) (a) 3. F.A.C.]

27. Tests After Major Repairs or Replacements: The Department may require that additional compliance testing be conducted within 90 days after major repairs or replacements are performed. [Rule 62-297.310(7) (a) 4. F.A.C.]

28. Combustion Turbine Testing Capacity: Initial performance tests shall be conducted in accordance with 40 CFR 60.8 and 40 CFR 60.335 for pollutants subject to a New Source Performance Standard (NSPS) in Subpart GG for stationary gas turbines. Other required performance tests for compliance with standards specified in this certification shall be conducted with the combustion turbine operating at permitted capacity. Permitted capacity is defined as 90-100 percent of the maximum heat input rate allowed by the certification, corrected for the average ambient air temperature during the test (with 100 percent represented by a curve depicting heat input vs. ambient temperature). If it is impracticable to test at permitted capacity, the source may be tested at less than permitted capacity. However, subsequent operation is limited by adjusting the entire heat input vs. ambient temperature curve downward by an increment equal to the difference between the maximum permitted heat input (corrected for inlet temperature) and 110 percent of the value reached during the test until a new test is conducted. Once the unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purposes of additional compliance testing to regain the permitted capacity. Emissions performance tests shall meet all applicable requirements of Chapters 62-204 and 62-297, F.A.C. [Rule 62-297.310(2), F.A.C.]

29. Calculation of Emission Rate: For each emissions performance test, the indicated emission rate or concentration shall be the arithmetic average of the emission rate or concentration determined by each of the three separate test runs unless otherwise specified in a particular test method or applicable rule. [Rule 62-297.310(3), F.A.C.]

30. Applicable Test Procedures

a. Required Sampling Time.

i. Unless otherwise specified in the applicable rule, the required sampling time for each test run shall be no less than one hour and no greater than four hours, and the sampling time at each sampling point shall be of equal intervals of at least two minutes. [Rule 62-297.310(4) (a) 1. F.A.C.]

ii. The minimum observation period for a visible emissions compliance test shall be sixty (60) minutes. The observation period shall include the period during which the highest opacity can reasonably be expected to occur. [Rule 62-297.310(4) (a) 2. F.A.C.]

b. Minimum Sample Volume. Unless otherwise specified in the applicable rule or test method, the minimum sample volume per run shall be 25 dry standard cubic feet. [Rule 62-297.310(4) (b), F.A.C.]

c. Calibration of Sampling Equipment. Calibration of the sampling train equipment shall be conducted in accordance with the schedule shown in Table 297.310-1, F.A.C. [Rule 62-297.310(4) (d), F.A.C.]

31. Determination of Process Variables

a. Required Equipment. The owner or operator of an emissions unit for which compliance tests are required shall install, operate, and maintain equipment or instruments necessary to determine process variables, such as process weight input or heat input, when such data are needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards. [Rule 62-297.310(5) (a), F.A.C.]

b. Accuracy of Equipment. Equipment or instruments used to directly or indirectly determine process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value. [Rule 62-297.310(5) (b), F.A.C.]

32. Special Compliance Tests: When the Department, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it shall require the owner or operator of the emissions unit to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the Department. [Rule 62-297.310(7) (b), F.A.C.]

33. NOX CEMS: The permittee shall install, calibrate, operate, and maintain a CEMS to measure and record NOX and oxygen concentrations in the combustion turbine exhaust stack. A monitor for carbon dioxide may be used in place of the oxygen monitor, but the system shall be capable of correcting the emissions to 15% oxygen. The NOX monitoring devices shall comply with the requirements of 40 CFR 60.334(b) for 40 CFR Part 75 monitoring systems. A monitoring plan shall be provided to the Department's Emissions Monitoring Section Administrator, EPA Region 4, and the Compliance Authority for review no later than 45 days prior to the first scheduled certification test pursuant to 40 CFR 75.62. The plan shall consist of data on CEM equipment specifications, manufacturer, type, calibration and maintenance needs, and its proposed location. [Rule 62-212.400, F.A.C. (BACT) and 40 CFR 75]

34. NOX CEMS Data Requirements:

a. Installation. The CEMS shall be installed, calibrated, and properly functioning prior to the initial performance tests. Each device shall comply with the applicable monitoring system requirements of 40 CFR 60.7(a) (5), 40 CFR 60.13, and 40 CFR 60.334(b).

b. Data Collection. Emissions shall be monitored and recorded at all times including startup, operation, shutdown, and malfunction except for continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments. Each valid 1-hour average shall be calculated using at least two valid data points at least 15 minutes apart.

c. Data Reporting: Data collected by the CEMS shall be used to demonstrate compliance with the emissions standards specified for each 24-hour block average. Emissions shall be reported in units of ppmvd corrected to 15% oxygen for each hour of operation. The compliance averages shall be determined by calculating the arithmetic average of a 24-hour block of valid hourly emission rates. When a monitoring system reports emissions in excess of the standards allowed by this certification, the permittee shall notify the Compliance Authority within one (1) working day of: the nature, extent, and duration of the excess emissions; the cause of the excess emissions; and the actions taken to correct the problem. The Department may request a written report summarizing the excess emissions incident. The permittee shall also report excess emissions in a quarterly report as required in specific condition 39 of this certification

d. Data Exclusion. Unless prohibited by 62-210.700 F.A.C., valid hourly emission rates shall not include periods of start up, shutdown, or documented malfunction as described under the excess emissions requirements of this certification. [Rules 62-4.130, 62-4.160(8), 62-204.800, 62-210.700, 62-297.520, F.A.C and 40 CFR 60.7].

35. Records Retention: All measurements, records, and other data required by this certification shall be documented in a permanent, legible format and retained for at least five (5) years following the date on which such measurements, records, or data are recorded. Records shall be made available to the Department upon request. [Rules 62-4.160(14) and 62-213.440(1) (b) 2., F.A.C.]

36. Fuel Records: The permittee shall demonstrate compliance with the fuel sulfur limits for natural gas and fuel oil specified in this certification by maintaining records required by 40 CFR 60.334 and 60.335. [Rules 62-4.070(3) and 62-4.160(15), F.A.C.]

37. Monthly Operations Summary: By the fifth calendar day of each month, the permittee shall record the hours of operation and amount of each fuel fired for the combustion turbine. The information shall be recorded in a written or electronic log and shall summarize the previous month of operation and the previous 12 months of operation. All hours of operation shall be included in the demonstration of compliance with the 12-month fuel usage limitations. Information recorded and stored as an electronic file shall be available for inspection and/or printing within at least one day of a request from the Compliance Authority. [Rule 62-4.160(15), F.A.C.]

38. Emissions Performance Test Reports: A report indicating the results of any required emissions performance test shall be submitted to the Compliance Authority no later than 45 days after completion of the last test run. The test report shall provide sufficient detail on the tested emission unit and the procedures used to allow the Department to determine if the test was properly conducted and if the test results were properly computed. At a minimum, the test report shall provide the applicable information listed in Rule 62-297.310(8)(c), F.A.C. [Rule 62-297.310(8), F.A.C.].

39. Excess Emissions Reporting and Semi-annual Reports: If excess NOX or visible emissions occur due to malfunction, the permittee shall notify the Compliance Authority within (1) working day of: the nature, extent, and duration of the excess emissions; the cause of the excess emissions; and the actions taken to correct the problem. In addition, the Department may request a written summary report of the incident. Following the NSPS format in 40 CFR 60.7(c), Subpart A, periods of startup, shutdown and malfunction, shall be monitored, recorded and reported as excess emissions when emission levels exceed the standards specified in this certification. Within thirty (30) days following each calendar semi-annual period, the permittee shall submit a report on any periods of excess emissions that occurred during the previous semi-annual to the Compliance Authority. [Rules 62-4.130, 62-204.800, 62-210.700(6), F.A.C., and 40 CFR 60.7]

40. Annual Operating Report: The permittee shall submit an annual report that summarizes the actual operating rates and emissions from this facility. Annual operating reports shall be submitted to the Compliance Authority by March 1st of each year. [Rule 62-210.370(2), F.A.C.]

J. Emission Unit 033 – 750 KW Emergency Diesel Generator

The Emergency diesel generator (EU 033) is subject to a federal exemption provided:

1. No emergency generator on site is subject to the Federal Acid Rain Program; and

2. Total fuel consumption by all such emergency generators within the facility is limited to 32,000 gallons per year of diesel fuel, 4,000 gallons per year of gasoline, 4.4 million standard cubic feet per year of natural gas or propane, or an equivalent prorated amount if multiple fuels are used.

3. Additionally, an emissions unit or pollutant-emitting activity that is not entitled to a categorical exemption pursuant to paragraph 62-210.300(3)(a), F.A.C., shall be exempt from the permitting requirements of this chapter, Chapters 62-212 and 62-4, F.A.C., if it meets all of the following criteria:

a. It would be subject to no unit-specific applicable requirement.

b. It would neither emit nor have the potential to emit:

i. 500 pounds per year or more of lead and lead compounds expressed as lead;

ii. 1,000 pounds per year or more of any hazardous air pollutant;

iii. 2,500 pounds per year or more of total hazardous air pollutants; or

iv. 5.0 tons per year or more of any other regulated pollutant.

c. Its emissions, in combination with the emissions of other units and activities at the facility, would not cause the facility to emit or have the potential to emit any pollutant in such amount as to make the facility a Title V source.

d. In the case of a proposed new emissions unit at an existing facility, the emissions of such unit, in combination with the emissions of any other proposed new or modified units and activities at the facility, would not result in a modification subject to the preconstruction review requirements of subparagraph 62-204.800(10)(d)2., Rule 62-212.400 or 62-212.500, F.A.C.

e. In the case of a proposed new pollutant-emitting activity, such activity would not constitute a modification of any existing non-exempt emissions unit at a non-Title V source or any existing non-insignificant emissions unit at a Title V source.

[Rule 62-210.300(3) (a)20 and Rule 62-210.300(3) (b)1, F.A.C.]

XIV. WATER

A. Surface Water Discharges

Wastewater discharged from the site shall meet the standards set forth in Chapter 62-302, F.A.C., and any subsequent amendments, unless excepted by variance and NPDES Permit FL0025518. In addition to other treatment processes, the City of Tallahassee may use up to three treatment ponds to meet the standards set forth in Chapter 62-302, F.A.C.

1. The Licensee is authorized to discharge from **Outfall D-0172-Cooling Tower Blowdown** from Cooling Tower 2, into the on-site man made drainage ditch through Outfall D-001 to Beaver Creek.

a. Such discharges shall be limited and monitored by the Licensee as specified below:

	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS		
EFFLUENT CHARACTERISTIC	Daily Average	Daily Maximum	Measurement Frequency	Sample Type	Sample Location
Flow, MGD	Report	Report	Daily	Integrat or	EFF-2A, EFF-2B
Free Available Chlorine, mg/l	0.2	0.5	Each Application	Multiple Grabs1	EFF-2A, EFF-2B
Time of Chlorine Discharge , Minutes/tower/day	N/A	120	Each Application	Logs	EFF-2A, EFF-2B
Total Recoverable Zinc, mg/l	1.0	1.0	1/Quarter	Grab	, EFF-2B
Total Recoverable Chromium, mg/l	0.2	0.2	1/Quarter	Grab	EFF-2B
Total Recoverable Copper, mg/l	Report	Report	1/Quarter	Grab	EFF-2B
pH	NA	See XIII.A.1.c.	1/month	Grab	EFF-2B
Spectrus 1300 /Clam-trol CT-2	Report	Report	Each Applicatio n	Multiple Grabs[1]	EFF-2B

b. The location of sampling points as specified above are as follows:

Monitoring Location	Description of Monitoring Location
EFF-2B	Cooling tower conveyance pipe prior to mixing with any other waste stream (s) from unit 2.

c. The range for pH shall remain within 6.0 to 9.0 SU.

2. Chlorine:

1 Multiple grabs shall consist of grab samples collected at the approximate beginning of TRC or Spectrus 1300/Clam-trol CT-2 discharge and once every 15 minutes thereafter until the end of TRC or Spectrus 1300/Clam-trol CT-2 discharge. In the event that TRC is not detectable or Spectrus1300/Clam-trol CT-2 is below the no effect level of 0.12mg/l at the time that blowdown is resumed after each application, no further analysis is required. "Daily Average" as it applies to FAC or Spectrus1300/Clam-trol CT-2 means the average of values taken over any individual release period and "Daily maximum" applies to FAC at any time (i.e., during treatment of any cooling tower).

Neither free available chlorine (FAC) nor total residual chlorine (TRC) or other Department approved biocide shall be discharged from any tower for more than two hours in any one day and not more than any one tower shall discharge FAC or TRC or other biocide at one time. TRC or biocide monitoring shall be adequate to document compliance with this requirement. Chlorine shall not be used in conjunction with any other biocide during treatment of any one cooling tower .

3. The Licensee needs to provide certification that the 126 priority pollutants (as listed in 40 CFR Section 423, Appendix A) are not being discharged in detectable concentrations in the cooling tower blowdown as a result of addition of any maintenance chemicals. Continued compliance shall be demonstrated by one of the three methods below.

Method 1-sampling at a frequency of not less than once per year for all priority pollutants referenced above with submission of analysis results with each certification.

Method 2-submission of certification (s) from the manufacturer that each product used contains no priority pollutants. Such submission is required only once for each product used, unless subsequent changes in the product formulation occur or the product is obtained from a different source. Certification for all products in use shall be maintained on site.

Method 3-calculations to assure that if priority pollutants are contained in any product(s), no discharge of any individual priority pollutant can occur at concentrations greater than 10 micrograms per liter due to dilution within the cooling system.

The certification shall be in the following form: “I certify that no priority pollutants in excess of 10ppb are being discharged from any maintenance chemicals added to the cooling towers. Compliance is demonstrated by Method--”

4. The Licensee is authorized to discharge from **Outfall D-013 -LOW VOLUME WASTES**, Including demineralizer waste, boiler blowdown, auxiliary cooling water and floor drains to the on-site man-made drainage ditch through Outfall D-001 Beaver Creek.

a. Such discharge shall be limited and monitored by the Licensee as specified below:

	DISCHARGE LIMITATIONS		**MONITORING REQUIREMENTS**		
EFFLUENT CHARACTERISTIC	Daily Average	Daily Maximum	Measurement Frequency	Sample Type	Sample Location
Flow, MGD	Report	Report	Per discharge	Totalizer	EFF-3

Total Suspended Solids, mg/l	30.0	100.0	1/Day (see XIII.A.4.C)	8-Hr Composite	EFF-3
Oil and Grease, mg/l	15.0	20.0	1/Day (see XIII.A.4.C)	Grab	EFF-3
PH	NA		1/Day (see XIII.A.4.C)	Grab	EFF-3

b. The location of sampling points as specified above are as follows:

Monitoring Location	Description of Monitoring Location
EFF-3	Discharge from treatment pond #2 or #3 (EFF-3) prior to mixing with any other waste stream (s).

c. Monitoring for total suspended solids, oil and grease, and pH is required only during periods of discharge to drainage ditch. The range for pH shall remain within 6.0 to 9.0 SU.

5. Phosphorus: The effluent shall not contain phosphorus in amounts greater than 1.65 mg/l, as P.

6. Sulfate: Hydrochloric acid or sulfuric acid or both may be utilized for pH adjustment and scale control in the cooling tower. Sulfuric acid may be used for resin regeneration and neutralization of the treatment pond effluent. The sulfates as SO_4 in the final combined effluent at the Point of Discharge (POD) shall not exceed 250 mg/l, as SO_4.

7. Chloride: Chloride shall not exceed 250 mg/l at the POD.

8. Deleterious Substances: No organic or inorganic substance which is not specifically described in the application shall be added to the effluent.

9. Temperature: The instantaneous maximum temperature shall be 85^0F during the months of May, June, July, August, and September, and shall be 80^0F during all other months, the maximum daily average shall be 80^0F at all times, calculated as the mean of all temperature readings on a daily (24-hr) basis.

10. Copper: Compliance with the water quality criteria shall be measured at the boundary of a 330 meter mixing zone extending from the POD.

11. The permanent use of a copper corrosion inhibitor, such as Betz DE-1213 (Copper-trol Cu-1) or equivalent, is allowed provided:

a. the discharge concentration of the copper corrosion inhibitor does not exceed 20 mg/l at the POD;

b. treatment will not be more frequent than once per two weeks; and

c. treatment of the towers will be separated by at least one week.

B. Monitoring

Water quality monitoring shall be performed at the POD. The program shall be approved by the Department. The purpose of the program shall be to measure those chemical parameters that are determined to be most indicative of the effects of the power plant liquid discharges. The City of Tallahassee may periodically request that the Department review the monitoring program. After such review the Department may authorize a reduction or modification of the following monitoring program:

Name	**STORET Code**	**Reporting Units**	**Monitoring Point**	**Frequency**
Chlorine, total residual	50060	mg/l	POD	1/M(a)
Oil & Grease	00550	mg/l	POD	1/M
pH, field	00400	pH unit	POD	C(b)
flow rate	50050	mgd	POD	C(b)
Temperature, water	00010	^{o}C	POD	C(b)
Conductivity, adj. to 25°C	00095	micromho	POD	C(b)
Oxygen, dissolved	00300	mg/l O_2	POD	1/M
Iron, total	01045	µg/l Fe	POD	1/Q
Mercury, total	71900	µg/l Hg	POD	1/Q
Chromium, total	01034	µg/l Cr	POD	1/Q
Copper, total	01042	µg/l Cu	MZ	1/Q(c)
Lead, total	01051	µg/l Pb	POD	1/Q

(a) Measured only during periods of chlorination.

(b) Measured continuously at the POD. Estimate daily average from data collected once every hour, and report daily average, daily high and daily low from that data. Also, through November 30, 1995, ambient temperature of cooling tower makeup water (groundwater) shall be obtained daily and reported monthly. Additionally, the City of Tallahassee shall separately conduct a single, one-day study during the summer months (June-September of 1994 or 1995) to examine the intra-day variations in the groundwater temperature used for cooling tower make-up water. Temperature values shall be collected on an hourly basis for a twenty-four hour period. Results of this one day study shall be submitted with the next Monthly Operation Report immediately following the completion of this one day study, with copies submitted to the Office of Siting Coordination and the Bureau of Water Facilities Planning and Regulation. Groundwater temperature data provided pursuant to this paragraph shall be obtained from a cooling tower make-up production well.

(c) MZ (mixing zone) boundary 330 meters downstream of POD.

Testing procedures may be ASTM procedures, Standard Methods, or other methods, as approved by the Department.

C. Cooling Tower Blowdown

The total discharge from the cooling tower of Unit No. 2 shall not exceed 2.9 cubic feet per second (1,300 gallons per minute). The Licensee shall install and operate a heat exchanger to insure that the cooling tower effluent never exceeds an instantaneous maximum temperature shall be 85^0F during the months of May, June, July, August, and September, and shall be 80^0F during all other months. The maximum daily average shall be 80^0F at all times, calculated as the mean of all temperature readings on a daily (24-hr) basis.

D. Ground Water Monitoring

Groundwater shall be monitored for the parameters, and in accordance with the frequency described below. Water samples from the well(s) supplying make-up water to the cooling towers shall be taken concurrently with the water samples taken of the receiving stream. Wells not on line at the time of the sampling of the receiving stream may be sampled at other appropriate time intervals. Data shall be provided to the Department on a quarterly basis for the following:

Measurement	Reporting Units	Frequency
Total Hardness	mg/l $CaCO_3$	1/6M
pH	pH units	1/M
M alkalinity	mg/l $CaCO_3$	1/6M
Conductivity	micromho	1/M

The monitoring program shall be reviewed every two years by the Department.

E. Site Drainage and Erosion Control

a. Provisions shall be made to control sediment runoff during and after construction, utilizing the latest techniques developed by the DOT/DEP. Sediment and oil traps shall be installed and maintained where necessary to achieve the goals of pollution control.

b. A control program shall be established by the applicant to provide periodic review of all construction activities to assure protection of the environment.

c. When new or revised site drainage is undertaken it shall be constructed to minimized the direct effect of runoff from parking areas and other impervious
surfaces.

d. Stormwater Discharge

i. The existing Hopkins Generating Station surface water management -system -is-- permitted to' discharge stormwater - under the terms and conditions imposed by the FDEP's storm water general permit. The facility's identification number is FLR05B822. The City of Tallahassee is required to continue to update the Hopkins Station's Storm Water Pollution Prevention Plan (SWPPP) annually, as required by the general permit; and to implement the annual changes to the SWPPP.

ii. Construction of the Project on the Hopkins site must meet the requirements of Chapter 62-25 and 62-621.300 (4) of the Florida Administrative Code, the design requirements presented in the Site Certification Modification for the Project, and be consistent with the "Environmental Management Act", Article VII, Chapter 10 of the Leon County Land Development Code. The new storm water facilities associated with the Project will not become operational until an engineer practicing in the State of Florida in compliance with Section 471.003 (2) (d) Florida Statutes, and with the appropriate experience in surface water design, certifies that these facilities have been constructed in accordance with the design as approved by the FDEP and Leon County's Department of Growth and Environmental Management (Leon County).

iii. FDEP and Leon County representatives shall be allowed reasonable escorted access to the power plant site to inspect and observe activities associated with the Project construction and/or operation and/or maintenance of the surface water management system in order to determine compliance with the conditions of this certification. The City of Tallahassee Shall not refuse immediate entry or access, upon reasonable notice, to any FDEP or Leon county representative who requests entry for the above noted inspection and presents appropriate credentials.

iv. The Landscaping requirements under Chapter 10 of the Leon County Land Development code shall not apply.

v. The storm water facilities for the project will be incorporated into the (SWPPP) and will be operated and maintained in -accordance with-the SWPPP--and the-approved-design. Every three (3) years, the City shall provide written certification to Leon County that the storm water facilities for the project have been operated in accordance with these requirements and are compliant with state water quality standards.

e. Conservation Area

The parcel of land described as follows shall be maintained in perpetuity as a Conservation Area on the terms and conditions hereinafter set forth:

i. Conservation Area

A parcel of land lying in and being a part of that map or plat of Arvah B. Hopkins Plant as recorded in Plat Book 11, Pages 23A through 23C, inclusive of the

Public Records of Leon County, Florida, being more particularly described as follows:

COMMENCING at St. Joe Paper Company monument marking the Southeast Corner of Section 26, Township 1 North, Range 2 West as shown on that map or plat of Arvah B. Hopkins Plant as recorded in Plat Book 11, Pages 23A through 23C, inclusive, of the Public Records of Leon County, Florida; thence North 89 degrees 02 minutes 45 seconds West, along the South boundary of Arvah B. Hopkins Plat, a distance of 1318.75 feet to a St. Joe Paper Company monument; thence North 00 degrees 30 minutes 17 seconds West, along the East boundary of said Arvah B. Hopkins Plant, South 89 degrees 29 minutes 43 seconds West a distance of 20.00 feet to a set iron rod and cap (LB #6816) marking the POINT OF BEGINNING of the herein described conservation area. From said POINT OF BEGINNING, thence continue South 89 degrees 29 minutes 43 seconds West a distance of 160.00 feet to a set iron rod and cap (LB #6816); thence North 00 degrees 30 minutes 17 seconds West, a distance of 400.00 feet to a set iron rod and cap (LB #6816); thence North 45 degrees 30 minutes 17 seconds West a distance of 180.00 feet to a set iron rod and cap (LB #6816); thence North 00 degrees 30 minutes 17 seconds West a distance of 39.25 feet to a set iron rod and cap (LB #6816); thence North 89 degrees 29 minutes 43 seconds East a distance of 287.28 feet to a line lying 20.00 feet West and parallel to the East boundary of said Arvah B. Hopkins Plant; thence South 00 degrees 30 minutes 17 seconds East, along said line lying 20.00 West of and parallel to said East boundary of Arvah B. Hopkins Plat, a distance of 566.53 feet to the POINT OF BEGINNING of the herein described conservation area.
Said parcel containing 2.38 acres, more or less.

ii. Conservation Terms and Conditions

1) The above-described Conservation Area shall be maintained in a natural condition.

2) The following activities are prohibited within this Conservation Area:

(i) Construction or placing of buildings, roads, signs, billboards or other advertising, utilities, or other structures above or on the ground.

(ii) Dumping or placing of soil or other substance or material as landfill, or dumping or placing of trash, waste, or unsightly or offensive materials.

(iii) Removal or destruction of trees, shrubs, or other vegetation.

(iv) Excavation, dredging, or removal of loam, peat, gravel, soil, rock, or other material substance in such matter as to affect the surface.

(v) Surface use except for purposes that permit the land or water area to remain predominantly in its natural condition.

(vi) Activities detrimental to drainage, flood control, water conservation, erosion control, soil conservation, or fish and wildlife conservation habitat preservation.

(vii) Acts or uses detrimental to such retention of land or water areas.

(viii) Acts or uses detrimental to the preservation of the structural integrity or physical appearance of sites or properties of historical, architectural, archeological, or cultural significance.

3) Leon County shall be entitled to enter the above-described Conservation Area in a reasonable manner and at reasonable times to assure compliance with the requirements of this condition of certification.

F. Polychlorinated Biphenyl Compounds

There shall be no discharge of polychlorinated biphenyl compounds.

XV. ARCHEOLOGICAL SITES

The 231 acre Hopkins site shall be examined by the appropriate archaeological agency of Tallahassee to identify areas of archaeological significance. Subsequently, efforts shall be made to remove, mark or otherwise protect the archeological values. This shall not apply to the area already occupied by structures or the area upon which foundations for the boiler, generator, cooling tower, and stack are to be located.

HISTORY

Certification issued 5/20/75 by Pollution Control Board
Modified (A) 6/27/77; signed by Governor Graham
Modified (B) 05/30/79, signed by Secretary Varn
Modified (C) 10/05/84, signed by Secretary Tschinkel
Modified (D) 10/24/86, signed by Secretary Tschinkel
Modified (E) 10/21/87, signed by Secretary Twachtmann
Modified (F) 06/06/90, signed by Secretary Twachtmann
Modified (G) 05/18/94, signed by Secretary Wetherell
Modified (H) 01/03/01, signed by Deputy Secretary Green
Modified (I) 05/25/04, signed by Siting Administrator Oven
Modified (J) 11/29/04, signed by Siting Administrator Oven

Modified (K) 01/07/05; signed by Siting Administrator Oven
Modified (L) 01/07/05; signed by Siting Administrator Oven

10.4.3 NPDES Permit

(State of Florida Industrial Wastewater Facility Permit – Permit Number FL0025518)

STATE OF FLORIDA
INDUSTRIAL WASTEWATER FACILITY PERMIT

PERMITTEE:
City of Tallahassee
City Hall
300 South Adams Street
Tallahassee, Florida 32301-1731

PERMIT NUMBER: FL0025518
ISSUANCE DATE: October 2, 2003
EXPIRATION DATE: October 1, 2008

Responsible Authority:
Ms. Jenette Curtis, Environmental Director
City of Tallahassee

FACILITY:

Arvah B Hopkins Generating Station
County Road 1585-Geddie Road
Leon County
Tallahassee, Florida, 32304

This permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and applicable rules of the Florida Administrative Code (F.A.C.) and constitutes authorization to discharge to waters of the state under the National Pollutant Discharge Elimination System. The above named permittee is hereby authorized to operate the facilities shown on the application and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

OPERATION: of an industrial wastewater treatment and disposal system to serve the referenced facility, a steam electric power generation plant. The facility has an average discharge of 1.87 million gallons/day (MGD), and a maximum design discharge of 3.3 MGD. The electric power generating units at the facility consist of Units 1 and 2 both of which are fired by fuel oil and natural gas. Unit 1 has a nominal rating of 75 MW and Unit 2 has a nominal rating of 238 MW. The facility's industrial wastewater discharge consists of cooling tower blowdown from Units 1 and 2, industrial wastewater treatment pond effluent, auxiliary cooling water, boiler blowdown and demineralizer waste.

TREATMENT : Mixing, flocculation, and sedimentation of Low Volume Wastes and Metal Cleaning Waste. Additionally, pH adjustment of cooling tower blowdown and reduction of blowdown temperature with heat exchangers.

EFFLUENT DISPOSAL:

This permit authorizes discharge to Beaver Creek from Outfall D-001, over a weir at the downstream end of an on-site man-made drainage ditch. Beaver Creek flows through the Talquin Wildlife Management Area and is a tributary of the Ochlockonee River, an Outstanding Florida Water pursuant to Chapter 62-302.700(9)(I)(22), Florida Administrative Code (F.A.C.).

Outfall D-001 is located at - Latitude: 30° 27' 04", North, and Longitude: 84° 24' 12" West

IN ACCORDANCE WITH: The limitations, monitoring requirements and other conditions set forth in Pages 1 through 22 of this permit.

I. Effluent Limitations and Monitoring Requirements

A. Surface Water Discharges

1. During the period beginning on the issuance date of this permit and lasting through expiration, the permittee is authorized to discharge from **Outfall D-0171 and-D-0172- Cooling Tower Blowdown** from Cooling Towers 1 and 2, respectively, into the on-site man made drainage ditch through Outfall D-001 to Beaver Creek.

   a. Such discharges shall be limited and monitored by the permittee as specified below:

	DISCHARGE LIMITATIONS		**MONITORING REQUIREMENTS**		
EFFLUENT CHARACTERISTIC	Daily Average	Daily Maximum	Measurement Frequency	Sample Type	Sample Location
Flow, MGD	Report	Report	Daily	Integrator	EFF-2A, EFF-2B
Free Available Chlorine, mg/l	0.2	0.5	Each Application	Multiple Grabs[1]	EFF-2A, EFF-2B
Time of Chlorine Discharge , Minutes/tower/day	N/A	120	Each Application	Logs	EFF-2A, EFF-2B
Total Recoverable Zinc, mg/l	1.0	1.0	1/Quarter	Grab	EFF-2A, EFF-2B
Total Recoverable Chromium, mg/l	0.2	0.2	1/Quarter	Grab	EFF-2A, EFF-2B
Total Recoverable Copper, mg/l	Report	Report	1/Quarter	Grab	EFF-2A, EFF-2B
pH	NA	See I.A.c.	1/month	Grab	EFF-2A, EFF-2B
Spectrus 1300 /Clam-trol CT-2	Report	Report	Each Application	Multiple Grabs[1]	EFF-2A, EFF-2B

   b. The location of sampling points as specified above are as follows:

Monitoring Location	Description of Monitoring Location
EFF-2A	Cooling tower conveyance pipe prior to mixing with any other waste stream (s) from unit1.
EFF-2B	Cooling tower conveyance pipe prior to mixing with any other waste stream (s) from unit 2.

   c. The range for pH shall remain within 6.0 to 9.0 SU.

[1] Multiple grabs shall consist of grab samples collected at the approximate beginning of TRC or Spectrus 1300/Clam-trol CT-2 discharge and once every 15 minutes thereafter until the end of TRC or Spectrus 1300/Clam-trol CT-2 discharge. In the event that TRC is not detectable or Spectrus1300/Clam-trol CT-2 is below the no effect level of 0.12mg/l at the time that blowdown is resumed after each application, no further analysis is required. "Daily Average" as it applies to FAC or Spectrus1300/Clam-trol CT-2 means the average of values taken over any individual release period and "Daily maximum" applies to FAC at any time (i.e., during treatment of any cooling tower).

d. Neither free available chlorine (FAC) nor total residual chlorine (TRC) or other Department approved biocide shall be discharged from any tower for more than two hours in any one day and not more than any one tower shall discharge FAC or TRC or other biocide at one time. TRC or biocide monitoring shall be adequate to document compliance with this requirement. Chlorine shall not be used in conjunction with any other biocide during treatment of any one cooling tower .

e. The permittee needs to provide certification that the 126 priority pollutants (as listed in 40 CFR Section 423, Appendix A) are not being discharged in detectable concentrations in the cooling tower blowdown as a result of addition of any maintenance chemicals. Continued compliance shall be demonstrated by one of the three methods below.

Method 1-sampling at a frequency of not less than once per year for all priority pollutants referenced above with submission of analysis results with each certification.

Method 2-submission of certification (s) from the manufacturer that each product used contains no priority pollutants. Such submission is required only once for each product used, unless subsequent changes in the product formulation occur or the product is obtained from a different source. Certification for all products in use shall be maintained on site.

Method 3-calculations to assure that if priority pollutants are contained in any product(s), no discharge of any individual priority pollutant can occur at concentrations greater than 10 micrograms per liter due to dilution within the cooling system.

The certification shall be in the following form: "I certify that no priority pollutants in excess of 10ppb are being discharged from any maintenance chemicals added to the cooling towers. Compliance is demonstrated by Method--"

2. During the period beginning on the issuance date of this permit and lasting through expiration, the permittee is authorized to discharge from **Outfall D-013 -LOW VOLUME WASTES**, Including demineralizer waste, boiler blowdown, auxiliary cooling water and floor drains to the on-site man-made drainage ditch through Outfall D-001 Beaver Creek.

a. Such discharge shall be limited and monitored by the permittee as specified below:

	DISCHARGE LIMITATIONS		**MONITORING REQUIREMENTS**		
EFFLUENT CHARACTERISTIC	Daily Average	Daily Maximum	Measurement Frequency	Sample Type	Sample Location
Flow, MGD	Report	Report	Per discharge	Totalizer	EFF-3
Total Suspended Solids, mg/l	30.0	100.0	1/Day (see I.A.2.c)	8-Hr Composite	EFF-3
Oil and Grease, mg/l	15.0	20.0	1/Day (see I.A.2.c)	Grab	EFF-3
PH	NA	See I.A.2.c.	1/Day (see I.A.2.c)	Grab	EFF-3

b. The location of sampling points as specified above are as follows:

Monitoring Location	Description of Monitoring Location
EFF-3	Discharge from treatment pond #2 or #3 (EFF-3) prior to mixing with any other waste stream (s).

c. Monitoring for total suspended solids, oil and grease, and pH is required only during periods of discharge to drainage ditch. The range for pH shall remain within 6.0 to 9.0 SU.

3. During the period beginning on the effective date of this permit and lasting through expiration, the permittee is authorized to discharge from outfall **D015 - Metal Cleaning Wastes (MCW)**, treatment system discharge (this will include some low volume wastes) to the on-site man-made drainage ditch through Outfall D001 to Beaver Creek.

a. Such discharges shall be limited and monitored by the permittee as specified below:

	DISCHARGE LIMITATIONS			**MONITORING REQUIREMENTS**		
EFFLUENT CHARACTERISTIC	Batch Maximum	Daily Maximum	Daily Average	Measurement Frequency	Sample Type	Sample Point
Flow of Total Waste Treated, MGD	Report	Report	N/A	Per Discharge	Flowmeter	EFF-4
Total Recoverable Copper, lbs./MG of MCW	8.345 (1mg/l)	8.345 (1 mg/l)	8.345 (1 mg/l)	1/Day, see I.A.3.d. and footnote)[1]	Composite	EFF-4
Total Recoverable Iron, lbs./MG of MCW	8.345 (1 mg/l)	8.345 (1 mg/l)	8.345 (1 mg/l)	1/Day, see I.A.3.d. and footnote)[1]	Composite	EFF-4
Total Suspended Solids, mg/l	N/A	100.0	30.0	1/Day, see I.A.3.e.	8-Hr Composite	EFF-4
Oil and Grease, mg/l	N/A	20.0	15.0	1/Day (see I.A.3.e)	Grab	EFF-4
PH	N/A	N/A	See I.A.3.e.	1/Day (see I.A.3.e)	Grab	EFF-4

b. The location of sampling points as specified above are as follows:

Monitoring Location	Description of Monitoring Location

[1] Samples shall be collected on a start of discharge of metal cleaning waste from the treatment facility (pond #1) and shall continue until all wastes have been discharged from the treatment facility.

EFF-4	From the metal cleaning waste treatment prior to mixing with any other waste stream.

c. The term "metal cleaning waste" means any wastewater resulting from cleaning (with or without chemical cleaning compounds) any metal process equipment including, but not limited to, boiler tube cleaning, boiler fireside cleaning and air preheater cleaning.

d. Quantity of total recoverable iron and total recoverable copper discharged shall not exceed 8.345 pounds per million gallons of metal cleaning waste treated. Flow of metal cleaning wastes treated and total flow of all wastes treated shall be reported.

e. The requirements for monitoring shall be effective only during periods of discharge(s) of metal cleaning wastes. The range for pH shall remain within 6.0 to 9.0 SU.

4. During the period beginning on the effective date of this permit and lasting through expiration, the permittee is authorized to discharge from outfall **D001 - Final Discharge** of all waste streams from the facility to the on-site man-made drainage ditch to Beaver Creek.

a. Such discharges shall be limited and monitored by the permittee as specified below:

	DISCHARGE LIMITATIONS	MONITORING REQUIREMENTS		
EFFLUENT CHARACTERISTIC	Instantaneous Maximum	Measurement Freq.	Sample Type	Sample Point
Flow, MGD	Report	Continuous	Recorder	EFF-1
Discharge Temperature, °F	see I.A.4.c.	Continuous	Recorder	EFF-1
Total Residual Chlorine (TRC), mg/l	0.01	1/Discharge	Grab	EFF-1
Oil and Grease, mg/l	5.0	1/Month	Grab	EFF-1
Total Recoverable Copper, ug/l	See I.A.4.h., and footnote[1]	1/Quarter	8-Hr Composite	EFF-1, EFF-1A
Total Recoverable Iron, mg/l	1.0	1/Quarter	8-Hr Composite	EFF-1
Total Recoverable Chromium, mg/l	(see footnote)[2]	1/Quarter	Grab	EFF-1
Total Recoverable Zinc, mg/l	(see footnote)[2]	1/Quarter	Grab	EFF-1
Hardness mg/l of CaCO3	Report	1/Quarter	Grab	EFF-1, EFF-1A
Acute Toxicity Testing	See I.B.16		Grab	EFF-1

b. The location of sampling points as specified above are as follows

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1 This limitation shall apply at the point of discharge (POD) to Beaver Creek, monitored at EFF1. The facility is authorized a mixing zone for total recoverable copper of 330 M downstream from the POD. Water Quality Standards (WQS) shall be achieved at the downstream edge of the mixing zone.

2 Pursuant to 62-302.500(2)(d), Florida Administrative Code all metals shall be reported as the total recoverable fraction. The maximum values are calculated based on total hardness of the receiving stream. Hardness expressed in mg/l $CaCO_3$ shall be measured at each location in the table once per quarter. Such measurement shall be made during the same sampling event as at outfall D001. Flow of the individual effluent stream must be recorded. Mixing zones (or other relief mechanisms) may be considered by the Department at any time based on data submitted pursuant to the conditions of this permit and other appropriate information. Nothing in this permit shall preclude the permittee from applying for any relief mechanism during the term of this permit.

a)The allowable daily maximum limit for zinc shall be calculated as follows: $Zn \leq e^{(.8473\ln[H]+).8840)}$ ug/L

b)The allowable daily maximum limit for chromium shall be calculated as follows: $Cr(III) \leq e^{0.819\ln[H]+0.6848}$ ug/L

c) The allowable daily maximum limit for copper shall be calculated as follows: $Cu \leq e^{0.845\ln[H]-1.702}$ ug/L

Monitoring Location	Description of Monitoring Location
EFF-1	Onsite man-made ditch, immediately upstream of the overflow weir, prior to mixing with the receiving water, Beaver Creek at the POD.
EFF-1A	Within Beaver Creek approximately 650 meters downstream from the POD.

c. The instantaneous maximum temperature shall be 85^0F during the months of May, June, July, August, and September, and shall be 80^0F during all other months, the maximum daily average shall be 80^0F at all times, calculated as the mean of all temperature readings on a daily (24-hr) basis.

d. The pH shall remain within the 6.0 to 8.5 SU range at all times, except for excursions as allowed under 40 CFR Part 401.17, and shall be monitored continuously.

e. There shall be no discharge of floating solids or visible foam in other than trace amounts.

f. Lethality to more than 50% of any test species, as specified in Section I.B.16 of this permit, in 100% effluent in a test of 96 hours duration or less will constitute a violation and the terms of this permit.

g. Pursuant to Rules 62-302.500(2)(d) and 62-620.620(2)(c)1., Florida Administrative Code (F.A.C.) metals concentrations shall be reported and expressed as the total recoverable fraction.

h. Surface water samples collected in compliance with the monitoring requirements for total recoverable copper and hardness for **D-001, Final Discharge** to surface waters of the state, shall be obtained from the onsite man-made ditch at monitoring location EFF-1 immediately upstream of the overflow weir, which is the POD, prior to mixing with Beaver Creek (the receiving water), and from Beaver Creek at monitoring location EFF-1A. An effluent limitation of 50 ug/L for total recoverable copper shall be achieved at EFF-1. Monitoring at EFF-1A shall be Report Only for total recoverable copper. Monitoring location EFF1-A is within Beaver Creek approximately 650M down stream from the POD.

B. Other Limitations and Monitoring and Reporting Requirements

1. The sample collection, analytical test methods and method detection limits (MDLs) applicable to this permit shall be in accordance with Rule 62-4.246, Chapter 62-160 F.A.C., and 40 CFR 136, as appropriate. The list of Department established analytical methods, and corresponding MDLs (method detection limits) and PQLs (practical quantification limits), which is titled "Florida Department of Environmental Protection Table as Required By Rule 62-4.246(4) Testing Methods for Discharges to Surface Water" dated June 21, 1996, is available from the Department on request. The MDLs and PQLs as described in this list shall constitute the minimum acceptable MDL/PQL values and the Department shall not accept results for which the laboratory's MDLs or PQLs are greater than those described above unless alternate MDLs and/or PQLs have been specifically approved by the Department for this permit. Any method included in the list may be used for reporting as long as it meets the following requirements:

a. The laboratory's reported MDL and PQL values for the particular method must be equal or less than the corresponding method values specified in the Department's approved MDL and PQL list;

b. The laboratory reported PQL for the specific parameter is less than or equal to the permit limit or the applicable water quality criteria, if any stated in Chapter 62-302, F.A.C. Parameters that are listed as "report only" in the permit shall use methods that provide a PQL, which is equal to or less than the applicable water quality criteria stated in 62-302 FAC; and

c. If the PQLs for all methods available in the approved list are above the stated permit limit or applicable water quality criteria for that parameter, then the method with the lowest stated PQL shall be used. Where the analytical results are below method detection or practical quantification limits, the permittee shall report the actual laboratory MDL and/or PQL values for the analyses that were performed following the instructions on the applicable discharge monitoring report. Approval of alternate laboratory MDLs or PQLs are not necessary if the laboratory reported MDLs and PQLs are less than or equal to the permit limit or the

applicable water quality criteria, if any, stated in Chapter 62-302, F.A.C. However, where necessary, the permittee may request approval for alternative methods or for alternative MDLs and PQLs for any approved analytical method, in accordance with the criteria of Rules 62-160.520 and 62-160.530, F.A.C.

2. Monitoring results obtained for each calendar month shall be summarized for that month and reported on a Discharge Monitoring Report (DMR), Form 62-620.910(10), postmarked no later than the 28th day of the month following the completed calendar month. For example, data for January shall be submitted by February 28. Signed copies of the DMR shall be submitted to the address specified below:

   Florida Department of Environmental Protection
   Mail Station 3551
   Twin Towers Office Building
   2600 Blair Stone Road
   Tallahassee, Florida 32399-2400

   If no discharge occurs during the reporting period, sampling requirements of this permit do not apply. The statement "No discharge" shall be written on the DMR form. If, during the term period of this permit, the facility ceases to discharge, the Department shall be notified immediately upon cessation of discharge. Such notification shall be in writing.

3. Unless specified otherwise in this permit, all other reports and notifications required by this permit, including twenty-four hour notifications, shall be submitted to or reported to the Department's Northwest District Office at the address specified below:

   Florida Department of Environmental Protection
   Northwest District
   160 Government Center
   Pensacola, Florida 32501-5794
   Phone Number (850) 595-8300

4. Monitoring requirements under this permit are effective on the first day of the second month following permit issuance. Until such time, the permittee shall continue to monitor and report in accordance with previously effective permit requirements, if any. During the period of operation authorized by this permit, the permittee shall complete and submit to the Department **Discharge Monitoring Reports (DMRs)** in accordance with the frequencies specified by the **REPORT** type (i.e., monthly, toxicity, quarterly, semiannual, annual, etc.) indicated on the DMR forms attached to this permit. Monitoring results for each monitoring period shall be submitted in accordance with the associated DMR due dates below:

REPORT Type	Monitoring Period	Due Date
Monthly or Toxicity	First day of month – last day of month	28th day of following month
Quarterly	January 1 – March 30 April 1 – June 30 July 1 – September 30 October 1 – December 31	April 28 July 28 October 28 January 28
Semi-Annual	January 1 – June 30 July 1 – December 31	July 28 January 28
Annual	January 1 – December 31	January 28

DMRs shall be submitted for each required monitoring period including months of no discharge. The permittee shall make copies of the attached DMR form and shall submit the completed DMR form to the Department at the address specified in Permit Condition I.B.2 above.

5. There shall be no discharge of floating debris, scum, oil, or other matter in such amounts as to form nuisances or produce color, odor, taste, turbidity, or other conditions to such degree as to create a nuisance or otherwise interfere with the beneficial use of the receiving waters in accordance with Rules 62-302.500(1)(a) and (b), F.A.C. Any such discharges to waters of the State shall be reported to the Department when submitting DMRs.

6. There shall be no discharge of polychlorinated biphenyl compounds such as those commonly used for transformer fluid.

7. Discharge of any product registered under the Federal Insecticide, Fungicide, and Rodenticide Act to any waste stream which ultimately may be released to lakes, rivers, streams, or other waters of the United States is prohibited unless specifically authorized elsewhere in this permit. This requirement is not applicable to products used for lawn and agricultural purposes or to the use of herbicides if used in accordance with labeled instructions and any applicable State permit.

8. The Permittee shall notify the Department in writing no later than six (6) months prior to instituting use of any biocide or chemical (except chlorine or hydroquinone as authorized elsewhere in this permit) used in the cooling systems or any other portion of the treatment system which may be toxic to aquatic life. Such notification shall include:

   a. Name and general composition of biocide or chemical
   b. Frequencies of use
   c. Quantities to be used
   d. Proposed effluent concentrations
   e. Acute and/or chronic toxicity data (laboratory reports shall be prepared according to Section 12 of EPA document no. EPA/600/4-90/027 entitled, Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters for Freshwater and Marine Organisms, or most current addition.)
   f. Product data sheet
   g. Product label

   The Department shall review the above information to determine if a major or minor permit revision is necessary. Discharge associated with the use of such biocide or chemical is not authorized without prior approval by the Department.

9. Discharge of hydroquinone in boiler blowdown from Units 1 and 2 is authorized.

10. The permittee is authorized to utilize Copper-trol Cu-1, Tolytriazole(TTA)/TRASAR or Halogen Resistant Azole (HRA) copper corrosion inhibitors in the Units 1and 2 cooling water systems during the term of this permit. Such approval is predicated on the following conditions:

    a. Chemical addition rate and amount shall be such that not more than a maximum instantaneous discharge concentration of 30.0 mg/l of Copper-trol Cu-1, or 1.0mg/l of TTA/TRASAR or 0.5mg/l HRA shall occur in the blowdown from the cooling tower(s). Analysis of cooling tower blowdown (CTBD) from each tower shall commence on start of blowdown after each addition of Copper-trol Cu-1 to the tower.

       The maximum discharge concentrations of TTA/TRASAR or HRA shall be determined based on the feed water rates of these products into the cooling system.

    b. The discharge concentration of Copper-trol Cu-1 at the point of discharge (POD) shall not exceed 20.0 mg/l. Sampling shall be by multiple grabs until a maximum concentration has been obtained. If the maximum Copper-trol Cu-1 concentration in CTBD is 20.0 mg/l or less, monitoring at the POD for copper-trol Cu-1 is not required. The POD is where the effluent from the plant physically leaves the plant site at County Road 1585.

c. Treatment of the towers with Copper-trol shall be separated by at least one week.

d. A log of the feed rate of TTA/TRASAR or HRA shall be maintained and kept in the facility records.

e. Compliance with the discharge limits for Copper-trol Cu –a above shall be documented with each discharge monitoring report submitted.

11. The permittee is authorized to utilize Spectrus 1300 biocide in accordance with the following dosage rates:

Unit #1

Product	Treatment Level	System Volume	Lbs. Per Application	Gallons per Application
Spectrus 1300	8 ppm	850,000 gal.	56.6 lbs.	7.1 gal.

Unit # 2

Product	Treatment Level	System Volume	Lbs. Per Application	Gallons per Application
Spectrus 1300	8 PPM	1,080,000	72.0 lbs.	9.0 gal.

Typical Annual Treatments:
Summer (16 weeks)(2 times per week)
Spring & Fall (28 weeks)(1 time per week)
Winter (8 weeks)(1 time every two weeks)

The permittee shall adhere to the following procedures during each treatment of the Spectrus 1300:

1) The cooling tower blowdown valve on the tower being treated shall be closed.
2) The initial dosage rate shall be recorded along with the beginning time of treatment.
3) The residual concentration of Spectrus 1300 in the cooling tower shall be measured periodically using the Methyl Orange Method. The time and concentration of Spectrus 1300 determined during each test shall be recorded.
4) After sufficient time to assure through mixing of the Spectrus 1300, bentonite clay shall be added to the cooling tower in a ratio 7-1/2 to 1. The cooling tower shall continue to be tested using the Methyl Orange Method until the no effect level for all species, determined by previous toxicity tests, have been achieved.
5) The amount of bentonite clay used and the time of addition shall be recorded.
6) The cooling tower blowdown may be opened after reaching the no-effect level.
7) The permittee shall retain written logs for each treatment event recording the information specified in Conditions 1-6 above. This data shall be retained in a form suitable for Department inspection and submitted upon request.
8) The permittee shall not introduce any other biocides to the cooling tower system during the Spectrus 1300 treatments.

12. Monitoring requirements specified in Section I.A of this permit shall begin on the first day of the second month after the permit issuance date.

13. The permittee is authorized to discharge storm water from the diked petroleum storage or handling areas provided the following conditions are met:

    1) The facility shall have a valid Spill Prevention Control and Countermeasure (SPCC) plan pursuant to 40 CFR Part 112.

    2) In draining the diked area, a portable oil skimmer or similar device or absorbent material shall be used to remove oil and grease (as indicated by the presence of a sheen) immediately prior to draining.

    3) Monitoring records shall be maintained in the form of a log and shall contain the following information, as a minimum.

        a) date and time of discharge;

        b) Estimated volume of discharge;

        c) Initials of the person making visual inspection and authorizing discharge; and

        d) Observed conditions of the storm water discharged.

    4) There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil sheen at any time.

14. The permittee is authorized to use cooling tower water for fire protection in case of emergency and to perform normal and reasonable testing of the fire protection system. The provisions of Part 1, Section A.1 of this permit do not apply under these emergency or testing conditions.

15. This permit constitutes certification of compliance with State Water Quality Standards (Section 401, PL 92-800).

16. The permittee shall initiate the series of tests described below, annually during the third quarter following permit issuance, to evaluate whole effluent toxicity of the discharge from outfall D001 (formerly OSN 005). All test species, procedures and quality assurance criteria used shall be in accordance with Methods for Measuring Acute Toxicity of Effluents to Freshwater and Marine Organisms, EPA/600/4-90/027F, or the most current edition. The control water and dilution water used will be moderately hard water as described in EPA/600/4-90/027F, Table 6, or the most current edition. A standard reference toxicant quality assurance acute toxicity test shall be conducted concurrently with each species used in the toxicity tests or no greater than 30 days prior to the test date and the results of all toxicity tests shall be submitted with the discharge monitoring report (DMR). If monthly QA/QC reference toxicant tests are conducted, these results must be submitted with the DMR.

    Any deviation of the bioassay procedures outlined herein shall be submitted in writing to the Department for review and approval prior to use.

    a.) 1. The permittee shall conduct 96-hour acute static renewal toxicity tests using the daphnid, **Ceriodaphnia dubia**, and the bannerfin shiner, **Cyprinella leedsi**. All tests shall be conducted on a single grab sample collected from outfall D001 during the discharge of the cooling tower blowdown (D0171 and/ or D0172) and one of the waste ponds (D013 or D015).

    2. If control mortality exceeds 10% for either species in any test, the test(s) for that species (including the control) shall be repeated. A test will be considered valid only if control mortality does not exceed 10% for either species. If, in any separate grab sample test, 100% mortality occurs prior to the end of the test, and control mortality is less than 10% at that time, that test (including the control) shall be terminated with the conclusion that the sample demonstrates unacceptable acute toxicity.

    b.) Results from "routine" tests shall be reported according to EPA/600/4-90/027F, Section 12, Report Preparation (or the most current edition), and shall be submitted to:

Florida Department of Environmental Protection
Division of Water Facilities
Wastewater Facilities Regulation Section
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

c) 1. All "routine" tests shall be conducted using a control (0% effluent) and the following test concentrations: **100%, 50%, 25% 12.5% and 6.25%** final effluent.

2. Mortalities of equal to or greater than 50% in a 100% effluent sample or any calculated LC50 < 100% effluent will constitute a violation of these permit conditions, and Rule 62-302.200(1), Rule 62-302.500(1)(a)4 and Rule 62-4.244(3)(a), F. A. C.

d) 1. If unacceptable acute toxicity (results of any LC50 calculation which does not demonstrate compliance with the 1/3 96 hour LC50 or mortalities of greater than 20% in the 100% effluent concentration of the dilution series) is found in a "routine" test, the permittee shall conduct two additional multi-concentration test on each species indicating acute toxicity. Each additional test will include grab samples taken as described in 1.a.. Results for each additional test will include the determination of LC50 values with 95% confidence limits.

2. For each additional test, the sample collection requirements and the test acceptability criteria specified in Section 16.a.2 above must be met for the test to be considered valid. The first test shall begin within two weeks of the end of the "routine" tests, and shall be conducted weekly thereafter until two additional, valid tests are completed. The additional tests will be used to determine if the toxicity found in the "routine" test is still present.

3. Results from additional tests, required due to unacceptable acute toxicity in the "routine" tests, shall be submitted in a single report prepared according to EPA/600/4-90/027F, Section 12, or the most current edition and submitted within 45 days of completion of the additional, valid test. If the additional test(s) demonstrate unacceptable acute toxicity, the permittee will meet with the Department within 30 days of the report submittal to identify corrective actions necessary to remedy the unacceptable acute toxicity.

II. Sludge Management Requirements

Industrial Sludge
The disposal of industrial sludge in a solid waste management facility permitted by the Department shall be in accordance with the requirements of Chapter 62-701, F.A.C.

III. Ground Water Monitoring Requirements- Not Applicable

IV. Additional Reuse and Land Application Requirements-Not Applicable

V. Operation and Maintenance Requirements

Operation of Treatment and Disposal Facilities

1. The permittee shall ensure that the operation of this facility is as described in the application and supporting documents.
2. The operation of the pollution control facilities described in this permit shall be under the supervision of a person who is qualified by formal training and/or practical experience in the field of water pollution control appropriate for those facilities.

Record keeping Requirements:

3. The permittee shall maintain the following records on the site of the permitted facility and make them available for inspection:
   a. Records of all compliance monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, including, if applicable, a copy of the laboratory certification showing the certification number of the laboratory, for at least three years from the date the sample or measurement was taken;
   b. Copies of all reports, other than those required in items a. and b. of this section, required by the permit for at least three years from the date the report was prepared, unless otherwise specified by Department rule;
   c. Records of all data, including reports and documents used to complete the application for the permit for at least three years from the date the application was filed, unless otherwise specified by Department rule;
   d. A copy of the current permit;
   e. A copy of any required record drawings;
   f. Copies of the logs and schedules showing plant operations and equipment maintenance for three years from the date on the logs or schedule

VI. Schedules

1. The permittee shall achieve compliance with the effluent limitations specified for discharges in accordance with the following schedule:

   Operational level attained.....Issuance Date (ID) of permit

   Best Management Practices Pollution Prevention Plan (BMP3)(See Part VII.C.)
   (1) Update plan..... ID of permit plus 3 months
   (2) Implement plan..... ID of permit plus 6 months

2. No later than 14 calendar days following a date identified in the above schedule of compliance, the permittee shall submit either a report of progress or, in the case of specific actions being required by an identified date, a written notice of compliance or noncompliance. In the latter case, the notice shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirement.
3. Copper: Within 60 days following permit issuance, the Permittee shall submit a plan of study (POS) for the Department's review and approval for the evaluation of copper and hardness in the discharge from D-001 and in Beaver Creek. The term of the data collection portion of the evaluation program shall be not more than two years following Department approval of the POS. The evaluation shall include water quality monitoring to evaluate concentrations of copper, biological monitoring to evaluate biological integrity and reevaluation of the existing Copper minimization study with regards to operating conditions under this permit. On completion of the evaluation, the Permittee shall submit a report, in accordance with the timeframe approved in the POS to the Department presenting the data and recommendations regarding a mixing zone. When the Department has determined that the report is complete, it will make a determination with regard to the continued need for a mixing zone. Reopener provisions may be used to revise permit conditions, as appropriate.

VII. Other Specific Conditions

A. Specific Conditions Applicable to All Permits

1. Drawings, plans, documents or specifications submitted by the permittee, not attached hereto, but retained on file with the Department, are made a part hereof.
2. Where required by Chapter 471 (P.E.) or Chapter 492 (P.G.) Florida Statutes, applicable portions of reports to be submitted under this permit, shall be signed and sealed by the professional(s) who prepared them.
3. This permit satisfies industrial wastewater program permitting requirements only and does not authorize operation of this facility prior to obtaining any other permits required by local, state or federal agencies.

B. Duty to Reapply

1. The permittee shall submit an application to renew this permit at least 180 days before the expiration date of this permit.
2. The permittee shall apply for renewal of this permit on the appropriate form listed in Rule 62-620.910, FAC, and in the manner established in Chapter 62-620, FAC, and the Department of Environmental Protection Guide to Wastewater Permitting including submittal of the appropriate processing fee set forth in Rule 62-4.050, FAC
3. An application filed in accordance with subsections 1. and 2. of this part shall be considered timely and sufficient. When an application for renewal of a permit is timely and sufficient, the existing permit shall not expire until the Department has taken final action on the application for renewal or until the last day for seeking judicial review of the agency order or a later date fixed by order of the reviewing court.
4. The late submittal of a renewal application shall be considered timely and sufficient for the purpose of extending the effectiveness of the expiring permit only if it is submitted and made complete before the expiration date.

C. Specific Conditions Related to Best Management Practices Pollution Prevention (BMP3) Plan Condition

1. Best Management Practices Plan :

   In accordance with Rule 62-620.620(1)(n), FAC, the permittee shall develop and implement a BMP3 plan. References which may be used in developing the plan are "Criteria and Standards for Best Management Practices Authorized Under Section 304(e) of the Act", found at 40 CFR Part 122.44(k), the Storm Water Management Industrial Activities Guidance Manual, EPA/833-R92-002 and other EPA documents relating to Best Management Practice guidance.

2. Definitions:

   a. The term "pollutants" refers to conventional, non-conventional and toxic pollutants, as appropriate for the NPDES storm water program and toxic pollutants.

   b. Conventional pollutants are: biochemical oxygen demand (BOD), suspended solids, pH, fecal coliform bacteria and oil & grease.

   c. Non-conventional pollutants are those which are not defined as conventional or toxic, such as phosphorus, nitrogen or ammonia. (Ref: 40 CFR Part 122, Appendix D, Table IV)

d. For purposes of this part, Toxic pollutants include, but are not limited to: a) any toxic substance listed in Section 307(a)(1) of the CWA, any hazardous substance listed in Section 311 of the CWA, and b) any substance (that is not also a conventional or non-conventional pollutant) for which EPA has published an acute or chronic toxicity criterion, or that is a pesticide regulated by the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).

e. "Pollution prevention" refers to the first category of EPA's preferred hazardous waste management strategy - source reduction.

f. "Significant Materials" is defined as raw materials; fuels; materials such as solvents and detergents; hazardous substances designated under Section 101(14) of CERCLA; and any chemical the facility is required to report pursuant to EPCRA, Section 313; fertilizers; pesticides; and waste products such as ashes, slag and sludge.

g. "Source reduction" means any practice which: i) reduces the amount of any pollutant entering a waste stream prior to recycling, treatment or disposal; and ii) reduces the hazards to public health and the environment associated with the release of such pollutant. The term includes equipment or technology modifications, process or procedure modifications, substitution of raw materials, and improvements in housekeeping, maintenance, training, or inventory control. It does not include any practice which alters the physical, chemical, or biological characteristics or the volume of a pollutant through a process or activity which itself is not integral to, or previously considered necessary for, the production of a product or the providing of a service.

h. "BMP3" means a Best Management Practices Pollution Prevention Plan incorporating the requirements of 40 CFR § 125, Subpart K, plus pollution prevention techniques, except where other existing programs are deemed equivalent by the permittee. The permittee shall certify the equivalency of the other referenced programs.

i. "Reportable Quantity (RQ) Discharge" A RQ release occurs when a quantity of a hazardous substance or oil is spilled or released within a 24-hour period of time and exceeds the RQ level assigned to that substance under CERCLA or the Clean Water Act. These levels or quantities are defined in terms of gallons or pounds. Regulations listing these quantities are contained at 40 CFR 302.4, 40 CFR 117.21 and 40 CFR 110.

j. The term "material" refers to chemicals or chemical products used in any plant operation (i.e., caustic soda, hydrazine, degreasing agents, paint solvents, etc.). It does not include lumber, boxes, packing materials, etc.

3. Best Management Practices/Pollution Prevention (BMP3) Plan:

The permittee shall develop and implement a BMP3 plan for the facility which is the source of wastewater and storm water discharges. The plan shall be directed toward reducing those pollutants of concern which discharge, or could discharge, to surface waters to and shall be prepared in accordance with good engineering and good housekeeping practices. For the purposes of this permit, pollutants of concern shall be limited to toxic pollutants and significant materials, as defined above, known to the discharger. The plan shall address all activities which could or do contribute these pollutants to the surface water discharge, including storm water, water and waste treatment, and plant ancillary activities.

4. Signatory Authority & Management Responsibilities:

   A copy of the BMP3 plan shall be retained at the facility and shall be made available to the permit issuing authority upon request.

   The BMP3 plan shall contain a written statement from corporate or plant management indicating management's commitment to the goals of the BMP3 program. The BMP3 plan shall be signed and reviewed by the plant management.

5. BMP3 Plan Requirements:
   The following requirements may be incorporated by reference from existing facility procedures:

   a. Name and description of facility

   b. A site map - At a minimum the site map must include information of the following: discharge points ("outfalls"); drainage patterns; identification of the types of pollutants likely to be discharged from each drainage area; direction of flow; surface water bodies, including any proximate stream, river, lake, or other waterbody receiving storm water discharge from the site; structural control measures (physically constructed features used to control storm water flows); locations of "significant materials" exposed to storm water; locations of industrial activities (such as fueling stations, loading and unloading areas, vehicle or equipment maintenance areas, waste disposal areas, storage areas).

   c. A materials inventory including the types of materials that are handled, stored, or processed onsite, particularly significant materials. To complete the materials inventory, the permittee must list materials that have been exposed to storm water in the past 3 years (focus on areas where materials are stored, processed, transported, or transferred and provide a narrative description of methods and location of storage and disposal areas, materials management practices, treatment practices, and any structural/nonstructural control measures.

   d. A list of significant spills and leaks of toxic or hazardous materials that have occurred in the past 3 years. "Significant spills" includes releases in excess of reportable quantities.

   e. A summary of any existing storm water sampling data and a description of the sample collection procedures used.

   f. A site evaluation summary - The Site Evaluation Summary should provide a narrative description of activities with a high potential to contaminate storm water at the site, including those associated with materials loading and unloading, outdoor storage, outdoor manufacturing or processing, onsite disposal, and significant dust or particulate generating activities. The summary should also include a description of any pollutants of concern that may be associated with such activities.

   g. A narrative description of the following BMPs:

      (i) - <u>Good Housekeeping Practices</u>

      (ii) - <u>Preventive Maintenance</u> The permittee must develop a preventive maintenance program that involves inspections and maintenance of storm water management devices and routine inspections of facility operations to detect faulty equipment. Equipment (such as tanks, containers, and drums) should be checked regularly for signs of deterioration.

(iii) - Visual Inspections Regular inspections shall be performed by qualified, trained plant personnel. Reports shall note when inspections were done, the name of the person who conducted the inspection, which areas were inspected, what problems were found, and what steps were taken to correct any problems.

(iv) - Spill Prevention and Responses Areas where spills are likely to occur and their drainage points must be clearly identified in the BMP3 plan. Employees shall be made aware of response procedures, including material handling and storage requirements, and should have access to appropriate cleanup equipment.

(v) - Sediment and Erosion Control The BMP3 must identify activities that present a potential for significant soil erosion and measures taken to control such erosion.

(vi) - Management of Runoff The permittee must describe existing storm water controls found at the facility and any additional measures that can be implemented to improve the prevention and control of polluted storm water. Examples include: vegetative swales, reuse of collected storm water, infiltration trenches, and detention ponds.

6. Best Management Practices & Pollution Prevention Committee:

A Best Management Practices Committee (Committee) should be established to direct or assist in the implementation of the BMP3 plan. The Committee should be comprised of individuals within the plant organization who are responsible for developing, implementing, monitoring of success, and revision of the BMP3 plan. The activities and responsibilities of the Committee should address all aspects of the facility's BMP3 plan. The scope of responsibilities of the Committee should be described in the plan.

7. Employee Training:

Employee training programs shall inform appropriate personnel of the components & goals of the BMP3 plan and shall describe employee responsibilities for implementing the plan. Training shall address topics such as good housekeeping, materials management, recordkeeping and reporting, spill prevention & response, as well as specific waste reduction practices to be employed. The plan shall identify periodic dates for such training.

8. Plan Review & Modification:

If following review by the Permit Issuing Authority, or authorized representative, the BMP3 plan is determined insufficient, he/she may notify the permittee that the BMP3 plan does not meet one or more of the minimum requirements of this Part. Upon such notification from the Permit Issuing Authority, or authorized representative, the permittee shall amend the plan and shall submit to the Permit Issuing Authority a written certification that the requested changes have been made. Unless otherwise provided by the Permit Issuing Authority, the permittee shall have 30 days after such notification to make the changes necessary.

The permittee shall modify the BMP3 plan whenever there is a change in design, construction, operation, or maintenance, which has a significant effect on the potential for the discharge of pollutants to surface waters of the State or if the plan proves to be ineffective in achieving the general objectives of reducing pollutants in wastewater or storm water discharges. Modifications to the plan may be reviewed by Permit Issuing Authority in the same manner as described above.

9. Annual Site Compliance Evaluation:

Qualified personnel must conduct site compliance evaluations at appropriate intervals, but at least once a year. Compliance evaluations shall include:

- inspection of storm water drainage areas for evidence of pollutants entering the drainage system;
- evaluation of the effectiveness of BMPs;
- observations of structural measures, sediment controls, and other storm water BMPs to ensure proper operation;
- revision of the plan as needed within 4 weeks of the inspection, and implementation of any necessary changes within 12 weeks of the inspection; and
- preparation of a report summarizing inspection results and follow-up actions, identifying the date of inspection and personnel who conducted the inspection.

The inspection report shall be signed by the plant environmental engineering staff and plant management and kept with the BMP3 plan.

10. Recordkeeping and Internal Reporting:

For at least one year after the expiration of this permit, the permittee shall record and maintain records of spills, leaks, inspections, and maintenance activities. For spills and leaks, records should include information such as the date and time of the incident, weather conditions, cause, and resulting environmental problems.

D. Specific Conditions Related to Existing Manufacturing, Commercial, Mining, and Silviculture Wastewater Facilities or Activities

1. Existing manufacturing, commercial, mining, and silvicultural wastewater facilities or activities that discharge into surface waters shall notify the Department as soon as they know or have reason to believe:

(a) That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following levels
(1) One hundred micrograms per liter,
(2) Two hundred micrograms per liter for acrolein and acrylonitrile; five hundred micrograms per liter for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter for antimony, or
(3) Five times the maximum concentration value reported for that pollutant in the permit application.

(b) That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following levels
(1) Five hundred micrograms per liter,
(2) One milligram per liter for antimony, or
(3) Ten times the maximum concentration value reported for that pollutant in the permit application.

E. Reopener Clause

1. The permit shall be revised, or alternatively, revoked and reissued in accordance with the provisions contained in Rules 62-620.325 and 62-620.345 F.A.C., if applicable, or to comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2) and 307(a)(2) of the Clean Water Act (the Act), as amended, if the effluent standard or limitation so issued or approved:

   a. Contains different conditions or is otherwise more stringent than any condition in the permit/or;

   b. Controls any pollutant not addressed in the permit.

   The permit as revised or reissued under this paragraph shall contain any other requirements then applicable.

2. The permit may be reopened to adjust effluent limitations or monitoring requirements should future Water Quality Based Effluent Limitation determinations, water quality studies, DEP approved changes in water quality standards, or other information show a need for a different limitation or monitoring requirement.

3. The Department may develop a Total Maximum Daily Load (TMDL) during the life of the permit. Once a TMDL has been established and adopted by rule, the Department shall revise this permit to incorporate the final findings of the TMDL.

VIII. General Conditions

1. The terms, conditions, requirements, limitations and restrictions set forth in this permit are binding and enforceable pursuant to Chapter 403, Florida Statutes (FS). Any permit noncompliance constitutes a violation of Chapter 403, Florida Statutes, and is grounds for enforcement action, permit termination, permit revocation and reissuance, or permit revision. *62-620.610(1)*

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviations from the approved drawings, exhibits, specifications or conditions of this permit constitute grounds for revocation and enforcement action by the Department. *62-620.610(2)*

3. As provided in Subsection 403.087(6), FS, the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor authorize any infringements of federal, state, or local laws or regulations. This permit is not a waiver of or approval of any other Department permit or authorization that may be required for other aspects of the total project which are not addressed in this permit. *62-620.610(3)*

4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title. *62-620.610(4)*

5. This permit does not relieve the permittee from liability and penalties for harm or injury to human health or welfare, animal or plant life, or property caused by the construction or operation of this permitted source; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department. The permittee shall take all reasonable steps to minimize or prevent any discharge, reuse of reclaimed water, or residuals use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. *62-620.610(5)*

6. If the permittee wishes to continue an activity regulated by this permit after its expiration date, the permittee shall apply for and obtain a new permit. *62-620.610(6)*

7. The permittee shall at all times properly operate and maintain the facility and systems of treatment and control, and related appurtenances, that are installed and used by the permittee to achieve compliance with the conditions of this permit. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to maintain or achieve compliance with the conditions of the permit. *[62-620.610(7)*

8. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit revision, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition. *[62-620.610(8)*

9. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, including an authorized representative of the Department and authorized EPA personnel, when applicable, upon presentation of credentials or other documents as may be required by law, and at reasonable times, depending upon the nature of the concern being investigated, to

   a. Enter upon the permittee's premises where a regulated facility, system, or activity is located or conducted, or where records shall be kept under the conditions of this permit;

   b. Have access to and copy any records that shall be kept under the conditions of this permit;

   c. Inspect the facilities, equipment, practices, or operations regulated or required under this permit; and

   d. Sample or monitor any substances or parameters at any location necessary to assure compliance with this permit or Department rules.

   62-620.610(9)

10. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data, and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except as such use is proscribed by Section 403.111, Florida Statutes, or Rule 62-620.302, FAC Such evidence shall only be used to the extent that it is consistent with the Florida Rules of Civil Procedure and applicable evidentiary rules. 62-*620.610(10)*

11. When requested by the Department, the permittee shall within a reasonable time provide any information required by law which is needed to determine whether there is cause for revising, revoking and reissuing, or terminating this permit, or to determine compliance with the permit. The permittee shall also provide to the Department upon request copies of records required by this permit to be kept. If the permittee becomes aware of relevant facts that were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be promptly submitted or corrections promptly reported to the Department. *62-620.610(11)*

12. Unless specifically stated otherwise in Department rules, the permittee, in accepting this permit, agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance; provided however, the permittee does not waive any other rights granted by Florida Statutes or Department rules. A reasonable time for compliance with a new or amended surface water quality standard, other than those standards addressed in Rule 62-302.500, FAC, shall include a reasonable time to obtain or be denied a mixing zone for the new or amended standard. *62-620.610(12)*

13. The permittee, in accepting this permit, agrees to pay the applicable regulatory program and surveillance fee in accordance with Rule 62-4.052, FAC *62-620.610(13)*

14. This permit is transferable only upon Department approval in accordance with Rule 62-620.340, FAC The permittee shall be liable for any noncompliance of the permitted activity until the transfer is approved by the Department. *62-620.610(14)*

15. The permittee shall give the Department written notice at least 60 days before inactivation or abandonment of a wastewater facility and shall specify what steps will be taken to safeguard public health and safety during and following inactivation or abandonment. *62-620.610(15)*

16. The permittee shall apply for a revision to the Department permit in accordance with Rules 62-620.300 and the Department of Environmental Protection Guide to Wastewater Permitting at least 90 days before construction of any planned substantial modifications to the permitted facility is to commence or with Rule 62-620.325(2) for minor modifications to the permitted facility. A revised permit shall be obtained before construction begins except as provided in Rule 62-620.300, FAC *62-620.610(16)*

17. The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. The permittee shall be responsible for any and all damages which may result from the changes and may be subject to enforcement action by the Department for penalties or revocation of this permit. The notice shall include the following information:

    a. A description of the anticipated noncompliance;

    b. The period of the anticipated noncompliance, including dates and times; and

    c. Steps being taken to prevent future occurrence of the noncompliance.

    62-620.610(17)

18. Sampling and monitoring data shall be collected and analyzed in accordance with Rule 62-4.246, Chapter 62-160 and 62-601, FAC and 40CFR 136, as appropriate.

    a. Monitoring results shall be reported at the intervals specified elsewhere in this permit and shall be reported on a Discharge Monitoring Report (DMR), DEP Form 62-620.910(10).

    b. If the permittee monitors any contaminant more frequently than required by the permit, using Department approved test procedures, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR.

    c. Calculations for all limitations which require averaging of measurements shall use an arithmetic mean unless otherwise specified in this permit.

    d. Any laboratory test required by this permit shall be performed by a laboratory that has been certified by the Department of Health (DOH) under Chapter 64E-1,F.A.C., where such certification is required by Rule 62-160.300(4), F.A.C. For domestic wastewater facilities, the on-site test procedures specified in Rule 62-160.300(4), F.A.C., shall be performed by a laboratory certified test for those parameters or under the direction of an operator certified under Chapter 62-602, F.A.C.

    e. Under Chapter 62-160, F.A.C., field procedures for sample collection and laboratory methods shall be performed by following the protocols described in DEP-SOP-001/01 (January 2002). Alternate field procedures and laboratory methods may be used where they have been approved according to the requirements of Rules 62-160.220,62-160.330, and 62-160.600, F.A.C.

19. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule detailed elsewhere in this permit shall be submitted no later than 14 days following each schedule date. *62-620.610(19)*

20. The permittee shall report to the Department's Northwest District office in Pensacola any noncompliance, which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within five days of the time the permittee becomes aware of the circumstances. The written submission shall contain: a description of the noncompliance and its cause; the period of noncompliance including exact dates and time, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

a. The following shall be included as information, which must be reported within 24 hours under this condition:

1. Any unanticipated bypass which causes any reclaimed water or effluent to exceed any permit limitation or results in an unpermitted discharge,
2. Any upset which causes any reclaimed water or the effluent to exceed any limitation in the permit,
3. Violation of a maximum daily discharge limitation for any of the pollutants specifically listed in the permit for such notice, and
4. Any unauthorized discharge to surface or ground waters.

b. Oral reports as required by this subsection shall be provided as follows:

1. For unauthorized releases or spills of untreated or treated wastewater reported pursuant to subparagraph a.4 above that are in excess of 1,000 gallons per incident, or where information indicates that public health or the environment will be endangered, oral reports shall be provided to the Department by calling the STATE WARNING POINT TOLL FREE NUMBER (800) 320-0519, as soon as practical, but no later than 24 hours from the time the permittee becomes aware of the discharge. The permittee, to the extent known, shall provide the following information to the State Warning Point:

   (a) Name, address, and telephone number of person reporting;
   (b) Name, address, and telephone number of permittee or responsible person for the discharge;
   (c) Date and time of the discharge and status of discharge (ongoing or ceased);
   (d) Characteristics of the wastewater spilled or released (untreated or treated, industrial or domestic wastewater);
   (e) Estimated amount of the discharge;
   (f) Location or address of the discharge;
   (g) Source and cause of the discharge;
   (h) Whether the discharge was contained on-site, and cleanup actions taken to date;
   (i) Description of area affected by the discharge, including name of water body affected, if any; and
   (j) Other persons or agencies contacted.

2. (a) Oral reports, not otherwise required to be provided pursuant to subparagraph b.1 above, shall be provided to the Department's Northwest District Office within 24 hours from the time the permittee becomes aware of the discharge.

   (b) If the oral report has been received within 24 hours, the noncompliance has been corrected, and the noncompliance did not endanger health or the environment, the Department's Northwest District Office shall waive the written report. *[62-620.610(20), F.A.C.]*

21. The permittee shall report all instances of noncompliance not reported under Conditions VIII.18 and 19 of this permit at the time monitoring reports are submitted. This report shall contain the same information required by Condition VIII.20 of this permit. *62-620.610(21)*

22. Bypass Provisions:

a. Bypass is prohibited, and the Department may take enforcement action against a permittee for bypass, unless the permittee affirmatively demonstrates that:

1) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; and

2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance; and

3) The permittee submitted notices as required under Condition VIII.22.b of this permit.

b. If the permittee knows in advance of the need for a bypass, it shall submit prior notice to the Department, if possible at least 10 days before the date of the bypass. The permittee shall submit notice of an unanticipated bypass within 24 hours of learning about the bypass as required in Condition VIII.20 of this permit. A notice shall include a description of the bypass and its cause; the period of the bypass, including exact dates and times; if the bypass has not been corrected, the anticipated time it is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent recurrence of the bypass.

c. The Department shall approve an anticipated bypass, after considering its adverse effect, if the permittee demonstrates that it will meet the three conditions listed in Condition VIII.22 a.(1) through (3) of this permit.

d. A permittee may allow any bypass to occur which does not cause reclaimed water or effluent limitations to be exceeded if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provision of Condition VIII.22.a through c. of this permit.

62-620.610(22)

23. Upset Provisions:

a. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed contemporaneous operating logs, or other relevant evidence that:

1) An upset occurred and that the permittee can identify the cause(s) of the upset;

2) The permitted facility was at the time being properly operated;

3) The permittee submitted notice of the upset as required in Condition VIII.20 of this permit; and

4) The permittee complied with any remedial measures required under Condition VIII.5 of this permit.

b. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

c. Before an enforcement proceeding is instituted, no representation made during the Department review of a claim that noncompliance was caused by an upset is final agency action subject to judicial review.

62-620.610(23)

Executed in Tallahassee, Florida.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL
PROTECTION

Mimi Drew

Mimi Drew
Director
Division of Water Resource Management

2600 Blair Stone Road
Tallahassee, FL 32399-2400
(850) 245-8335

10.4.4 Gopher Tortoise Relocation Permit

Florida Fish and Wildlife Conservation Commission

Florida - Fishing Capital of the World

Wildlife Habitat Boating Licensing Permits Education Site Map

Gopher Tortoise Relocation Application

Fields marked with an asterisk * are required and fields marked with a red asterisk * will show up on your approved permit.
You cannot save a partially completed application, so make sure you have gathered all required information. Please review these step-by-step instructions before filling out your application.

Contact Information

*First name: PHIL *Last name: BUCCI

*Affiliation: None

*Street Address: 1125 GEDDIE RD.

*City: TALLAHASSEE *State: FL *Zip: 32304

*Phone: 850/891-5895 Email: BUCCIP@TALGOV.COM

Edit profile: edit profile On return to this page, please REFRESH the page

---

Date: 4 24 2006

Project Location Information

*County: Leon

TRS instructions

*Township: 1 direction N Range 2 direction W Section 25&26

You may check the T/R/S you entered by clicking here to see a map of the general area where your site is located.

Map TRS

*Project address or nearest street intersection: 1125 GEDDIE RD.

*City: TALLAHASSEE , FLORIDA

*Zip code: 32304

Project Information

☐ Check if a permit has been issued to relocate tortoises on this parcel before

If yes, Permit number: GTRS-2004-771

*Project Name: RESOURSE ADDITION

*Parcel Id (do not include dashes): 2226208010000 Parcel instructions

*Total acreage of the parcel: 233

*Anticipated construction start date: Aug / 1 2006

Landowner Information

*Landowner Name: First: TRIVENI Last: SINGH

*Landowner company name (if applicable): CITY OF TALLAHASSEE

*Landowner address: 1125 GEDDIE RD.

*City: TALLAHASSEE *State: Florida *Zip: 32304

*Landowner phone number: 813/891-5807 (include area code and extension)

☐ Check if the project involves the construction of ONE single-family residence only:

☑ Check if there will be undisturbed habitat on-site after construction.

*How much habitat will be left after construction: >10 acres

*Date of last tortoise survey: Apr / 24 2006

15+ *How many tortoise burrows were found on the parcel during the last survey?

4 *How many of these tortoise burrows (measured from the burrow

entrance) are within 25 feet of planned construction activities?

*Where will tortoises be relocated on-site relative to construction area?

TRANSMISSION LINE SOUTHEAST AND SOUTH OF THE PROJECT AREA.

*Extraction methods:

Hand Shovel ☐ Bucket Trap ☐ Backhoe ☑ Hand Capture ☐ Other ☐

If other extraction method used, please describe:

*How will you prevent tortoises from returning to their burrows?

Pen (up to 10 days) ☐ Fence barrier around construction area ☑ Other ☐

If other prevention method used please describe:

Additional info comment:

Submission of this application constitutes permission by the applicant and landowner to enter on and inspect the property described in the application for all reasonable purposes pertaining to applicable Commission rules.

Submit Start Over

Return to FWC Gopher tortoise relocation permit home page

Gopher Tortoise Relocation and Management Plan
Hopkins Generating Station

Prepared by:
The Phoenix Environmental Group, Inc.

May 22, 2006

Project Summary

The City of Tallahassee needs to expand the footprint of the Hopkins Generating Plant on Geddie Road to provide increased electrical service for its customers (see Figure 1, location map). In order to accommodate this increase in generating power, the City requires that the existing footprint of the power plant be reconfigured to include equipment placement in existing maintained fields on the north side of the cooling towers. In order to understand the environmental impacts of such a project, the City retained The Phoenix Environmental Group, Inc. (Phoenix) to conduct an environmental assessment of the site, which included wetland delineation and threatened and endangered species surveys.

This gopher tortoise relocation and management plan represents the results of the species surveys, which found several gopher tortoise burrows on the uplands near the footprint of the expansion.

Upland Natural Features Onsite

The uplands on the subject site are located to the east of the main power plant footprint. The average elevation is 145 feet. (see Figure 2, USGS topoquad). There are large areas of open, sandy pastureland in the powerline easement.

The soils on the uplands at the site are dominated by Blanton fine sand, 0 to 5 percent slopes. This is a moderately well-drained, non-hydric soil and is typical of uplands. The majority of the gopher tortoise surveys were done in this area. (See Figure 3, soil survey).

In the uplands, there are remnants of upland pine, hardwoods and pastureland. This area is greatly disturbed from the power plant itself, power lines, previous silviculture and an old railroad line. The dominant canopy species are laurel oak (*Quercus laurifolia*), slash pine (*Pinus elliottii*), loblolly pine (*Pinus taeda*), and live oak (*Quercus virginiana*). The dominant trees in the subcanopy are sweet gum (*Liquidambar styraciflua*), *Vaccinium* spp., and sapling laurel oaks. Groundcovers are dominated by bahiagrass (*Paspalum notatum*), prickly pear (*Opuntia humifusa*), pawpaw (*Asimina angustifolia*), dog fennel (*Eupatorium capillifolium*), and silkgrass (*Pityopsis aspera*).

The uplands that will be affected by this proposed reconfiguration consist of maintained, grassy fields. Trees are present in the center of the area proposed for reconfiguration, but will generally not be affected by this project.

Gopher Tortoise Survey

Methods

On April 24, 2006, Ms. Jackie Fry and Ms. Valerie Weeks from Phoenix conducted gopher tortoise surveys in the upland area affected by the proposed reconfiguration. Transects were walked 30 feet apart in the open pasture areas, and in the uplands along the perimeters where gopher tortoise habitat was observed (appropriate groundcovers, sandy soil, etc.). Burrows were marked by driving stakes in the ground near the burrow

entrance. GPS readings were recorded and representative photographs were taken. (See Figure 4.)

Findings
Four gopher tortoise burrows were discovered within or near the footprint of the reconfiguration. Three burrows were active and one was inactive. There were more burrows eastward towards the power lines, but these were not marked, as they were well outside of the reconfiguration footprint.

It was determined that the proposed reconfiguration plan would impact four gopher tortoise burrows on the northeastern edge of the plant. These burrows are identified on Figure 4 as GT-1 through GT-4.

Recommendations

Site Location
Due to the small number of burrows that were found in the footprint of the project area, the recommendation is to capture and relocate the four gopher tortoises onsite. The relocation area is very close to the current burrow locations, which should increase the effectiveness of the move (see Figure 5). The proposed project reconfiguration is shown on Figure 6. It is not possible to capture and re-release the tortoises in the same exact place, as the project site will infringe in that area.

Two sites were selected for relocation due to the close proximity to the existing burrows and the habitat quality. Site A is located approximately 800 feet from the current location of the four burrows. The site currently contains two active burrows and one inactive burrow. The area is currently used as a powerline easement and consists of wide open spaces dominated by bahiagrass, with more diverse groundcovers, such as pawpaw, prickly pear, blackberry (*Rubus* spp.) and silkgrass (*Chrysopsis graminifolia*) as well. The soil unit is Blanton fine sand. Canopy vegetation includes laurel oak, live oak, slash pine and loblolly pine. The subcanopy consists of sweetgum, small oaks and *Vaccinium*. This will provide sufficient forage for the tortoises. There was one existing burrow on that site.

Site B is located approximately 1,650 feet from the current location of the four burrows. The site currently contains two active burrows and is also within the powerline easement. The vegetation composition is comparable to Site A and will provide sufficient forage for the tortoises.

It is not possible to manage these areas for the gopher tortoises by prescribed fire, as the powerline easement and power plant are too close to safely conduct a burn. However, the area will be mowed frequently, which will help keep the open areas from filling in with woody plant species.

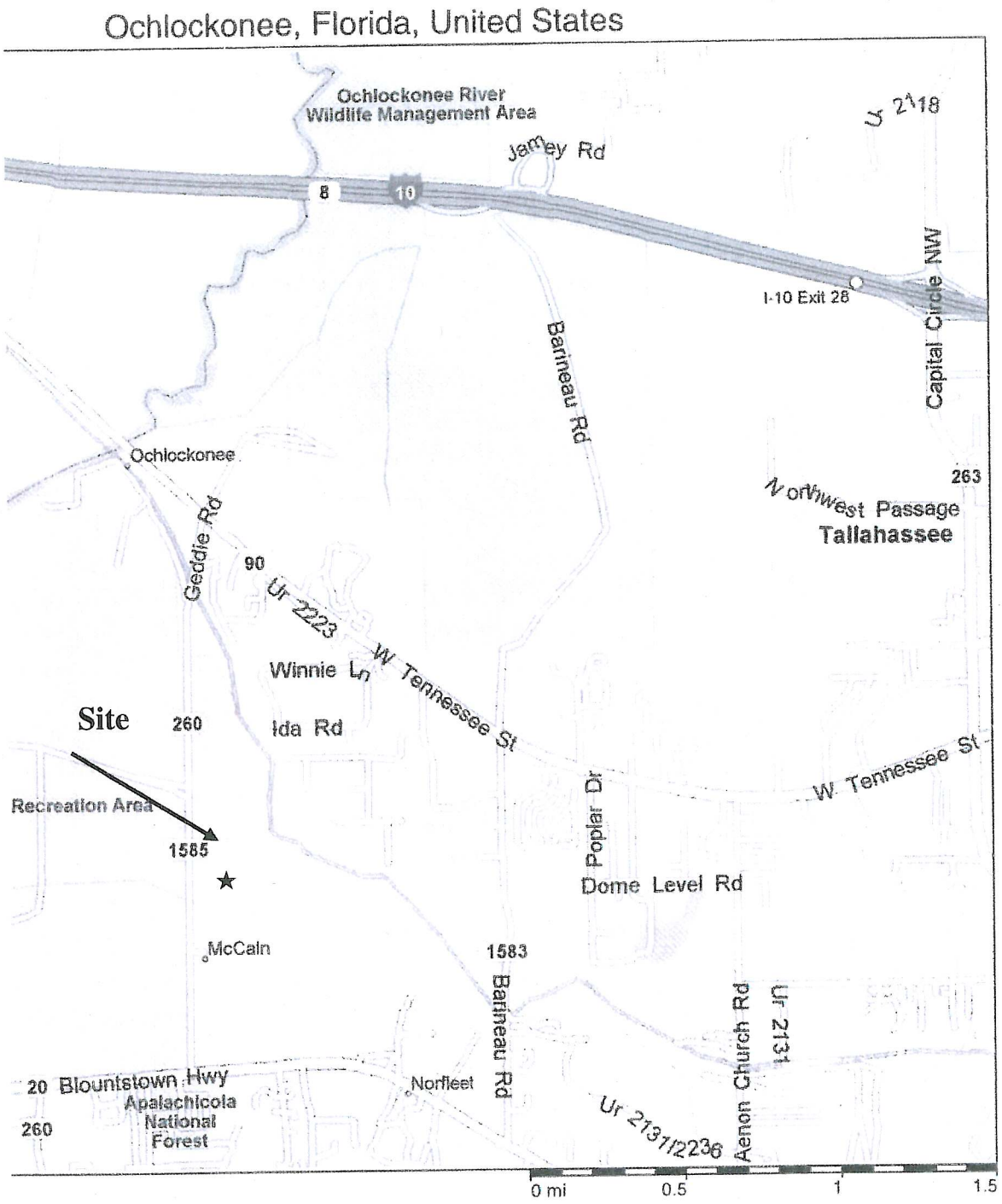
Gopher Tortoise Relocation

The process of capture will be via backhoe excavation. This method was used effectively in 2004 for the Hopkins Generating Station. In accordance with the Florida Fish and Wildlife Conservation Commission guidelines, tortoises will not be captured/relocated if the temperature is forecast to be below 50°F for that day and two consecutive days.

Once a gopher tortoise is captured, it will be relocated immediately to one of the preferred upland sites. As these tortoises are being relocated onsite, no respiratory testing will take place. However, each gopher tortoise will be briefly examined for evidence of respiratory disease, and their sex and size noted. Starter holes will be dug in the relocation site to encourage the gopher tortoises to build a new burrow, rather than attempt to return to the old burrow. The starter hole entrance will be the same size as the capture burrow and the tortoise will be placed at the entrance.

In order to search for any commensal animals that may be using the existing burrows, such as gopher crickets, gopher frogs, pine snakes and indigo snakes, a backhoe will be used to dig out the burrow once the gopher tortoise is captured. Any animals sharing the burrows will be captured and relocated as well.

Finally, the area will be fenced with construction fencing to prevent the tortoises from returning immediately to the area.

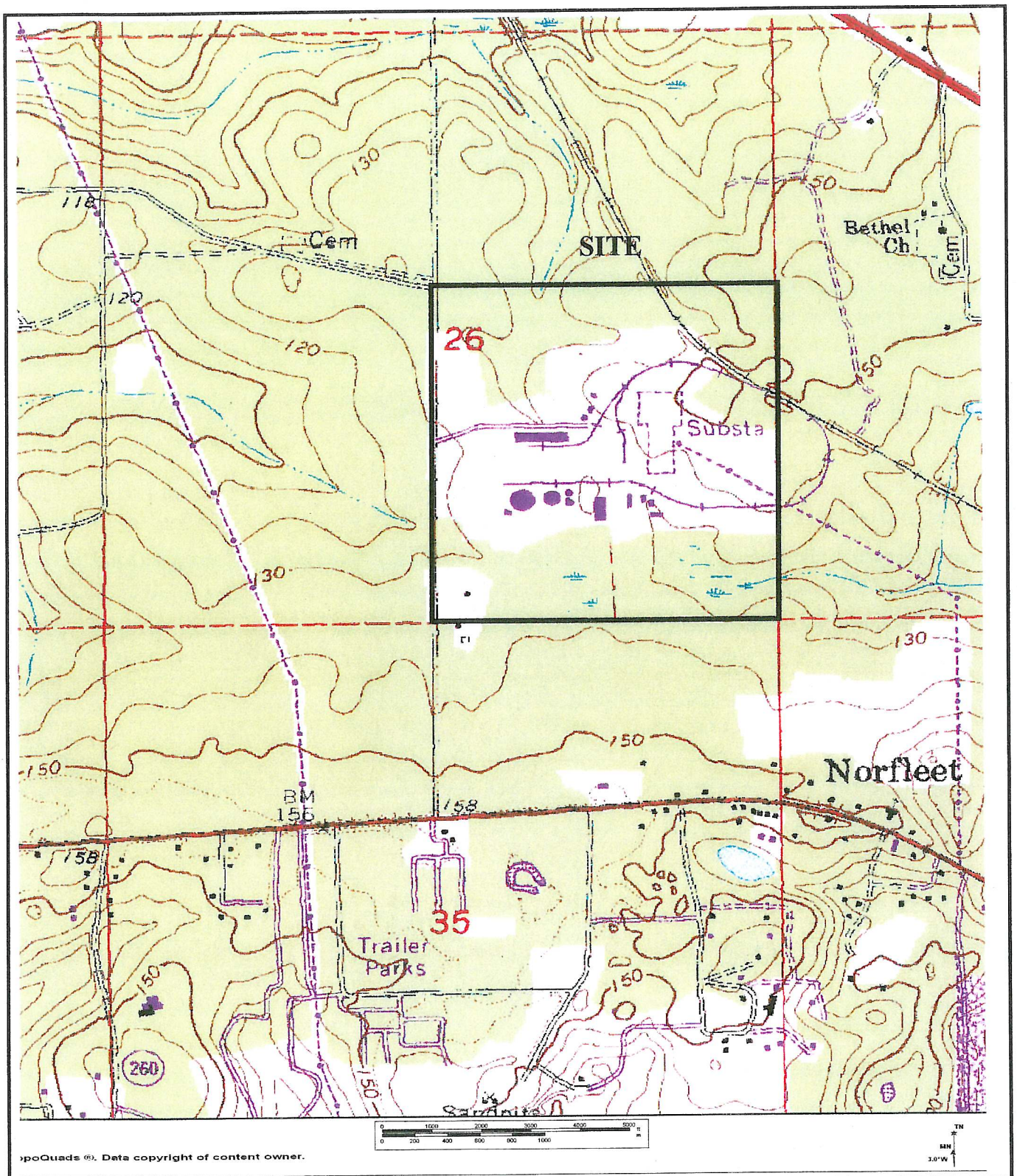


The Phoenix Environmental Group, Inc.

Figure 1
Location Map
Tallahassee, FL

Source: Microsoft Maps and Streets

N

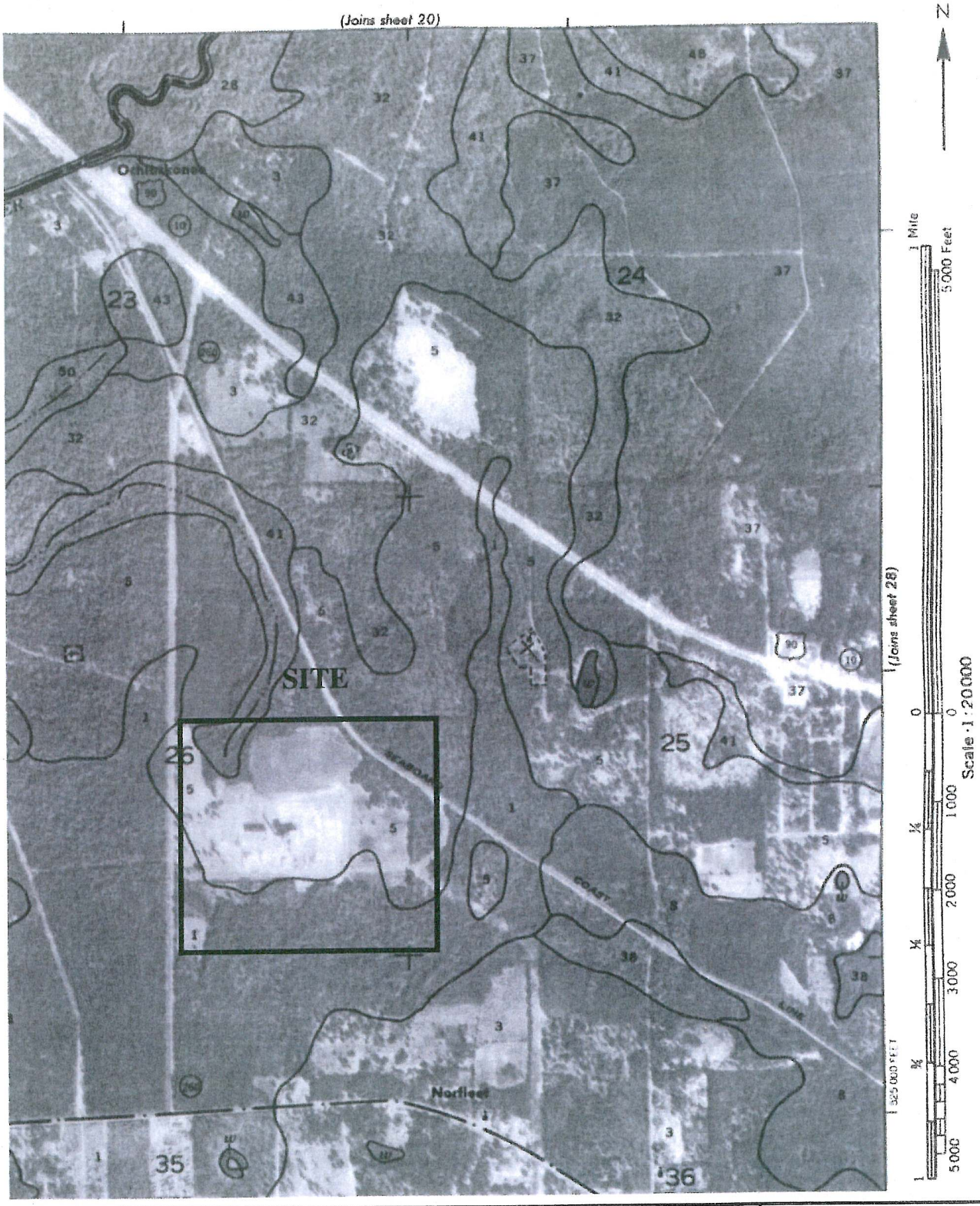


The Phoenix Environmental Group, Inc.

Figure 2
Topographic Quadrangle
Midway Quad

Source:
DeLorme
Topoquad

N



The Phoenix Environmental Group, Inc.

Figure 3
USDA Soils Map
Leon County, FL

Source:
USDA Soil Survey of Leon County, FL

N

The Phoenix Environmental Group, Inc.
2916 East Park Avenue Tallahassee, FL 32301
Telephone: (850) 878-3331 Fax: (850) 878-2383

Figure 4

Drawn By: RAS Checked By: JF
Friday, May 19, 2006 1:56:26 PM
C:\2004 Projects\Hopkins\GPS Data 4-24-06\Hopkins-4-24-06.mxd

Hopkins Generating Station
Gopher Tortoise
Burrow Locations
1 inch equals 200 feet

The Phoenix Environmental Group, Inc.
2916 East Park Avenue Tallahassee, FL 32301
Telephone: (850) 878-3331 Fax: (850) 878-2383

Figure 5

Drawn By: RAS Checked By: JF
Monday, May 22, 2006 2:14:40 PM
C:\2004 Projects\Hopkins\figure5A.mxd

Hopkins Generating Station
Gopher Tortoise
Relocation Sites
1 inch equals 200 feet

Figure 6
Hopkins Generating Station
Proposed Site Reconfiguration

ATTACHMENT 1
HOPKINS GENERATING STATION
April 26, 2006

PHOTO 1: GT-1 near fence

PHOTO 2: GT-1 near fence

PHOTO 3: GT-1 near fence—note two openings to burrow

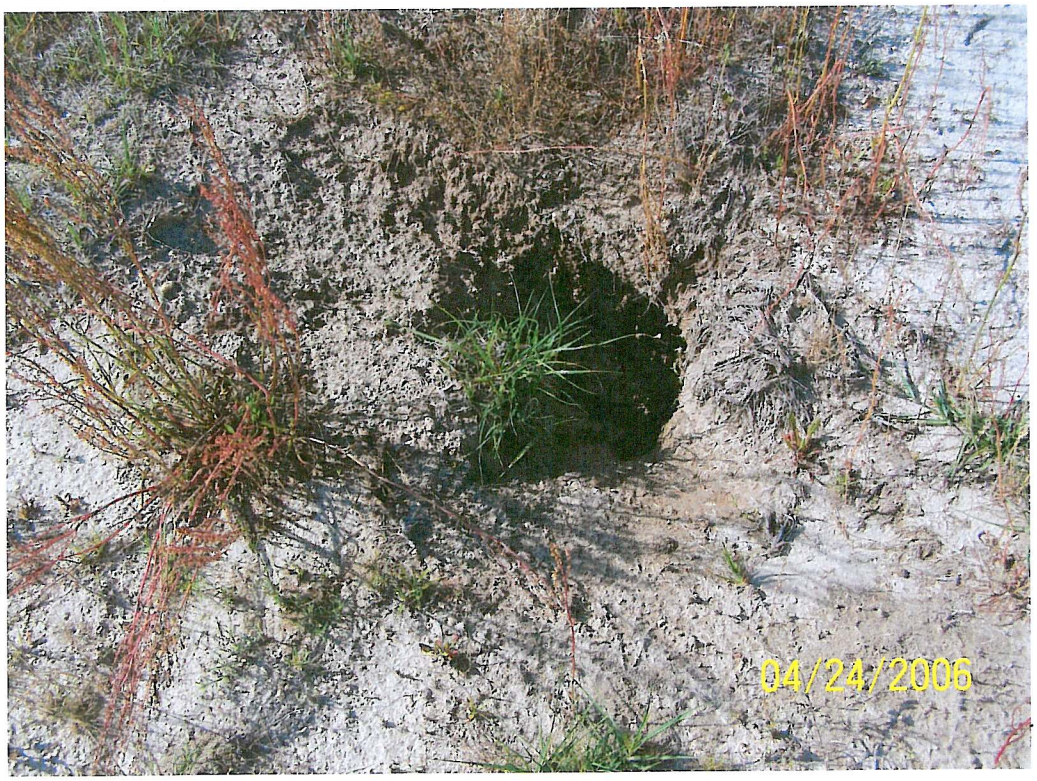


PHOTO 4: GT-2 south of GT-1

PHOTO 5: Prickly pear in proposed recipient site

10.4.5 Generic Permit for Stormwater Discharge from Large and Small Construction Activities

Department of
Environmental Protection

Jeb Bush
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Colleen M. Castille
Secretary

February 10, 2005

JENNETTE CURTIS
CITY OF TALLAHASSEE
300 S ADAMS ST
TALLAHASSEE, FL 32301

RE: Project ID: FLR10Z249
RESOURCE ADDITION PROJECT
1125 GEDDIE RD - HOPKINS POWER PLANT
TALLAHASSEE, FL

Dear Permittee:

The Florida Department of Environmental Protection has received and processed your *Notice of Intent to Use Generic Permit for Stormwater Discharge from Large and Small Construction Activities* (NOI) and the accompanying processing fee. This letter serves to acknowledge that your NOI is complete, your fee is paid-in-full, and your project is covered under the generic permit effective **February 4, 2005.** Your coverage under the generic permit will expire **February 3, 2010.**

The *Generic Permit for Stormwater Discharge from Large and Small Construction Activities* (CGP) was issued under the provisions of Section 403.0885, Florida Statutes, and applicable rules of the Florida Administrative Code. Until the CGP is terminated, modified or revoked, permittees that have properly obtained coverage under this permit are authorized to disturb land, to construct and operate facilities, and to discharge to surface waters in accordance with the terms and conditions of this permit.

Your project identification number is FLR10Z249. Please make reference to this number on all future correspondence including any checks made out to the Department.

This acknowledgement letter is not your permit. Your NOI allows you to proceed with construction by complying with the CGP (DEP Document No. 62-621.300(4)(a)), a copy of which you may obtain online at **http://www.dep.state.fl.us/water/stormwater/npdes/construction3.htm** or by contacting the NPDES Stormwater Notices Center.

Key provisions of the permit are (1) implementation of your stormwater pollution prevention plan (SWPPP) that was required to be developed prior to NOI submittal; (2) conducting and documenting routine inspections as required by the permit; and (3) retention of records required by the permit, including retention of a copy of the SWPPP at the construction site, or at an alternative location as specified in your NOI, from the date of project initiation to the date of final site stabilization.

If your project will continue discharging stormwater associated with construction activity beyond expiration of the current coverage, request for continued coverage shall be made by filing a completed NOI at least 2 days before expiration of the current coverage period. If you discontinue discharging stormwater associated with construction activity, or otherwise qualify to discontinue coverage under the CGP, you may terminate permit coverage by filing a Notice of Termination of Generic Permit Coverage (NOT).

If you have any questions concerning this acknowledgment letter, please contact the NPDES Stormwater Notices Center at (866) 336-6312 or (850) 297-1232.

CERTIFICATE OF SERVICE

THE UNDERSIGNED HEREBY CERTIFIES that the foregoing acknowledgment of coverage under the Construction Generic Permit Rule 62-621.300(4), F.A.C., was mailed by Science Applications Internationnal Corporation working under FDEP Contract Number WM788, on behalf of the Florida Department of Environmental Protection, on the date indicated below via the United States Postal Service.

Name 2/10/2005
Date

State of Florida

Department of Environmental Protection

Generic Permit

For

Stormwater Discharge from Large and Small Construction Activities

May 2003

This permit is issued under the provisions of Section 403.0885, Florida Statutes, and applicable rules of the Florida Administrative Code pursuant to the Department's federally-approved National Pollutant Discharge Elimination System (NPDES) stormwater regulatory program. Stormwater discharge associated with large construction activity, as defined at 40 CFR Part 122.26(b)(14)(x) and herein, is regulated pursuant to Section 402(p)(2) of the federal Clean Water Act (CWA). Stormwater discharge associated with small construction activity, as defined at 40 CFR 122.26(b)(15) and herein, is regulated pursuant to Section 402(p)(6) of the CWA. This permit constitutes authorization to discharge stormwater associated with large and small construction activities to surface waters of the State, including through a Municipal Separate Storm Sewer System (MS4). Until this permit is terminated, modified, or revoked, permittees that have properly obtained coverage under this permit are authorized to discharge to surface waters of the State, including through an MS4, in accordance with the terms and conditions of this permit.

DEP Document No. 62-621.300(4)(a)
Effective May 1, 2003

Part I. General Provisions

A. Applicability and Coverage

1. Federal law prohibits the point source discharge of pollutants, including the discharge of stormwater associated with large or small construction activities pursuant to 40 CFR Part 122 and as defined in Part II of this permit, to waters of the United States without a National Pollutant Discharge Elimination System (NPDES) permit. Under the State of Florida's authority to administer the NPDES stormwater program at 403.0885, F.S., operators that have stormwater discharge associated with large or small construction activities to surface waters of the State, including through a Municipal Separate Storm Sewer System (MS4), must obtain coverage either under a generic permit issued pursuant to Chapter 62-621, F.A.C., or an individual permit issued pursuant to Chapter 62-620, F.A.C.

2. Coverage under this generic permit is available for stormwater discharges from large and small construction activities to surface waters of the State as defined in Section 403.031, F.S., including stormwater discharges associated with construction activity to surface waters of the State through an MS4.

3. This generic permit does not constitute authorization under Part IV of Chapter 373, F. S., for the construction, alteration, operation, maintenance, abandonment, or removal of any stormwater management system, dam, impoundment, reservoir, or appurtenant work or works, including dredging or filling, in, on or over wetlands and other surface waters, as determined by the methodology authorized in Subsection 373.421(1), F. S.

4. This generic permit authorizes the discharge of stormwater associated with construction activity under the State's federally-approved NPDES stormwater program only and does not supercede the requirement to obtain a stormwater discharge permit under Chapter 62-25, F.A.C.; environmental resource permit (ERP) under Part IV, Chapter 373, F.S.; stormwater discharge permit from a Department-approved delegated local government; or any other required federal, state, or local government permit.

B. Eligibility

1. This permit authorizes the discharge of stormwater associated with large and small construction activity, as defined in Part II of this permit, occurring after the effective date of this permit.

2. This permit authorizes stormwater discharge associated with construction activity that is mixed with stormwater discharges associated with industrial activity other than construction, where:

a. the industrial source other than construction is located on the same site as the construction activity;

b. stormwater discharges associated with industrial activity from the areas of the site where construction activities are occurring are in compliance with the terms of this permit; and

c. stormwater discharges associated with industrial activity from the areas of the site where industrial activity other than construction are occurring are in compliance with the terms of a different generic permit (e.g., Multi-Sector Generic Permit for Stormwater Discharge Associated with Industrial Activitiy) or individual permit authorizing such discharges.

3. Limitations on Coverage. The following stormwater discharges from construction sites are not authorized by this permit:

a. stormwater discharges that originate from the site after construction activities have been completed and the site has undergone final stabilization;

b. discharges that are mixed with sources of non-stormwater, other than discharges identified in Part IV.A.3. of this permit;

c. stormwater discharge associated with construction activity that is covered under an existing generic or individual permit. Such discharges may be authorized under this permit after the existing individual permit or generic permit term of coverage expires, provided the existing permit did not establish numeric limitations for such discharges; or

d. stormwater discharge associated with construction activity that the Department has determined to be or may reasonably be expected to be causing or contributing to a violation of a surface water quality standard.

C. Obtaining Authorization

1. In order for stormwater discharge associated with construction activity to be authorized under this generic permit, an operator must:

a. Meet the eligibility requirements in Part I.B. of this permit;

b. Develop and implement a stormwater pollution prevention plan (SWPPP) in accordance with the requirements of Part V of this permit; and

c. Submit a completed Notice of Intent (NOI) in accordance with the requirements of Part III. of this permit, including submittal of the appropriate processing fee as established in Rule 62-4.050(4)(d), F.A.C.

2. The Department may deny coverage under this permit or require submittal of a revised NOI based on the Department's determination that the NOI is incomplete, the permit fee has not been paid, or the submittal otherwise is not in accordance with the requirements of this generic permit.

Part II. Definitions

For the purposes of this generic permit, the following definitions shall apply, unless otherwise indicated:

1. "Best Management Practices" or "BMPs" means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of surface waters. BMPs also include treatment requirements, operating procedures, and practices to control site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

2. "Construction Activity" means the act or process of developing or improving land which involves the disturbance of soils and includes clearing, grading, and excavation.

3. "Commencement of Construction" means the initial disturbance of soils associated with clearing, grading, or excavating activities or other construction activities.

4. "Department" or "DEP" means the Florida Department of Environmental Protection.

5. "Final Stabilization" means that all soil disturbing activities at the site have been completed, and that a uniform (e.g., evenly distributed, without large bare areas) perennial

vegetative cover with a density of at least 70% for all unpaved areas and areas not covered by permanent structures has been established or equivalent permanent stabilization measures (e.g., geotextiles) have been employed.

6. "Large Construction Activity" means construction activity that results in the disturbance of five (5) or more acres of total land area. Large construction activity also includes the disturbance of less than five acres of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb five acres or more.

7. "Municipal Separate Storm Sewer System" or "MS4" means a large, medium, or small MS4 as defined in Chapter 62-624, F.A.C.

8. "NOI" means notice of intent to be covered by this permit (see Part III of this permit.)

9. "NOT" means notice of termination (see Part VIII of this permit).

10. "NPDES" means the Department's federally-approved National Pollutant Discharge Elimination System program.

11. "Operator" means the person, firm, contractor, public organization, or other legal entity that owns or operates the construction activity and that has authority to control those activities at the project necessary to ensure compliance with the terms and conditions of this permit.

12. "Qualified Inspector" means a person that:

a. has successfully completed and met all requirements necessary to be fully certified through the DEP Stormwater, Erosion, and Sedimentation Control Inspector Training Program;

b. has successfully completed an equivalent formal training program; or

c. that is qualified by other training or practical experience in the field of stormwater pollution prevention and erosion and sedimentation control.

13. "Small Construction Activity" means construction activity that results in the disturbance of equal to or greater than one (1) acre and less than five (5) acres of total land area. Small construction activity also includes the disturbance of less than one acre of total land area that is part of a larger common plan of development or sale that will ultimately disturb equal to or greater than one acre and less than five acres.

14. "Stormwater" means the flow of water which results from, and which occurs immediately following, a rainfall event.

15. "Stormwater discharge associated with construction activity" means the discharge of stormwater from large or small construction activities, including areas where soil disturbing activites; construction materials handling or storage; or, equipment storage or maintenance are located.

16. "Surface Waters of the State" means those surface waters that are defined in section 403.031, F. S.

17. "Water Management District" or "WMD" means the Northwest Florida Water Management District, the Suwannee River Water Management District, the St. Johns River Water Management District, the Southwest Florida Water Management District, or the South Florida Water Management District.

Part III. Notice of Intent Requirements

A. Deadlines for Notification.

1. Operators seeking coverage under this generic permit to authorize stormwater discharge associated with construction activity for new large or small construction activities, for which commencement of construction begins after the effective date of this permit, shall file an NOI for coverage under this permit at least two (2) days before commencement of construction.

2. Operators of small construction activity, where commencement of construction occurred prior to the effective date of this permit, seeking coverage under this permit to authorize stormwater discharge associated with construction activity after the effective date of this permit shall file an NOI for coverage within 31 days of the effective date of this permit.

3. Permittees that previously obtained coverage under the State of Florida Generic Permit for Construction Activities That Disturb Five or More Acres of Land, issued and effective October 22, 2000, for large construction activity shall remain covered under that generic permit until permit coverage is terminated, revoked, or the permittee's five year term of coverage expires. Permittees covered under the October 2000 generic permit indicated above that will have stormwater discharge associated with construction activity beyond their initial five year term of coverage under the October 2000 generic permit shall submit an NOI for coverage under this generic permit at least two (2) days before expiration of coverage under the October 2000 generic permit.

4. For construction activities where the operator changes, the new operator shall file an NOI for coverage under this permit at least two (2) days before assuming control of the project and the previous operator shall file an NOT to terminate permit coverage in accordance with Part VIII of this permit.

B. Contents of Notice of Intent.

1. In order to obtain coverage under this permit, an operator of the stormwater discharge associated with construction activity shall submit a completed Notice of Intent to Use Generic Permit for Stormwater Discharge from Large and Small Construction Activites, DEP Form 62-621.300(4)(b), effective May 1, 2003, including the applicable permit processing fee as specified in Rule 62-4.050(4)(d), F.A.C. By completing, signing, and submitting an NOI, the operator is certifying that they meet all eligibility requirements of this permit and are informing the Department of their intent to be covered by, and comply with, the terms and conditions of this generic permit. The Notice of Intent shall be signed in accordance with Part VII.C. of this permit by the operator.

C. Where to Submit.

1. NOIs are to be submitted to the following address:

NPDES Stormwater Notices Center, MS# 2510
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

2. A copy of the NOI or letter from DEP confirming coverage under this generic permit shall be posted at the construction site in a prominent place for public viewing (such as alongside a building permit).

D. Additional Notification.

1. Projects that discharge stormwater associated with construction activity to a municipal separate stormwater system (MS4) shall submit a copy of the NOI to the operator of the MS4.

E. Period of Coverage

1. Coverage under this generic permit is effective two (2) days after the date of submittal of a complete NOI to the Department.
2. Coverage under this generic permit is limited to a term not to exceed five years from the effective date of coverage.

F. Permit Coverage Renewal

1. If the project will continue to have stormwater discharge associated with construction activity beyond the initial five year term of coverage, the operator shall submit a new NOI at least two (2) days before expiration of the current term of coverage under this permit.

Part IV. Special Conditions, Management Practices, and Other Non-numeric Limitations

A. Prohibition on Non-stormwater Discharges.

1. Except as provided in paragraphs I.B.2. and IV.A.3., all discharges covered by this permit shall be composed entirely of stormwater associated with construction activity.
2. Except as specified in IV.A.3. below, discharges of material other than stormwater associated with construction activity must be in compliance with a Department permit (other than this permit) issued for the discharge, or be exempt therefrom.
3. The following non-stormwater discharges may be authorized by this permit provided the non-stormwater component of the discharge is in compliance with paragraph V.D.5.: discharges from fire fighting activities; fire hydrant flushings; waters used to spray off loose solids from vehicles (wastewaters from a more thorough cleaning, including the use of detergents or other cleaners is not authorized by this part) or control dust in accordance with Part V.D.2.c.(2); potable water sources including waterline flushings; irrigation drainage; routine external building washdown which does not use detergents; pavement washwaters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used; air conditioning condensate; springs; and foundation or footing drains where flows are not contaminated with process materials such as solvents.
4. Discharges resulting from ground water dewatering activities at construction sites are not covered by this permit. Applicants for these discharges must obtain coverage under the Department's Generic Permit for the Discharge of Produced Ground Water from any Non-contaminated Site Activity pursuant to Rule 62-621.300(2), F.A.C.

B. Releases in Excess of Reportable Quantities.

1. The discharge of hazardous substances or oil in the stormwater discharge(s) from a facility or activity shall be prevented or minimized in accordance with the applicable stormwater pollution prevention plan for the facility or activity. This permit does not relieve the operator of the reporting requirements of 40 CFR part 117 and 40 CFR part 302. Where a release containing a hazardous substance in an amount equal to or in excess of a reporting quantity established under either 40 CFR 117 or 40 CFR 302, occurs during a 24 hour period:

a. The operator is required to notify the State Warning Point (800-320-0519 or 850-413-9911) as soon as he or she has knowledge of the discharge;

b. The operator shall submit within 14 calendar days of knowledge of the release a written description of: the release (including the type and estimate of the amount of material released), the date that such release occurred, the circumstances leading to the release, and remedial steps to be taken, to the Florida Department of Environmental Protection, NPDES Stormwater Section, Mail Station 2500, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400; and

c. The stormwater pollution prevention plan required under Part V of this permit must be modified within 14 calendar days of knowledge of the release to: provide a description of the release, the circumstances leading to the release, and the date of the release. In addition, the plan must be reviewed to identify measures to prevent the reoccurrence of such releases and to respond to such releases, and the plan must be modified where appropriate.

2. This permit does not authorize the discharge of hazardous substances or oil resulting from an on-site spill.

Part V. Stormwater Pollution Prevention Plan

A. A stormwater pollution prevention plan shall be developed and implemented for each construction site covered by this permit. Stormwater pollution prevention plans shall be prepared in accordance with good engineering practices. Equivalent erosion and sediment control plans prepared as a permit requirement under Part IV, Chapter 373, F.S., or Chapter 62-25, F.A.C., may serve as the pollution prevention plan provided all of the elements of this section are included in such an alternative plan. The plan shall identify potential sources of pollution that may reasonably be expected to affect the quality of stormwater discharge associated with construction activity. In addition, the plan shall describe and ensure the implementation of best management practices which will be used to reduce the pollutants in stormwater discharge associated with construction activity and to assure compliance with the terms and conditions of this permit. Facilities must implement the provisions of the stormwater pollution prevention plan required under this part as a condition of this permit. Failure to develop and implement a stormwater pollution prevention plan in accordance with the requirements of this part shall be deemed a violation of this permit and may result in enforcement action.

B. Deadlines for Plan Preparation and Compliance.

1. The pollution prevention plan shall:

a. Be completed (including certification by the operator in accordance with Part VII.C.) prior to the submittal of an NOI to be covered under this permit and updated as appropriate;

b. The plan shall provide for compliance with the terms and schedule of the plan beginning with the initiation of construction activities.

C. Keeping Plans Current.

1. The permittee shall amend the plan whenever there is a change in design, construction, operation, or maintenance, which has a significant effect on the potential for the discharge of pollutants to surface waters of the State or an MS4, including the addition of or change in location of stormwater discharge points, and which has not otherwise been addressed in the plan. The permittee also shall amend the plan if it proves to be ineffective in eliminating or significantly minimizing pollutants from sources identified under Part V.D.1. of this permit, or in otherwise achieving the general objectives of controlling pollutants in stormwater discharge associated with construction activity. In addition, the plan shall be amended to identify any new contractor and/or subcontractor that will implement a measure of the stormwater pollution prevention plan (see Part V.D.6.). Amendments to the plan shall be prepared, signed, dated, and kept as attachments to the original plan.

D. Contents of Plan.

1. Site Description. Each plan shall provide a description of pollutant sources and other information as indicated:

a. A description of the nature of the construction activity;

b. A description of the intended sequence of major activities which disturb soils for major portions of the site (e.g. grubbing, excavation, grading);

c. Estimates of the total area of the site and the total area of the site that is expected to be disturbed by excavation, grading, or other construction activities;

d. Existing data describing the soil or the quality of any discharge from the site and an estimate of the size of the drainage area for each discharge point;

e. A site map indicating drainage patterns and approximate slopes anticipated after major grading activities, areas of soil disturbance, an outline of areas which may not be disturbed, the location of major structural and nonstructural controls identified in the plan, the location of areas where stabilization practices are expected to occur, surface waters, wetlands, and locations where stormwater is discharged to a surface water or MS4; and,

f. The latitude and longitude of each discharge point and the name of the receiving water(s) for each discharge point.

2. Controls. Each plan shall include a description of appropriate controls, BMPs, and measures that will be implemented at the construction site. The plan shall clearly describe for each major activity identified in Part V.D.1.b. appropriate control measures and the timing during the construction process that the measures will be implemented. For example, perimeter controls for one portion of the site will be installed after the clearing and grubbing necessary for installation of the measure, but before the clearing and grubbing for the remaining portions of the site. Perimeter controls shall be actively maintained until final stabilization of those portions of the site upward of the perimeter control. Temporary perimeter controls shall be removed after final stabilization. All controls shall be consistent with the performance standards for erosion and sediment control and

stormwater treatment as set forth in Rule 62-40.432, F.A.C., the applicable stormwater or environmental resource permitting requirements of the DEP or appropriate WMD, and the guidelines contained in the Florida Development Manual: A Guide to Sound Land and Water Management (DEP, 1988) and any subsequent amendments.

a. Erosion and Sediment Controls.

(1) Stabilization Practices. Each plan shall provide a description of interim and permanent stabilization practices, including site-specific scheduling of the implementation of the practices. Site plans should ensure that existing vegetation is preserved where attainable and that disturbed portions of the site are stabilized. Stabilization practices may include: temporary seeding, permanent seeding, mulching, geotextiles, sod stabilization, vegetative buffer strips, protection of trees, preservation of mature vegetation, and other appropriate measures. A record of the dates when major grading activities occur, when construction activities temporarily or permanently cease on a portion of the site and when stabilization measures are initiated shall be included in the plan. Stabilization measures shall be initiated as soon as practicable, but in no case more than 7 days, in portions of the site where construction activities have temporarily or permanently ceased.

(2) Structural Practices. Each plan shall include a description of structural practices, to divert flows from exposed soils, store flows, retain sediment on-site, or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Such practices may include silt fences, earth dikes, diversions, swales, sediment traps, check dams, subsurface drains, pipe slope drains, level spreaders, storm drain inlet protection, rock outlet protection, reinforced soil retaining systems, gabions, coagulating agents and temporary or permanent sediment basins. Structural BMPs shall be placed on upland soils unless a State of Florida wetland resource management permit or environmental resource permit issued pursuant to Chapter 373, F.S., and applicable regulations of the DEP or WMD authorize otherwise.

(3) Sediment Basins.

(a) For drainage basins with 10 or more disturbed acres at one time, a temporary (or permanent) sediment basin providing 3,600 cubic feet of storage per acre drained, or equivalent control measures, shall be provided where attainable until final stabilization of the site. The 3,600 cubic feet of storage area per acre drained does not apply to flows from offsite areas and flows from onsite areas that are either undisturbed or have undergone final stabilization where such flows are diverted around both the disturbed area and the sediment basin. For drainage basins with 10 or more disturbed acres at one time and where a temporary sediment basin providing 3,600 cubic feet of storage per acre drained, or equivalent controls is not attainable, a combination of smaller sediment basins and/or sediment traps and other BMPs should be used. At a minimum, silt fences, or equivalent sediment controls are required for all sideslope and downslope boundaries of the construction area.

(b) For drainage basins of less than 10 acres, sediment basins and/or sediment traps are recommended but not required. At a minimum, silt fences or equivalent sediment controls are required for all sideslope and downslope boundaries of the construction area.

(c) Areas that will be used for permanent stormwater infiltration treatment (e.g., stormwater retention ponds) should not be used for temporary sediment basins unless appropriate measures are taken to assure removal of accumulated fine sediments, which may cause premature clogging and loss of infiltration capacity, and to avoid excessive compaction of soils by construction machinery or equipment.

b. Permanent Stormwater Management Controls.

Each plan shall include a description of stormwater management controls or BMPs (e.g., stormwater detention or retention systems, vegetated swales, velocity dissipation devices at discharge points) that will be installed during the construction process to control pollutants in stormwater discharges that will occur during construction and after construction operations have been completed. This generic permit only addresses the installation of stormwater management controls and not the ultimate operation and maintenance of such controls after the construction activities have been completed and the site has undergone final stabilization. Under this generic permit, permittees are only responsible for the installation and maintenance of stormwater management BMPs prior to final stabilization of the site, and are not responsible for maintenance after stormwater discharges associated with construction activity have been eliminated from the site. However, all stormwater management systems and BMPs shall be operated and maintained in perpetuity after final stabilization in accordance with requirements set forth in the State of Florida stormwater or environmental resource permit issued under Chapter 62-25, F.A.C., or Part IV, Chapter 373, F.S.

c. Controls for Other Potential Pollutants.

(1) Waste Disposal. The plan shall assure that waste, such as discarded building materials, chemicals, litter, and sanitary waste are properly controlled in accordance with all applicable state, local, and federal regulations. This permit does not authorize the discharge of solid materials, including building materials, to surface waters of the State or an MS4.

(2) The plan shall assure that off-site vehicle tracking of sediments and the generation of dust is minimized.

(3) The plan shall be consistent with applicable State and local waste disposal, sanitary sewer or septic system regulations.

(4) The plan shall address the proper application rates and methods for the use of fertilizers, herbicides and pesticides at the construction site and set forth how these procedures will be implemented and enforced. Nutrients shall be applied only at rates necessary to establish and maintain vegetation.

(5) The plan shall ensure that the application, generation, and migration of toxic substances is limited and that toxic materials are properly stored and disposed.

3. Maintenance. The plan shall include a description of procedures that will be followed to ensure the timely maintenance of vegetation, erosion and sediment controls, stormwater management practices, and other protective measures and BMPs so they will remain in good and effective operating condition.

4. Inspections. A qualified inspector (provided by the operator) shall inspect all points of discharge into surface waters of the State or an MS4; disturbed areas of the construction site that have not been finally stabilized; areas used for storage of materials that are exposed to precipitation; structural controls; and, locations where vehicles enter or exit the site, at least once every seven calendar days and within 24 hours of the end of a storm that is 0.50 inches or greater as follows:

a. Disturbed areas and areas used for storage of materials that are exposed to precipitation shall be inspected for evidence of, or the potential for, pollutants entering the stormwater system. The stormwater management system and erosion and sediment control measures identified in the plan shall be observed to ensure that they are operating correctly. Discharge locations or points shall be inspected to ascertain whether erosion and sediment control and stormwater treatment measures are effective in preventing or minimizing the discharge of

pollutants, including retaining sediment onsite pursuant to Rule 62-40.432, F.A.C. Locations where vehicles enter or exit the site shall be inspected for evidence of offsite sediment tracking.

b. Based on the results of the inspection, all maintenance operations needed to assure proper operation of all controls, BMPs, practices, or measures identified in the stormwater pollution prevention plan shall be done in a timely manner, but in no case later than 7 calendar days following the inspection. If needed, pollution prevention controls, BMPs, and measures identified in the plan shall be revised as appropriate, but in no case later than 7 calendar days following the inspection. Such modifications shall provide for timely implementation of any changes to the plan within 7 calendar days following the inspection.

c. A report summarizing the scope of the inspection; name(s) and qualifications of personnel making the inspection; the date(s) of the inspection; rainfall data; major observations relating to the implementation of the stormwater pollution prevention plan; and actions taken in accordance with paragraph V.D.4.b. of this permit, shall be made and retained, in accordance with Part VI of this permit, as part of the stormwater pollution prevention plan. Such reports shall identify any incidents of non-compliance. Where a report does not identify any incidents of non-compliance, the report shall contain a certification that the facility is in compliance with the stormwater pollution prevention plan and this permit. The report shall be signed in accordance with Part VII.C of this permit.

5. Non-Stormwater Discharges. Except for flows from fire fighting activities, sources of non-stormwater listed in Part IV.A.3 of this permit that are combined with stormwater discharges associated with construction activity must be identified in the plan. The plan shall identify and ensure the implementation of appropriate pollution prevention and treatment measures for the non-stormwater component(s) of the discharge.

6. Contractor/Subcontractor Certification.

a. The stormwater pollution prevention plan must clearly identify, for each measure identified in the plan, the contractor(s) and/or subcontractor(s) that will implement the measure. All contractors and subcontractors identified in the plan must sign a copy of the certification statement in Part V.D.6.b. of this permit. All certifications must be included in the stormwater pollution prevention plan.

b. Certification Statement for Contractors/Subcontractors. All contractors and subcontractors identified in a stormwater pollution prevention plan in accordance with Part V.D.6.a. of this permit shall sign a copy of the following certification statement before conducting any activities at the site:

"I certify under penalty of law that I understand, and shall comply with, the terms and conditions of the State of Florida Generic Permit for Stormwater Discharge from Large and Small Construction Activities and this Stormwater Pollution Prevention Plan prepared thereunder."

The certification must include the name and title of the person providing the signature in accordance with Part VII.C of this permit; the name, address and telephone number of the contracting firm; and the date the certification is made.

Part VI. Retention of Records

A. The permittee shall retain copies of stormwater pollution prevention plans and all reports required by this permit, and records of all data used to complete the Notice of Intent to be covered by this permit, for a period of at least three years from the date that the site is finally stabilized.

B. The permittee shall retain a copy of the stormwater pollution prevention plan and all reports, records and documentation required by this permit at the construction site, or an appropriate alternative location as specified in the NOI, from the date of project initiation to the date of final stabilization.

Part VII. Standard Permit Conditions

A. Any permit noncompliance constitutes a violation of Section 403.0885, F. S. and is grounds for enforcement action; for permit coverage termination, or revocation; or for denial of permit coverage renewal.

B. All of the general conditions listed in Rule 62-621.250, F.A.C., are adopted herein by reference.

C. Signatory Requirements.

1. All Notices of Intent, Notices of Termination, stormwater pollution prevention plans, reports, certifications or information either submitted to the Department or the operator of a municipal separate storm sewer system, or that this permit requires be maintained by the permittee, shall be signed as set forth in Rule 62-620.305, F.A.C.
2. Inspection reports prepared pursuant to Part V.D.4.c. of this permit shall be signed by the qualified inspector that prepared them as well as by a responsible authority for the operator as specified in Part VII.C.1. above.
3. Any person signing documents under this permit, except contractor/subcontractor certifications under Part V.D.6., shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Part VIII. Termination of Coverage

A. Notice of Termination.

1. Where a site has been finally stabilized (see Part II for the definition of final stabilization) and all stormwater discharges authorized by this permit are eliminated, the permittee shall submit a completed Notice of Termination (DEP Form 62-621.300(6)), signed in accordance

with Part VII.C. of this permit, within 14 days of final stabilization of the site to terminate coverage under this permit.

2. Elimination of stormwater discharges associated with construction activity means that all disturbed soils at the site have been finally stabilized and temporary erosion and sediment control measures have been removed or will be removed at an appropriate time, or that all stormwater discharges associated with construction activity from the site that are authorized by this generic permit have otherwise been eliminated.

3. For construction activities where the operator changes, the existing operator shall file an NOT in accordance with this Part within 14 days of relinquishing control of the project to a new operator.

B. Where to Submit.

1. A permittee shall submit a Notice of Termination to the following address:

NPDES Stormwater Notices Center, MS# 2510
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

2. Projects that discharged stormwater associated with construction activity to a municipal separate storm sewer system (MS4) shall submit a copy of the NOT to the operator of the MS4.

10.5 MONITORING PROGRAMS

10.5.1 Archaeology Report And FDHR Opinion Letter

2735

FLORIDA DEPARTMENT OF STATE
Jim Smith
Secretary of State
DIVISION OF HISTORICAL RESOURCES
R.A. Gray Building
500 South Bronough
Tallahassee, Florida 32399-0250
Director's Office (904) 488-1480
Telecopier Number (FAX) (904) 488-3353

April 8, 1991

Robert E. Johnson
Florida Archeological Services, Inc.
4250 Melrose Avenue
Jacksonville, Florida 32210

In Reply Refer To:
Susan M. Herring
Historic Sites Specialist
(904) 487-2333
Project File No. 910881

RE: Cultural Resource Assessment Review Request
An Archaeological Site Assessment Survey of the Arvah B. Hopkins Generating Station, Leon County, Florida
(Robert E. Johnson, April 1991)

Dear Mr. Johnson:

In accordance with the provisions of the National Historic Preservation Act of 1966 as amended, which are implemented by the procedures in 36 C.F.R., Part 800, as well as the provisions contained in Chapter 403, Florida Statutes, we have reviewed the above referenced project.

We have reviewed the above referenced report and find it to be complete and sufficient. On the basis of the information presented, we concur with the results and recommendations of the survey conducted by Florida Archeological Services, Inc. We note that three previously unrecorded archaeological sites, 8LE1741, 8LE1742, and 8LE1743, were encountered. We concur with the consultant's recommendation that none of these three sites is eligible for listing on the National Register of Historic Places.

Thus, it is the opinion of this agency that project activities will have no effect on any archaeological or historic sites or properties listed, or eligible for listing, in the National Register of Historic Places, or otherwise of national, state, regional, or local significance. The project is consistent with the historic preservation aspects of Florida's coastal zone program, and may proceed without further involvement with this agency.

If you have any questions concerning our comments, please do not hesitate to contact us. Your interest in protecting Florida's archaeological and historic resources is appreciated.

Sincerely,

Suzanne P. Walker

for George W. Percy, Director
Division of Historical Resources
and
State Historic Preservation Officer

GWP/smh

FLORIDA ARCHEOLOGICAL SERVICES, INC.

4250 MELROSE AVENUE
JACKSONVILLE, FL 32210

PHONE
(904) 389-1976

February 22, 1991

Mr. Steve Miller
R. W. Beck and Associates, Inc.
Denver National Bank Building
Suite 1900
1125 Seventeenth Street
Denver, CO 80202-2615

RE: City of Tallahassee, Hopkins Generating Station Environmental Assessment: Cultural Resources Element-Completion of Fieldwork and Report of Preliminary Findings.

Dear Mr. Miller:

Please be advised that FAS has completed all fieldwork activities for the archeological assessment of the Hopkins Generating Station in Tallahassee. As per our contract I am completing this preliminary letter report for your early notification of our findings. I must stress that the information contained herein should be considered preliminary as all project analysis is not yet completed.

Regarding field methods, the primary field technique used for archeological site discovery was based upon survey transect subsurface shovel testing at 50 meter intervals across most all of the high ground areas of the project. In addition to this technique, intensive surface reconnaissance of selected and available areas as well as subsurface shovel testing at 10 to 25 meter intervals in areas sampled judgementally or in areas identified to contain archeological materials also occurred. Approximately 100 subsurface shovel tests were implemented on the project area.

With regard to results of survey, three archeological deposits were identified. These deposits, shown on Figure 1, may be identified as FAS#1, FAS#2, and FAS#3, and may be described as follows:

Field Site FAS#1, this site is located generally within the open field area of the City of Tallahassee, Environmental Management Office in the

southwestern portion of the project area. A total of 6 lithic artifacts were recovered from 12 subsurface shovel tests over a broad area approximately 125m N/S by 75m E/W. Based on the absence of aboriginal ceramics in the sites artifact assemblage, these cultural materials are interpreted to represent a preceramic deposit probably dating to the Florida Archaic period (7,000 B.C.to 2,000 B.C.). This assessment is based upon very limited artifact sample. Vertical distribution appears to suggest most materials are confined to the 40cm to 70cm strata although a single flake was recovered at approximately 1m below surface. Preliminary assessment of this site (based upon its limited nature and extent) suggests that it represents an insignificant deposit. This site is not considered eligible or potentially eligible for inclusion in the National Register of Historic Places.

Field Site FAS#2, this site located adjacent to the transmission corridor on its southside, lies approximately 100m west of Site FAS#2 and 150m southeast of the intersection of the transmission corridor and the railroad feeder spur which enters the southeast corner of the Hopkins Unit #1 fenced perimeter. A total of 4 chert flakes were recovered from 3 positive of 13 total subsurface tests at this deposit. Site dimensions are approximately 75m N/S and 75m E/W. Although based upon a limited artifact sample, this site appears to represent a perceramic Archaic deposit. Unit depth ranged from 30cm to in excess of 1m. Preliminary assessment of this site (based upon its limited nature and extent) suggests that it represents an insignificant deposit. This site is not considered eligible or potentially eligible for inclusion in the National Register of Historic Places.

Field Site FAS#3, this site, which lies approximately 200m northwest of the southeast corner of the project area occurs in and north of the transmission line corridor in this area. The site lies on the second terrace above the small wetland tributary in this area. The site was identified during intensive surface reconnaissance and subjected to 10m to 50m surface interval shovel

testing. Three of 13 tests were positive or contained artifacts. Surface and subsurface deposits produced 15 artifacts (9 chert flakes and 1 biface fragment as well as 6 historic items including glass and various ceramics dating to probable late 19th century. Site dimensions are approximately 150m NE/SW by 75m NW/SE. This dual component site is represented by aboriginal (probably Archaic period) lithic artifacts as well as historic materials. Preliminary assessment of this site (based upon its limited nature and extent) suggests that it represents an insignificant deposit. This site is not considered eligible or potentially eligible for inclusion in the National Register of Historic Places.

The undeveloped portions of the Hopkins Generating Station were subjected to an archeological site assessment survey during a 10 field-day period from February 11, 1991 to February 20, 1991. This investigation resulted in the discovery of three previously unrecorded archeological sites. Based upon the completion of all fieldwork activities and preliminary analysis, the results of this investigation were assessed in terms of National Register Criteria (36CFR66). As such, none of the Hopkins Generation Station archeological deposits identified by the FAS survey appears to be eligible or potentially eligible for inclusion in the National Register of Historic Places. In accordance with 36CFR800, Procedures for the Protection and Enhancement of Historic and Cultural Properties, the recommendation for the Hopkins Generating Station archeological sites is no further work. These sites will be recorded in the Florida Master Site Files at the Bureau of Archeological Research, Division of Historical Resources in Tallahassee. In addition, a project final report will be submitted to DHR for formal review in approximately 10 to 15 days.

On a final note, I am forwarding a copy of this management summary or preliminary letter report to DHR for potential initiation of preliminary project review in hopes that the City of Tallahassee can demonstrate progress to date on this project.

It is my hope that this preliminary assessment information is of immediate use. Thank you for your assistance on this project as well as in coordinating that of the City of Tallahassee. Ms. Curtis has been very helpful on this project. Should you have any questions or comments, however, please contact me at your convenience.

Sincerely,

Robert E. Johnson

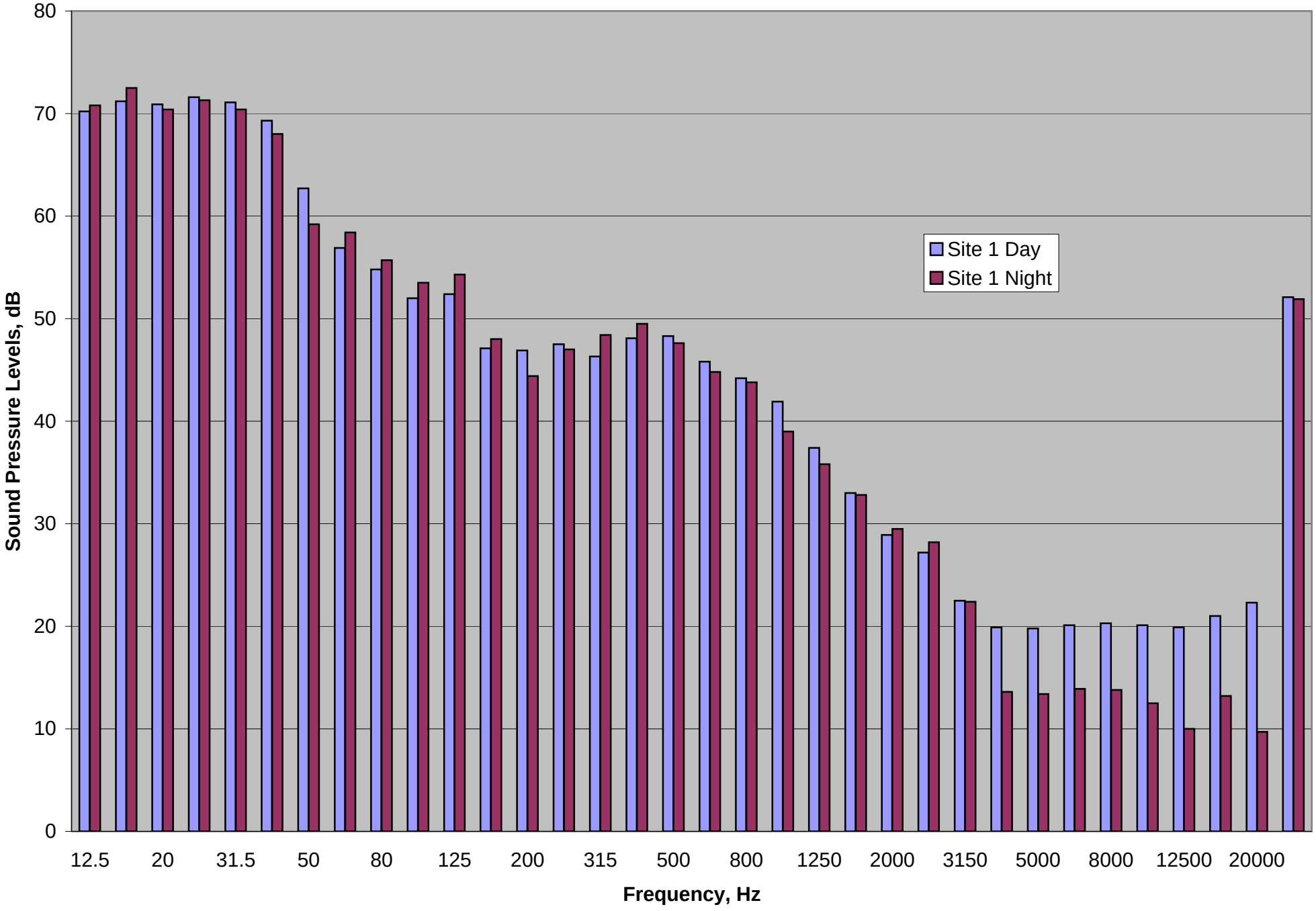
Robert E. Johnson
Principal Investigator

REJ/bj

enclosure

xc: Mr. Louis D. Tesar, DHR
Ms. Jennette Curtis, City of Tallahassee

10.5.2 Noise Data Sheets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12500
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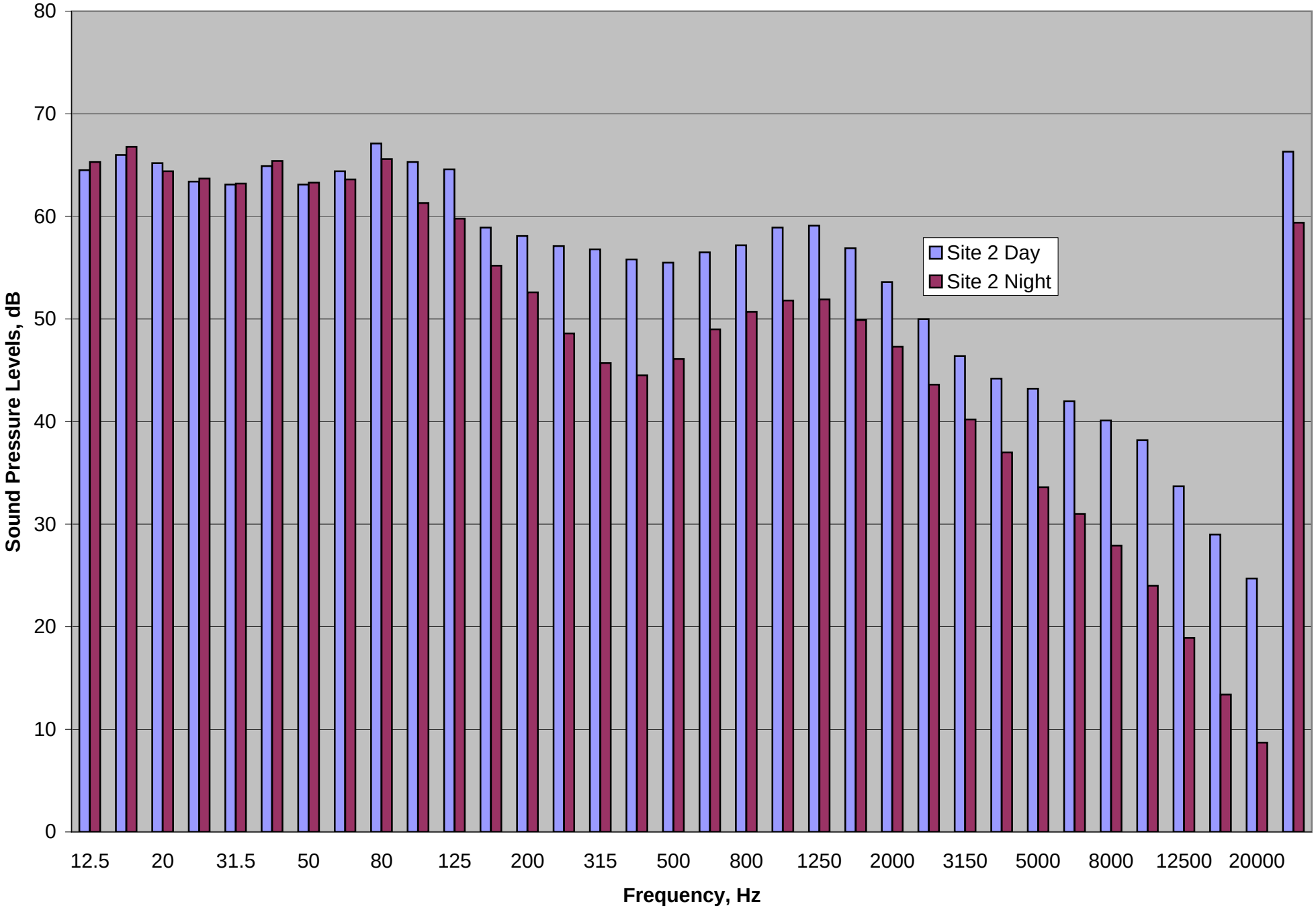
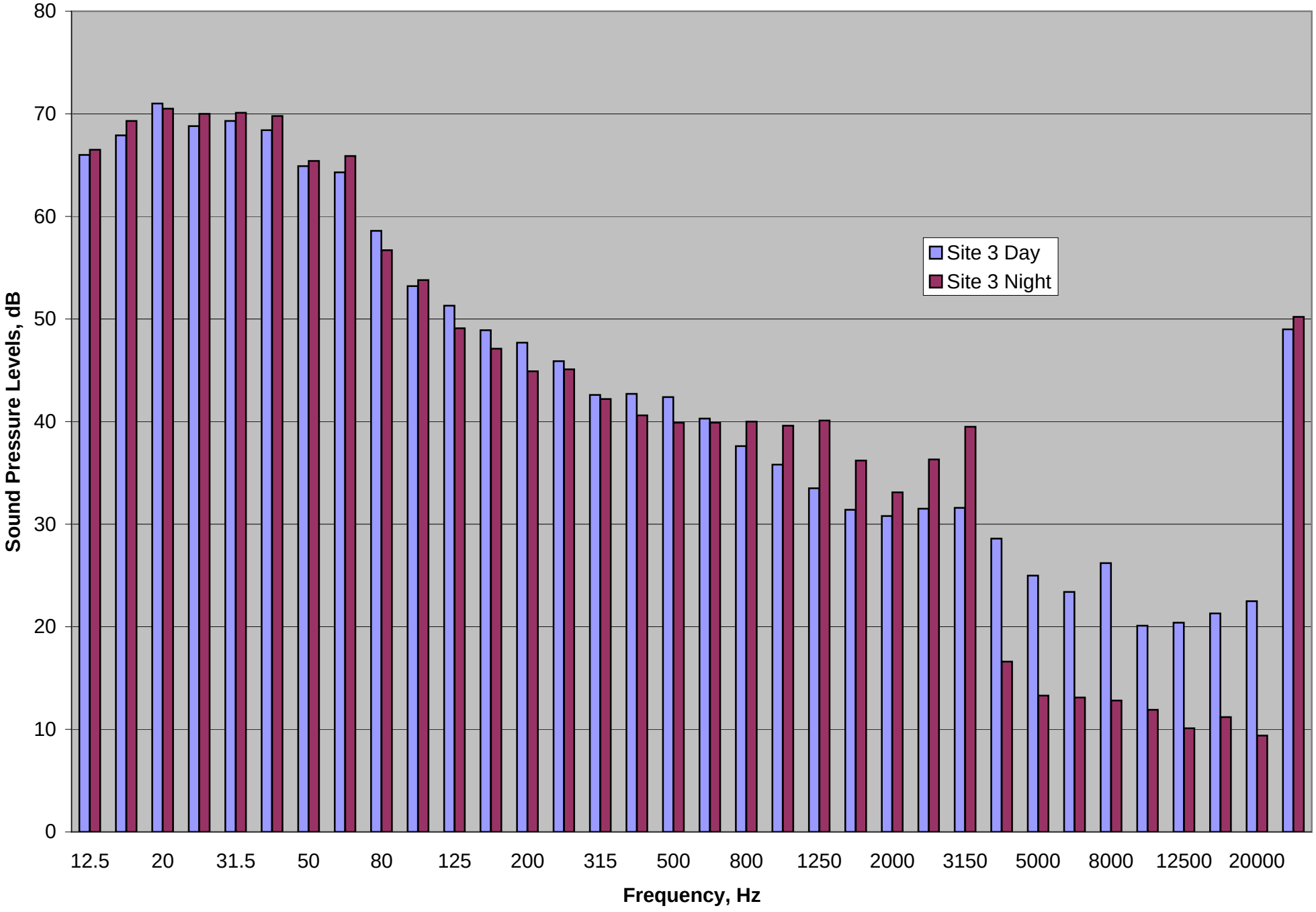
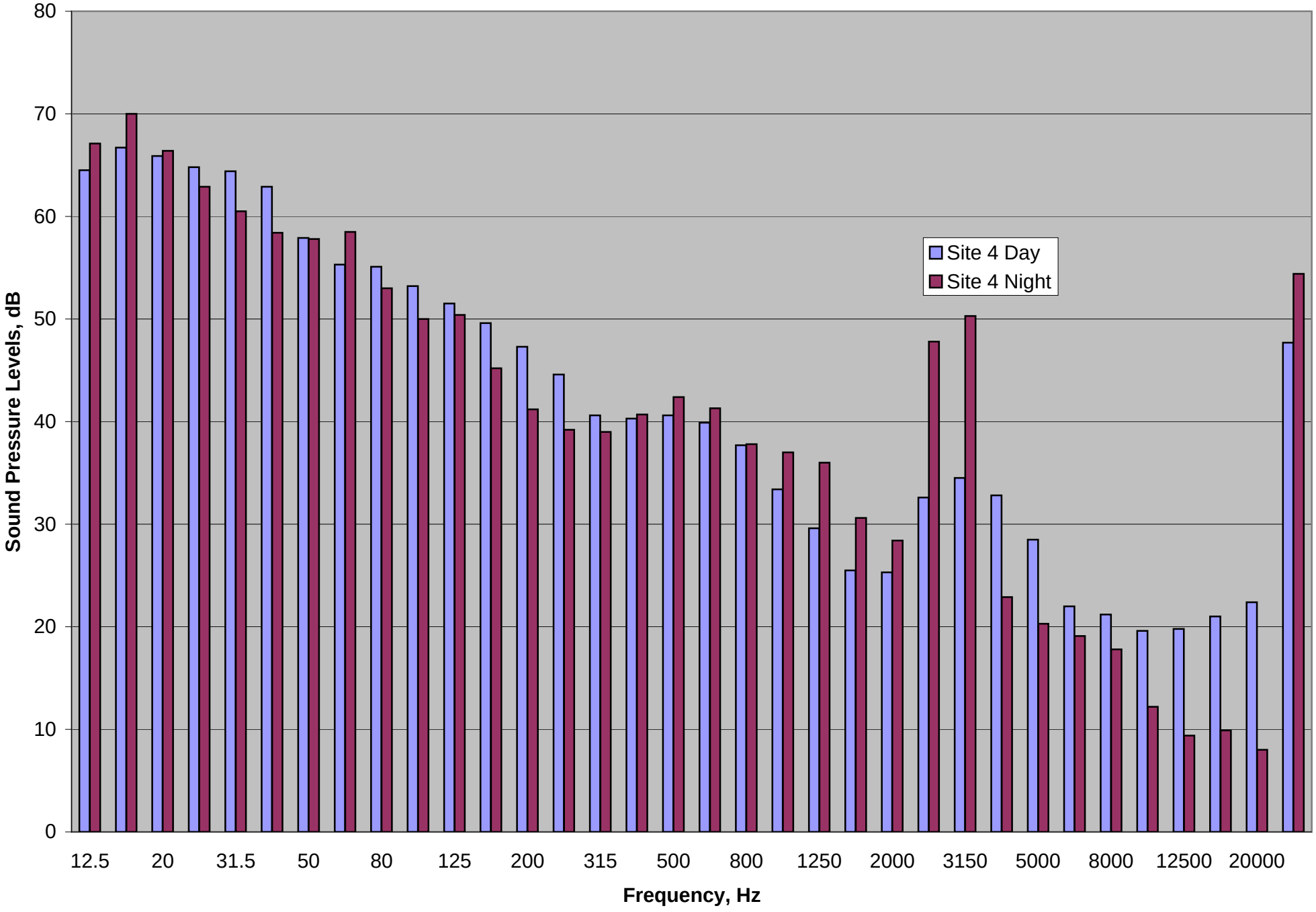
Frequency, Hz

City of Tallahassee Unit 2 Noise Study




80
70
60
50
40
30
20
10
0
Sound Pressure Levels, dB
Site 3 Day
Site 3 Night
12.5
20
31.5
50
80
125
200
315
500
800
1250
2000
3150
5000
8000
12500
20000
Frequency, Hz


Sound Pressure Levels, dB
80
70
60
50
40
30
20
10
0
Site 4 Day
Site 4 Night
12.5
20
31.5
50
80
125
200
315
500
800
1250
2000
3150
5000
8000
12500
20000
Frequency, Hz

10.5.3 Well Information

(Inventory of Wells within 5 Miles)

The well inventory was obtained through a telephone conversation with Vanessa Morrill of the Northwest Florida Water Management District (NWFWMD) on February, 7th 2006 and subsequent e-mails containing the well inventory data on February 7th and 8th.

Permit #	SEC	TWN	RNG	Last Name	First Name	Use	Type	Casing	Depth	H2O Level	Pump Rate	Diam	Well Street
T197700662		5 01N	01W	Eddie E. Edwards		PS	C					4	Old Bainbridge Rd. & Perkins Rd.
T199403640		5 01N	01W	BP Station		MO	C	5	20			4	1011 S. Magnolia St.
T199403641		5 01N	01W	BP Station		MO	C	5	20			4	1011 S. Magnolia St.
T199900478		5 01N	01W	PBS & J		MO	C	35	45			2	corner of Maclay Commerce & Joshua Ct.
T199900479		5 01N	01W	PBS & J		MO	A	35	45			2	corner of Maclay Commerce & Joshua Ct.
T199700298		5 01N	01W	Viewpoint Partnership		MO	A		45			1.5	Viewpoint Subdivision Stormwater Pond
T199700297		5 01N	01W	Viewpoint Partnership		MO	A		45			1.5	Viewpoint Subdivision Stormwater Pond
T200002278		5 01N	01W	EZ Serve Convenience Stores		MO	A	10	10			2	4513 N. Monroe St.
T200601465		5 01N	01W	City of Tallahassee		MO	C					2	Cascade & Capital Circle SW
T200002279		5 01N	01W	EZ Serve Convenience Stores		MO	A	10	10			2	4513 N. Monroe St.
T199800380		5 01N	01W	Leon County School Board		LA	C	120	200	70	80	5	off 27 North
T198601480		5 01N	01W	Regina Brown		HS	C	118	150	80	20	4	4587 Scawthorn Road
T197701072		5 01N	01W	C. Hawkins		DO	C					4	Centerville Rd.
T197701004		5 01N	01W	Curtis Ward		DO	C					4	Hwy 263
T197600056		5 01N	01W	Albert R. Sessions		DO	C	88	175	100	50	4	2636-65 Misson Road
T198707872		5 01N	01W	Fred Mukoyama		DO	C	90	180	65	20	4	4757 Flowerwood Drive
T199501933		5 01N	01W	Henry Williams		DO	C	242	300	198	20	4	off Old Bainbridge Rd
T200501803		5 01N	01W	Arbor		DO	C	142	205	72	18	4	4910 N. Monroe St
T200102378		5 01N	01W	Harris	Daniel	DO	C	92	170	80	20	4	4316 Scawthorn Drive
T200100792		5 01N	01W	Harrell	Tim	DO	C	105	160	84	25	4	4801 Old Bainbridge Rd.
M199901826		5 01N	01W	Creative Homes Const.		DO	C	140	155	80	10	4	Perkins Street
T199600747		5 01N	01W	Maida	Michael G.	DO	C	105	231	135		4	4083 Roweling Oaks Ct
T199206005		5 01N	01W	Jim Bell Construction		DO	C	77	290	80	10	4	Scawthorn Lane
T199307172		5 01N	01W	Harold W. Swift		DO	C	142	170	80	12	4	4698 Flowerwood Dr.
T198904968		5 01N	01W	Edwin Eubanks		DO	C	110	180	70	10	4	4709 Flowerwood Drive
T197600068		5 01N	01W	Tommy Collins		DO	C	99	180	80	12	4	3701 Capital Circle
T197900041		5 01N	01W	Lowell Yoakam		DO	C	150	195		10	4	4015 Flowerwood Dr.
T197800374		5 01N	01W	Bob Lambert		DO	C	116	185	115		4	2080 Clara Kee
T198402034		5 01N	01W	Ed Eubanks		DO	C	78	180	78	20	4	4755 Flowerwood
T199106627		6 01N	01W	Northwoods Baptist Church		PS	C	100	220	60	25	4	3762 NW Capital Circle NW
T200000818		6 01N	01W	Talquin Electric Coop		PS	C	230	350	94	800	12	Portal Drive
T197700200		6 01N	01W	Dept. Of Pollution Control		MO	C					4	Capital Circle
T197700201		6 01N	01W	Dept. Of Pollution Control		MO	C					4	Capital Circle
T197700202		6 01N	01W	Dept. Of Pollution Control		MO	C					4	Capital Circle
T198901617		6 01N	01W	South Georgia Grocery Co.		MO	C	12	12			2	Capital Circle & Hwy 263
T198901618		6 01N	01W	South Georgia Grocery Co.		MO	C	12	12			2	Capital Circle & Hwy 263
T198901616		6 01N	01W	South Georgia Grocery Co.		MO	C	12	12			2	Capital Circle & Hwy 263
T198800471		6 01N	01W	Talquin Electric Coop		MO	C	21	21	13		4	Split Oak Lane & Cypress Ln
T198901619		6 01N	01W	South Georgia Grocery Co.		MO	C	12	12			2	Capital Circle & Hwy 263
T200303062		6 01N	01W	Sutor Family Trust		MO	C	26	36			0.75	Aenon Creek Road
T200303061		6 01N	01W	Sutor Family Trust		MO	C	34	44			0.75	Aenon Creek Road
T199900627		6 01N	01W	Commercial Consultants Corp		MO	C		9			2	4579 Capital Circle NW
T199801957		6 01N	01W	Cumbie Construction		MO	C	6	16	8		2	4871 Woodlane Circle
T199801956		6 01N	01W	Cumbie Construction		MO	C	6	16	8		2	4871 Woodlane Circle
T199801955		6 01N	01W	Cumbie Construction		MO	C	6	16	8		2	4871 Woodlane Circle
T199801954		6 01N	01W	Cumbie Construction		MO	C	6	16	8		2	4871 Woodlane Circle
T199801953		6 01N	01W	Cumbie Construction		MO	C	20	25	8		2	4871 Woodlane Circle
T198502148		6 01N	01W	T. L. Horton		LP	C	80	165	30	3	2	4211 Capital Circle, N.W.
T197700232		6 01N	01W	Sol Pierce		LA	C	35	60	7		4	5421 Lake Wood
T198402929		6 01N	01W	Ring Power Corp.		IN	C	210	380		100	6	4760 Capital Circle, N.W.
T199700686		6 01N	01W	Palmer Construction		HS	C	92	160	90	16	4	5355 Tower Road
T199700687		6 01N	01W	Palmer Construction Co.		HS	C	141	220	89	30	4	5355 Tower Road
T199700701		6 01N	01W	Palmer Construction Co.		HR	C	162	220	91		4	River Pond Court/AR9702
T199700702		6 01N	01W	Palmer Construction Co.		HR	C	85	160	67		4	River Pond Court/AR9702
T197600331		6 01N	01W	Anglia Groom		DO	C				20	4	Hwy. 263
T198300052		6 01N	01W	Donald Pierce		DO	C	72	75	60	10	4	Off Truck Route North

T198300359	6	01N	01W	Hershel Cook		DO	C	52	60	35	12	4 5869 Stoneler Rd
T198402234	6	01N	01W	Willie Wynn		DO	C	50	75		50	4 Box 962, Stoneler Rd.
T200200360	6	01N	01W	Deshazier	Gwen	DO	C	74	125	41	10	4 5109 Stoneler Rd
T199900701	6	01N	01W	Paramore	Donald	DO	C	175	250	110	18	4 4132 Deer Lane Road
T199900503	6	01N	01W	McCray	Derlas	DO	C	90	115	65	12	4 3426 Stoneler
T199900597	6	01N	01W	Benda	William	DO	C	75	130	45	12	4 4825 Six Oaks Dr
T199302807	6	01N	01W	Charles Mosier		DO	C	63	65	30	12	4 Capital Cir. N.W. & Stonler Rd.
T199104124	6	01N	01W	Franklin Robinson		DO	C	60	90	45		4 3406 Stoneler Road
T198704377	6	01N	01W	Southeastern Home Builders		DO	C	120	185	85	12	4 Off Scawthorne Drive
T198500865	6	01N	01W	Robert Harrell		DO	C	60	75	30	10	4 Stoneler Rd
T198403956	6	01N	01W	James A. Harper		DO	C	70	78	50	12	4 Maddox Road
T198400158	6	01N	01W	Louis Anderson		DO	C	50	80	30	15	4 2018 Padlock PL.
T198300351	6	01N	01W	Chuck Renmick		DO	C	60	100	40	15	4 Madox Rd.
T198201180	6	01N	01W	Roland Miller		DO	C	86	96	1	10	4 Hallthorn Road
T197900791	6	01N	01W	R. Grotenstein		DO	C				20	4 Capital Circle N.W.
T198300476	6	01N	01W	Randy Powell		DO	C	39	75	53	15	4 5965 Stoneler Rd
T197600140	6	01N	01W	Roy Foster		DO	C	136	150	80	15	4 Rt. 7 Box 1051
T200402690	6	01N	01W	Ferrell Const. Co		AI	C	178	260	100	40	4 Meridian Rd
T199100232	7	01N	01W	Praise Cathedral		LP	C	140	240	120	12	4 Truck Road & Back Forty Road
T197800023	7	01N	01W	Davie Rabon		DO	C	90	140			4 Rt. 9, Box 987
T197900530	7	01N	01W	Dalton Allen		DO	C	85	105	37	15	4 993 Maddox Rd.
T197801012	7	01N	01W	Charles R. Fulton		DO	C	87	121	97		4 Maddox Road
T198200664	7	01N	01W	Frank Close, Jr.		DO	C	86	98	48	15	4 Route 9, Box 963
T198000795	7	01N	01W	Thomas A. Johnson		DO	C	64	73	16		4 Rt. 14 Box 362 Lot 56
T198000796	7	01N	01W	Delma Monfort		DO	C	96	131	40		4 Don Hunter Road
T198200687	7	01N	01W	Robert Law		DO	C	54	85	60	20	4 Maddox Rd.
T198100659	7	01N	01W	James Dondleson		DO	C	70	80	40		4 5019 Riverwood Rd.
T198100470	7	01N	01W	Franklin Robinson		DO	C	125	150	80		4 Rt. 9 Box 960
T198301574	7	01N	01W	Stewart Griner		DO	C	100	130	40		4 Maddox Road
T198300175	7	01N	01W	Steve Stephenson		DO	C	80	131	80	12	4 Flat Drive
T198301836	7	01N	01W	Dolton Allen		DO	C	175	192	88	15	4 Rt. 9 Box 997
T198300634	7	01N	01W	Jerry Murdoch		DO	C	60	100	40	12	4 Lot 6 Maddox Rd
T198602198	7	01N	01W	Keith Clemons		DO	C	126	170	85	12	4 3669 Flat Road
T198700466	7	01N	01W	Dennis Story		DO	C	63	130	36	20	4 Riverwood Road, Lot 5
T198700634	7	01N	01W	Andy Collins		DO	C	47	90	30	15	4 4158 Riverwood Road
T198606656	7	01N	01W	Richard Lawrence		DO	C	45	100	38	15	4 Jamey Rd.
T199600459	7	01N	01W	Miley	Kenneth L.	DO	C	42	100	45	12	4 4086 Riverwood Rd.
T199500770	7	01N	01W	Lannis (Buster) Godwin		DO	C	82	180	70	20	4 Riverwood Rd.
T199409155	7	01N	01W	Peterson	John & Terri	DO	C	118	203	36	10	4 4038 Riverwood Rd.
T199406844	7	01N	01W	Laura & Brant Rogers		DO	C	76	150	45	18	4 5222 Back Forty
T199400298	7	01N	01W	John Steel		DO	C	53	100	40	12	4 Capital Cir N.W. & Maddox Rd.
T199303111	7	01N	01W	Wayne Keele		DO	C	63	64	30	12	4 Capital Circle & Maddox Rd
T199302960	7	01N	01W	Frank Varnedse		DO	C	47	180	61	20	4 Maddox Rd.
T199206597	7	01N	01W	Omar Allen		DO	C	52	70	30	18	4 Riverwood Rd.
T199203484	7	01N	01W	Flamingo Construction		DO	C	78	100	60	20	4 Off Jenna Rd.
T200000860	7	01N	01W	Owens	Tim & Diane	DO	C	120	130	70	12	4 6030 Michaela Way
T199901096	7	01N	01W	Benton	Tom	DO	C	40	80	25	18	4 4085 Riverwood Road
T199900347	7	01N	01W	Jimmy Adams Construction		DO	C	90	135	67	20	5 1382 Jamey Rd.
T199801861	7	01N	01W	Doug King Bld.		DO	C	68	200	45	16	4 1998 Padlock Place
T199801556	7	01N	01W	Marks	Lee	DO	C	120	160	80	12	4 Padlock Place
T199801231	7	01N	01W	Lee Alday		DO	C	65	125	40	18	4 20 Flat Road
T199801309	7	01N	01W	Willis	Rod	DO	C	85	200	60		4 59 Backforty Road
T199800462	7	01N	01W	Parramore	Vic	DO	C	72	175	48	20	5 5019 Riverwood Rd.
T199800806	7	01N	01W	Hunter	Don L.	DO	C	60	150	40	82	4 5132 Don Hunter Rd
T200502680	7	01N	01W	Marquis	Phil	DO	C	126	225	115	10	4 Back Forty Rd
T200502681	7	01N	01W	Maxwell	Bobby	DO	C	90	230	78	16	4 11023 Tung Grove Rd
T200101820	7	01N	01W	Trudell Construction		DO	C	135	180	70	12	4 Jamie Lane

T200101743	7 01N	01W	Lambert Construction		DO	A	245	245			4	Off Capital Circle N.W.
T200100534	7 01N	01W	Anderson	Alvin D.	DO	C	60	80		12	4	6020 Michaela Way
T200002482	7 01N	01W	Meggs	Willie	DO	C	60	160	50	18	4	Riverwood Dr
T200001623	7 01N	01W	Bennick	Charles	DO	R	140	180		12	4	2039 Padlock Place
T200001375	7 01N	01W	Downs	Rodger	DO	C	102	200	87	16	4	3614 Flat Rd
T199800796	7 01N	01W	Ethridge	Laura	DO	C	95	150	40	82	4	5168 Don Hunter Road
T199701575	7 01N	01W	Woods	Doyle	DO	C	60	75	30	120	4	4111 Riverwood Rd
T199700188	7 01N	01W	Allen	Libby	DO	C	80	175		20	5	Flat Road
T199700302	7 01N	01W	Marquis	Phillip	DO	C	80	200	105	16	4	3220 Capital Cir. NW
T199600968	7 01N	01W	Scurti	Mike	DO	C	63	100	30	120	4	3045 Jenna Rd.
T199600246	7 01N	01W	Tucker	Bill	DO	C	42	100	50	12	4	4098 Riverwood Road
T199600227	7 01N	01W	Williams	Hubert	DO	C	22	22			4	4098 Riverwood Road
T199600411	7 01N	01W	Williams	Hubert	DO	A		22			4	4098 Riverwood Rd
T199205121	7 01N	01W	Glenn Williams		DO	C	67	140	43	20	4	Padlock Rd.
T199201396	7 01N	01W	Larry Walden		DO	C				20	4	2862 Padlock Place
T199104183	7 01N	01W	Curley's Construction		DO	C	72	80	25	10	4	Riverwood Sub. off Maddox Rd.
T199105066	7 01N	01W	Jerry & Martha Hicks		DO	C	50	140	35	20	4	Padlock Place
T198704431	7 01N	01W	Faye Boothe		DO	C	34	200	40	20	4	Maddox Road
T198704777	7 01N	01W	Fred J. Auker		DO	C	45	65	21	12	4	Riverwood Road
T198800199	7 01N	01W	Larry R. Walden		DO	C	63	120	16	20	4	4011 Riverwood Rd.
T198904028	7 01N	01W	Jim Berlin		DO	C	86	220	115	20	4	Off Back 40 Road
T198905466	7 01N	01W	Hubert Donaldson		DO	C	34	60	22	20	4	4157 Riverwood Road
T198905420	7 01N	01W	John McIntre		DO	C	90	120	14	20	4	Tadlock Road, Lot 1
T199002572	7 01N	01W	Eddie Nix		DO	C	53	69	42	12	4	Capital Cir. N.E. past I-10
T199005734	7 01N	01W	Ray Graham		DO	C	63	160	22	30	4	4146 Riverwood Road
T199005735	7 01N	01W	Ray Graham		DO	C	62	75	29	30	4	4146 Riverwood Road
T199004447	7 01N	01W	Ray Graham		DO	C	63	160	23	30	4	4146 Riverwood Road
T199100431	7 01N	01W	Ivy J. Hill		DO	C	45	71	35	10	4	3010 Padlock Place
T200400001	8 01N	01W	FL Commercial Prop LTC		MO	C	8	23			2	Texaco Food Mart 197/4015 Fred George Rc
T200400002	8 01N	01W	FL Commercial Prop LTC		MO	C	8	23			2	Texaco Food Mart 197/4015 Fred George Rc
T200400004	8 01N	01W	FL Commercial Prop LTC		MO	C	8	23			2	Texaco Food Mart 197/4015 Fred George Rc
T200400003	8 01N	01W	FL Commercial Prop LTC		MO	C	8	23			2	Texaco Food Mart 197/4015 Fred George Rc
T200400006	8 01N	01W	FL Commercial Prop LTC		MO	C	8	23			2	Texaco Food Mart 197/4015 Fred George Rc
T200400005	8 01N	01W	FL Commercial Prop LTC		MO	C	8	23			2	Texaco Food Mart 197/4015 Fred George Rc
T199305880	8 01N	01W	Villa Cascades Apartments		LA	C	160	160	80	50	4	445 Appleyard Dr.
T198804432	8 01N	01W	William Howell		HS	C	105	163	78	25	4	Miraflores Lane
T197600991	8 01N	01W	Millie Stephens		DO	C				30	4	3313 N Monroe St.
T197700317	8 01N	01W	Mickie Brett		DO	C					4	7118 Blueberry Hill Dr.
T197700899	8 01N	01W	West Florida Construction		DO	C					4	Hwy. 263
T197700763	8 01N	01W	Ed Eubanks		DO	C					4	2931 Joyce Dr.
T197900670	8 01N	01W	Roy C. Cain		DO	C	60	100	71	15	4	4791 Lakely Dr.
T197700247	8 01N	01W	Stan Brown		DO	C	108	135	85		4	Off Old Bainbridge Rd.
T197600106	8 01N	01W	C.K. Pope		DO	C	113	212	100	40	4	3807 Roth Drive
T197700029	8 01N	01W	Troy Lawerence		DO	C					4	Off Capital Circle
T197700030	8 01N	01W	Delson Ryland		DO	C					4	Hwy. 263
T197600583	8 01N	01W	R. C. Cain		DO	C				20	4	Off Hwy. 263
T197600584	8 01N	01W	R. C. Cain		DO	C				20	4	Off Hwy. 263
T197801122	8 01N	01W	M. R. Simmons		DO	C					4	4410 Shelborne
T198100361	8 01N	01W	Richard Ray		DO	C	84	140	45		4	Wildwood North
T198100140	8 01N	01W	Mark Piland		DO	C	100	148	95		4	Scawthorn Dr.
T198200197	8 01N	01W	Fred Hodley		DO	C	120	165	95	10	4	off Old Bainbridge Road
T198300792	8 01N	01W	Ronnie Jackson		DO	C	100	180	110		4	Rt. 3, Box 63614
T198101697	8 01N	01W	Roy C. Cane		DO	C	102	152	85	15	4	4791 Lakely Dr.
T198801114	8 01N	01W	Michael S. Ferrell		DO	C	63	95	60	20	4	Capital Circle & Deer Run
T198300133	8 01N	01W	Debra Evans		DO	C	100	140	60	10	4	Hawthorn Drive
T198301945	8 01N	01W	Jimmie Hodges		DO	C	50	78	30	10	4	Off Hwy 263A
T198401110	8 01N	01W	James Hipp		DO	C	62	160	55	20	4	OffCap.Cir.NW,offW.Hwood

T198300724	8	01N	01W	Gene Scarboro		DO	C	100	180	100	12	4 Old Bainbridge Road
T198300010	8	01N	01W	Charlie Woods		DO	C	115	175	100	10	4 4560 Scawthorn
T198300011	8	01N	01W	Steve Chase		DO	C	93	170	95		4 4563 Scawthorne
T198401775	8	01N	01W	Roy Mayo		DO	C	105	240	120	15	4 Old Bainbridge Road
T198402639	8	01N	01W	Don Casto		DO	C	100	100	100	12	4 4130 Wiggington
T199800860	8	01N	01W	Leon Co. Bd. of County Comm.		DO	A	149	210	87		2 4470 Sherborne Rd.
T199701393	8	01N	01W	Godwin, Jr.	Lannis L.	DO	C	85	150	50	15	4 3178 Jamey Rd.
T199601639	8	01N	01W	Feely	Mark	DO	C	119	150	90	20	5 Scawthorne Drive
T199601618	8	01N	01W	Chapman	Keith	DO	C	96	200	90	20	5 Scawthorne Dr.
T199700862	8	01N	01W	Pennyworth Homes/Marvin Holt		DO	C	90	175	120	10	5 Scawthorn
T199600893	8	01N	01W	Brown	Bill	DO	C	95	150	80		5 4623 Slawthorn Road
T199500588	8	01N	01W	Robin L Thompson		DO	C	105	160	71	20	4 off Scawthorne Dr.
T199500159	8	01N	01W	Linda Jones		DO	C	100	180	80	20	4 Running Meadows Ln.
T199401281	8	01N	01W	Guy Gowens		DO	C	103	200	75	20	4 Lakely Drive
T200503526	8	01N	01W	Baluba, Inc		DO	C	63	100	20	18	4 4755 Knollwood Drive
T200401589	8	01N	01W	Covin	Tony	DO	C	140	210	90	55	4 4709 Knollwood Drive
T200401088	8	01N	01W	Estes	Barry	DO	C	85	220	95	20	5 Woodhill Dr
T200303354	8	01N	01W	Alfsen	Tom	DO	C	165	190	84	18	4 off Lakely Dr
T200300158	8	01N	01W	Stewart	John	DO	C	137	205	94	18	4 Off Running Meadows
T200001912	8	01N	01W	Freeley	Mark	DO	C	195	240	133	13	4 4610 Running Medows
T200000147	8	01N	01W	Lone Wolf Construction		DO	C	143	280	126	10	4 Off Scawthorne Dr.
T199900582	8	01N	01W	Renegade Homes		DO	C	124	200	98	16	4 off Scawthorn Lane
T199900910	8	01N	01W	Dunlap	Mike	DO	C	145	220	72	16	4 Lakely Drive
T199401224	8	01N	01W	Fred Hadley		DO	C	87	160	87	20	4 off Scawthorn Dr.
T199302086	8	01N	01W	Ellie & Yaeher Whitney		DO	C	98	120	63	10	4 04730 Knollwood Dr.
T199200636	8	01N	01W	Ronnie Runnels		DO	C	75	145	65	20	4 Deer Run Rd
T199105389	8	01N	01W	William Roberts		DO	C	97	220	110	20	4 4992 Gearhart Road
T199001801	8	01N	01W	Boyette Homes		DO	C	126	155	85	10	4 Off Old Bainbridge Road
T198905536	8	01N	01W	Judy Irene Atkinson		DO	C	72	100	52	18	4 4783 Lakely Dr.
T198902849	8	01N	01W	Lifetime Homes		DO	C	95	200	85	20	4 Off Scawthorne Lane
T198803467	8	01N	01W	Michael S. Ferrell		DO	R	92	150	50	12	4 Truck Route & Deerun
T198501601	8	01N	01W	Lacy Murray		DO	C	108	200	100	14	4 Off Old Bainbridge Rd. on Scaw
T198501305	8	01N	01W	Phil McKinnon		DO	C	63	170	75	20	4 4802 Lakely Drive
T198600385	8	01N	01W	Harry Herman		DO	C	82	200	90	20	4 Running Meadow Lane
T198504229	8	01N	01W	Tom W. Bane		DO	C	86	195	90	20	4 4563 Running Meadows Lane
T198700467	8	01N	01W	Frank Sheffield		DO	C	130	220	138	20	4 Off Scawthorne Drive
T198702384	8	01N	01W	Lacy Murray		DO	C	140	200	90	12	4 4316 Searhorne Dr.
T198701857	8	01N	01W	John W. Stuckey, Jr.		DO	C	120	150	80	12	4 2834 Boatner St.
T198705264	8	01N	01W	Carl Huey		DO	C	116	210	110	20	4 Off Scawthorne Lane
T198706411	8	01N	01W	Kip Wells		DO	C	120	180	85	20	4 Off of Schorntor Drive
T198301673	9	01N	01W	City of Tallahassee #19		PS	C	286	427			8 Fred George Road
T198801041	9	01N	01W	Express Lane		MO	C	13	13	8		2 3417 Fred George Road
T198801043	9	01N	01W	Express Lane		MO	C	13	13	8		2 3417 Fred George Road
T198801042	9	01N	01W	Express Lane		MO	C	13	13	8		2 3417 Fred George Road
T198801044	9	01N	01W	Express Lane		MO	C	13	13	8		2 3417 Fred George Road
M199103833	9	01N	01W	SW Ga. Oil Co.		MO	C	10	20			2 US Hwy. 27 N.
T199403642	9	01N	01W	BP Station		MO	C	10	30	21		4 3820 N. Monroe St.
T199403644	9	01N	01W	BP Station		MO	C	10	30	21		4 3820 N. Monroe St.
T199500848	9	01N	01W	BP Oil Company		MO	A		13		0	4 3820 North Monroe St.
T199600811	9	01N	01W	Island Food Ltd.		MO	R	13	13		0	2 3820 North Monroe Street
T199502260	9	01N	01W	C.E.D. Construction		MO	A	3	5		0	2 Fred George & Old Bainbridge Rd
T199502258	9	01N	01W	C.E.D. Construction		MO	C	3	5		0	2 Fred George & Old Bainbridge
T199500853	9	01N	01W	BP Oil Company		MO	A		23		0	2 3820 North Monroe St.
T199500852	9	01N	01W	BP Oil Company		MO	A		23		0	2 3820 North Monroe St.
T199500851	9	01N	01W	BP Oil Company		MO	A		30		0	4 3820 North Monroe St.
T199500850	9	01N	01W	BP Oil Company		MO	A		30		0	4 3820 North Monroe St.
T199500849	9	01N	01W	BP Oil Company		MO	A		30		0	4 3820 North Monroe St.

T200101020	9 01N	01W	Express Lane Inc		MO	A	13	13			2 3417 Fred George Rd
T200001954	9 01N	01W	Horne	Gracie	MO	A	35	35			2 3720 N. Monroe St.
T200001090	9 01N	01W	Island Foods		MO	A	15	15			4 3820 North Monroe St.
T200001089	9 01N	01W	Island Foods		MO	A	15	15			4 3820 North Monroe St.
T200001088	9 01N	01W	Island Foods		MO	A	15	15			4 3820 North Monroe St.
T200001087	9 01N	01W	Island Foods		MO	A	10	20			10 3820 North Monroe St
T199900934	9 01N	01W	Sunshine Jr. Foods		MO	C	20	35	18		2 US 27 & McKee Rd
T199601081	9 01N	01W	Island Foods, Ltd		MO	A		3			4 Island Foods #322 BP 3820 Monroe Street
T199601080	9 01N	01W	Island Foods, Ltd		MO	A		3			4 Island Foods #322 BP 3820 Monroe Street
T199601079	9 01N	01W	Island Foods, Ltd		MO	A		3			4 Island Foods #322 BP 3820 Monroe Street
T199601078	9 01N	01W	Island Foods, Ltd		MO	A		3			4 Island Foods #322 BP 3820 Monroe Street
T199601077	9 01N	01W	Island Foods, Ltd		MO	A		3			4 Island Foods #322 BP 3820 Monroe Street
T199601076	9 01N	01W	Island Foods, Ltd.		MO	A		3			4 Island Foods #322 BP 3820 Monroe Street
T199601075	9 01N	01W	Island Foods, Ltd.		MO	A		6			4 Island Foods #322 BP 3820 Monroe Street
T199403645	9 01N	01W	BP Station		MO	C	10	30	21		4 3820 N. Monroe St.
T199403643	9 01N	01W	BP Station		MO	C	10	30	21		4 3820 N. Monroe St.
M199103834	9 01N	01W	SW Ga. Oil Co.		MO	C	10	20			2 US Hwy. 27 N.
T199004691	9 01N	01W	Esposito Garden Center		LA	C	176	300	170	50	4 Fred George & Hwy. 27 N.
T199700110	9 01N	01W	Budd	Chip	LA	C	101	275	120	60	4 Old Bainbridge & Fred George Rd.
M200502239	9 01N	01W	Marlin Design & Construction		LA	C	189	260	81	30	4 4030 North Monroe
T197800216	9 01N	01W	Donald E. Dyrda		DO	C					4 2108 Woodstock Lane
T200401374	9 01N	01W	Linderand Inc.		DO	A		150			4 Trevor Court
T198500037	9 01N	01W	Alpine Villas		DO	C	102	145	85		4 Scawthorn Rd
T199600965	9 01N	01W	Carter-Wilcox Properties		DO	A		350		0	4 Hwy 27 N.
T199902215	9 01N	01W	Rigg	Lee	DO	C	120	225	120	120	4 Old Bainbridge Road to Scawhorne Road
T198600217	9 01N	01W	Keith Lawson		DO	R				20	4 3710 North Monroe Street
T199307382	15 01N	01W	City of Tallahassee #26		PS	C	309	407	114	2500	24 Old Bainbridge Road
T199402031	15 01N	01W	City of Tallahassee Well #26		MO	R	307	400			8 Old Bainbridge Road Well #26(Test)
T200000690	15 01N	01W	Dixie Oil Co.		MO	A	25	25			2 3497 North Monroe St
T200000691	15 01N	01W	Dixie Oil Co.		MO	A	25	25			2 3497 North Monroe St
T200600907	15 01N	01W	Stephens Jr	James	MO	A					1 Monroe and Ray Rd
T200600906	15 01N	01W	Stephens Jr	James	MO	C					1 Monroe and Ray Rd
P200402435	15 01N	01W	FDEP		MO	A		50			2 1412 Alabama Street
T200000692	15 01N	01W	Dixie Oil Co.		MO	A	25	25			2 3497 North Monroe St
T198601103	15 01N	01W	Bay Landscaping		LA	C	160	340	150	45	4 27 N and I-10, n.w. corner
T199900704	15 01N	01W	Johnson	Graham and Malone	LA	C	190	251	140	100	6 Old Bainbridge and I-10
T199501848	15 01N	01W	Springwood Apartments		LA	C	208	280	120	120	6 2260 Old Bainbridge Rd.
T199801965	15 01N	01W	Johnson-Graham-Malone		IN	A	190	250			6 2701 Old Bainbridge Rd
T198402164	15 01N	01W	Kingdom Hall Church		HS	C	145	250	120	10	4 Old Bainbridge Rd. & 1-10
T197700370	15 01N	01W	Mary E. Green		DO	C					4 1734 Ruby Rd.
T197600124	15 01N	01W	Michael S. Alderman		DO	C	148	213	132	35	4 Off Hwy. 27 N.
T198601105	15 01N	01W	Bay Landscaping		DO	A	60	60			4 Hwy. 27 N. at I-10, n.w. corne
T199800612	15 01N	01W	Olin Construction, Inc.		DO	C	180	240	145	20	5 Off Old Bainbridge Rd.
T199005655	15 01N	01W	Lee Nunn		DO	C	197	300	171	20	4 2914 Old Bainbridge Rd.
T199403021	15 01N	01W	Olin Const.		DO	C	200	300	185	20	4 Lot 8 Old Bainbridge Estates
T199005657	15 01N	01W	Lee Nunn		DO	A	250	350			6 2914 Old Bainbridge Rd.
T198600161	15 01N	01W	Sara Watson		DO	C	130	230	120	20	4 3001 Livingston Road
T197801079	15 01N	01W	Bill Lambert		DO	C	75	150	75		4 919 Old Bainbridge
T197801102	15 01N	01W	Andy Arnette		DO	C	51	180	135		4 1327 Charlette St.
T197800900	15 01N	01W	Dick Wilson		DO	C	96	142	100		4 3017 Ingress Rd.
T198706078	16 01N	01W	Sunshine Jr. Stores, Inc.		MO	C	11	25			4 3722 N. Monroe St.
T198706079	16 01N	01W	Sunshine Jr. Stores, Inc.		MO	C	11	11			4 3722 N. Monroe St.
T198706080	16 01N	01W	Sunshine Jr. Stores, Inc.		MO	C	11	11			4 3722 N. Monroe St.
T199002600	16 01N	01W	Lex Thompson Contractor		MO	C		8			1 Off Old Bainbridge Road
P199303803	16 01N	01W	Haliburton NUS		MO	C	32	52			2 606 W. 4th St.
T199002588	16 01N	01W	Lex Thompson Contractor		MO	C	18	23			1 off Old Bainbridge Road
T198706081	16 01N	01W	Sunshine Jr. Stores, Inc.		MO	C	11	11			4 3722 N. Monroe St.

P199303804	16 01N	01W	Haliburton NUS		MO	C	32	52			2 606 W. 4th St.
T199305534	16 01N	01W	Alamo Rental Car		MO	C	8	18	14		2 3300 SW Capital Circle
T199600404	16 01N	01W	City of Tallahassee		MO	C	30	30		0	2 Fred George & Mission Rd.
T199600403	16 01N	01W	City of Tallahassee		MO	C	25	25		0	2 Fred George & Mission Rd.
T199405835	16 01N	01W	Alamo Rental Car		MO	C	5	20	7		2 1720 S.W. Capital Circle
T199404604	16 01N	01W	Alamo Tallahassee		MO	C					2 1720 S.W. Capital Circle
T199404603	16 01N	01W	Alamo Tallahassee		MO	C	38	48	20		2 1720 S.W. Capital Circle
T199404602	16 01N	01W	Alamo Tallahassee		MO	C	5	20	12		2 1720 S.W. Capital Circle
T199305536	16 01N	01W	Alamo Rental Car		MO	C	38	48	14		2 3300 SW Capital Circle
T199305535	16 01N	01W	Alamo Rental Car		MO	C	8	18	14		2 3300 SW Capital Circle
T199305533	16 01N	01W	Alamo Rental Car		MO	C	10	20	14		2 3300 SW Capital Circle
T199901894	16 01N	01W	Jacobs	Joe	LA	C	117	200	20	18	4 100 Bellac Rd
T200202587	16 01N	01W	Morgan	Mark	LA	C	192	300	168	13	4 150 Bellac Rd
T197700456	16 01N	01W	Jackie Dodson		DO	C					4 Off Old Bainbridge Rd.
T198802201	16 01N	01W	Larry Schnaidt		DO	C	115	167	100	12	4 Old Bainbridge Road & Scawthorn Rd.
T197700457	16 01N	01W	Jimmy Collae		DO	C					4 Old Bainbridge Rd.
T197901421	16 01N	01W	Lee Williams		DO	C				8	4 Oaklane Rd.
T199601152	16 01N	01W	Donalson	Marine	DO	C	182	280	175		4 Old Bainbridge Rd. to Cavahaugh
T200001373	16 01N	01W	Locke	Dale	DO	C	237	300	193	16	4 Off Cavanaugh Ct
T200601239	16 01N	01W	Roberts	Dennis and Gail	DO	C					4 3017 Cavanaugh
T200502970	16 01N	01W	Faircloth	Jim	DO	C	210	250	148	10	4 Cavanaugh Ct
T200501152	16 01N	01W	George	Robert	DO	C	192	270	185	30	4 Cavanaugh
T200401118	16 01N	01W	Moss	Doris	DO	C	170	220	150	12	4 3007 Cavanaugh Ct.
T200201092	16 01N	01W	Mayo	Ken	DO	C	211	300	165	13	4 Off Tanager Tr
T199800925	16 01N	01W	Olin Const. Co.	Virginia Granthum	DO	C	180	245	158	20	5 Off Old Bainbridge
T199900158	16 01N	01W	Olin Construction, Inc.		DO	C	180	280	160	20	5 off Old Bainbridge
T199600975	16 01N	01W	Lee	Terry	DO	C	152	245	180		4 Old Bainbridge Rd & Cavanaugh Ct.
T199500661	16 01N	01W	Dale Locke		DO	C	202	300	170	15	4 3026 Setting Sun Trail
T198000034	16 01N	01W	Eugene Harris		DO	C		195			4 Baltic Rd.
T198500390	16 01N	01W	Rich Iverson		DO	C	58	200	160	10	4 3081 Tanager Trail
T198704983	17 01N	01W	Suwannee Swifty		MO	C	14	14	9		4 4015 Fred George Rd.
T198704984	17 01N	01W	Suwannee Swifty		MO	C	14	14	9		2 4015 Fred George Rd.
T198704985	17 01N	01W	Suwannee Swifty		MO	C	14	14	9		2 4015 Fred George Rd.
M199305527	17 01N	01W	Cumbee Concrete Const.		MO	C	14	14	9		2 4871 Woods Lane Circle
T199101252	17 01N	01W	City of Tallahassee / 10-93		MO	C	250	400	101		8 4283 Gearhart Road
T198704986	17 01N	01W	Suwannee Swifty		MO	C	14	14	9		2 4015 Fred George Rd.
M199305528	17 01N	01W	Cumbee Concrete Const.		MO	C	14	14	9		2 4871 Woods Lane Circle
M199305530	17 01N	01W	Cumbee Concrete Const.		MO	C	14	14	9		2 4871 Woods Lane Circle
T199801846	17 01N	01W	Autry Petroleum Co.		MO	C		16			1 4015 Fred George Rd.
T199801848	17 01N	01W	Autry Petroleum Co.		MO	C		16			1 4015 Fred George Rd.
T199801852	17 01N	01W	Autry Petroleum Co.		MO	A		16			1 4015 Fred George Rd.
T199801851	17 01N	01W	Autry Petroleum Co.		MO	A		16			1 4015 Fred George Rd.
T199801850	17 01N	01W	Autry Petroleum Co.		MO	A		16			1 4015 Fred George Rd.
T199801849	17 01N	01W	Autry Petroleum Co.		MO	A		16			1 4015 Fred George Rd.
T199801847	17 01N	01W	Autry Petroleum Co.		MO	C		16			1 4015 Fred George Rd.
T199801845	17 01N	01W	Autry Petroleum Co.		MO	C		16			1 4015 Fred George Rd.
M199305529	17 01N	01W	Cumbee Concrete Const.		MO	C	14	14	9		2 4871 Woods Lane Circle
T197600669	17 01N	01W	John Brown		DO	C				8	4 Rt. 9 Box 1015
T197700597	17 01N	01W	Daniel Volmer		DO	C					4 Hwy. 263
T197700633	17 01N	01W	Edward Meggs		DO	C	160	210			4 Fred George Rd.
T197900515	17 01N	01W	Joe Mac Brown		DO	C	150	170		30	4 Off Fred George Rd.
T197800632	17 01N	01W	Mickey Brett		DO	C		155			4 7118 Blueberry Hill
T197800997	17 01N	01W	Pioneer Construction		DO	C	140	185			4 Rt. 2 Box 197 W
T200401162	17 01N	01W	Sandco Inc		DO	A		137			4 S of Robinson Oak Rd & Gearheart Rd
T200002525	17 01N	01W	McWhite	Gloria	DO	C	120	170	90	12	4 Robertson Oak Dr.
T199602051	17 01N	01W	Vaughn	Genevie	DO	C	83	180	126	10	4 Gearhart Rd.
T199700413	17 01N	01W	Kidd	Tony	DO	C	105	175	90	12	4 Fred George Road and Victory Garden Lane

T199306814	17	01N	01W	William Brown		DO	C	121	220	120	20	4 4837 Gearhart Rd.
T199103365	17	01N	01W	Mike Smith		DO	C	105	140	80	12	4 Fred George & Victor Brown Rd.
T198906718	17	01N	01W	Raymond Bradley		DO	C	70	105	45	15	4 3238 Robinson Oak Drive
T198905118	17	01N	01W	Oliver Johnson, Jr.		DO	C	126	160	120	12	4 Truck Route & Gearhart
T198800554	17	01N	01W	Bill Guy		DO	C	80	130	60	15	4 4829 Fred George Rd.
T198800810	17	01N	01W	Doris Richardson		DO	C	105	220	60	12	4 4205 Gearhart Rd.
T197800543	17	01N	01W	Jan L. Winans		DO	C	165	230	165		4 1676 Talpeco Rd.
T198001358	17	01N	01W	Samuel Drigger		DO	C	100	220	120	10	4 Rt. 9 Box 1007A
T198300448	17	01N	01W	Betsy White		DO	C	90	125	80	12	4 Lot 6 Victor Brown Rd.
T198301122	17	01N	01W	Ben Williams		DO	C	135	150	90	10	4 4249 Dear Heart Rd
T198400244	17	01N	01W	Spencer James		DO	C	100	165	85	12	2 Dirt Rd off Gearhart
T198504486	17	01N	01W	Blanch Brown		DO	C	125	240	120	20	4 4911 Fred George Road
T198605286	17	01N	01W	J. E. Robinson		DO	C	120	160	75	20	4 Robinson Oak Road
T197900958	18	01N	01W	Ram Construction		DO	C	80	100		30	4 Appleyard Dr.
T198000473	18	01N	01W	Paul RaRock		DO	C	149	289	97		4 3131 Tannager Trail
T198100795	18	01N	01W	Rusty Taylor		DO	C	57	70	27		4 Riverwood Acres
T198000180	18	01N	01W	James Donaldson		DO	C					4 1961 Sabra Dr.
T198200336	18	01N	01W	Larry Smith		DO	C	57	100	30	35	4 Van Delia St.
T198101291	18	01N	01W	Bill Neal		DO	C	47	98	60		4 Maddox Road
T198600296	18	01N	01W	Richard Brewer		DO	C	41	90	40	12	4 Plank road off Maddox Road off
M198906318	18	01N	01W	Bob Carver		DO	C	140	220	38	20	4 1503 Valley Road
T199307931	18	01N	01W	Gene Revell		DO	C	57	85	35	18	4 4169 Riverwood Road
T199500003	18	01N	01W	Ann Willis		DO	C	72	155	60	18	4 4970 Back Forty Road
T199901314	18	01N	01W	Chandler	Eric	DO	C	40	220		20	5 3148 Jamey Rd
T200002007	18	01N	01W	Hatcher	Dennis	DO	C	35	85			5 5186 Don Hunter Rd
T200102437	18	01N	01W	Ridgeway Stone		DO	C	84	200	80	20	4 3074 Jamey Road
T199500365	19	01N	01W	Safety Kleen Corp./Recovery		RW	C	15	30	11	0	4 3082 W. Tharpe St.
T199500366	19	01N	01W	Safety Kleen Corp./Recovery		RW	C	15	30	11	0	4 3082 W. Tharpe St.
T199500367	19	01N	01W	Safety Kleen Corp./Recovery		RW	C	15	30	11	0	4 3082 W. Tharpe St.
T199500368	19	01N	01W	Safety Kleen Corp./Recovery		RW	C	15	30	11	0	4 3082 W. Tharpe St.
T199500369	19	01N	01W	Safety Kleen Corp./Recovery		RW	C	30	45	11	0	4 3082 W. Tharpe St.
T198700499	19	01N	01W	Trailway Bus Terminal		MO	C	24	24			2 817 Appleyard Dr.
T198700500	19	01N	01W	Trailway Bus Terminal		MO	C	24	24			2 817 Appleyard Dr.
T198700501	19	01N	01W	Trailway Bus Terminal		MO	C	24	24			2 817 Appleyard Dr.
T198705799	19	01N	01W	S.W. Ga Oil		MO	C	5	12			2 921 Thomasville Road
T198705801	19	01N	01W	S.W. Ga Oil		MO	C	3	13			2 921 Thomasville Road
T198705724	19	01N	01W	E. C. Jordan / 9-93		MO	C	64	121	55		8 6th Avenue & T'ville Rd.
T198802021	19	01N	01W	Jerry Scott's Chevron		MO	C	3	13			2 US 90 & Capital Circle NW
T198802023	19	01N	01W	Jerry Scott's Chevron		MO	C	3	13			2 US 90 & Capital Circle NW
T198906156	19	01N	01W	Exxon USA		MO	A	16	26	18		4 1943 Thomasville Road
T199403025	19	01N	01W	Capital City First National Bank		MO	A	20	30			2 Tenn Capital Bouleyard
T199403651	19	01N	01W	BP Station		MO	C	38	58	52		4 1890 Thomasville Rd.
T199403650	19	01N	01W	BP Station		MO	C	38	58	52		4 1890 Thomasville Rd.
T199403649	19	01N	01W	BP Station		MO	C	38	58	52	52	4 1890 Thomasville Rd.
T199403648	19	01N	01W	BP Station		MO	C	38	58	52		4 1890 Thomasville Rd.
T199403647	19	01N	01W	BP Station		MO	C	5	20			4 1890 Thomasville Rd.
T199403646	19	01N	01W	BP Station		MO	C	5	20			4 1890 Thomasville Rd.
T198802022	19	01N	01W	Jerry Scott's Chevron		MO	C	3	13			2 US 90 & Capital Circle NW
T198802020	19	01N	01W	Jerry Scott's Chevron		MO	C	3	13			2 US 90 & Capital Circle NW
T199500311	19	01N	01W	Safety Kleen Corp.		MO	C	10	15	11	0	2 3082 W. Tharpe St.
T199500310	19	01N	01W	Safety Kleen Corp.		MO	C	10	15	11	0	2 3082 W. Tharpe St.
T199500309	19	01N	01W	Safety Kleen Corp.		MO	C	10	15	11	0	2 3082 W. Tharpe St.
T199500338	19	01N	01W	Safety Kleen Corp.		MO	C	10	15	10	0	2 3082 W. Tharpe St.
T199500337	19	01N	01W	Safety Kleen Corp.		MO	C	10	15	10	0	2 3082 W. Tharpe St.
T199500336	19	01N	01W	Safety Kleen Corp.		MO	C	10	15	10	0	2 3082 W. Tharpe St.
T199500335	19	01N	01W	Safety Kleen Corp.		MO	C	10	15	10	0	2 3082 W. Tharpe St.
T199500334	19	01N	01W	Safety Kleen Corp.		MO	C	10	15	10	0	2 3082 W. Tharpe St.

T199500333	19	01N	01W	Safety Kleen Corp.	MO	C	10	15	10	0	2 3082 W. Tharpe St.
T199500342	19	01N	01W	Safety Kleen Corp.	MO	C	10	15	10	0	2 3082 W. Tharpe St.
T199500341	19	01N	01W	Safety Kleen Corp.	MO	C	10	15	10	0	2 3082 W. Tharpe St.
T199500326	19	01N	01W	Safety Kleen Corp.	MO	C	10	15	11	0	2 3082 W. Tharpe St.
T199500325	19	01N	01W	Safety Kleen Corp.	MO	C	10	15	11	0	2 3082 W. Tharpe St.
T199500324	19	01N	01W	Safety Kleen Corp.	MO	C	10	15	11	0	2 3082 W. Tharpe St.
T199500323	19	01N	01W	Safety Kleen Corp.	MO	C	10	15	11	0	2 3082 W. Tharpe St.
T199500322	19	01N	01W	Safety Kleen Corp.	MO	C	10	15	11	0	2 3082 W. Tharpe St.
T199500321	19	01N	01W	Safety Kleen Corp.	MO	C	10	15	11	0	2 3082 W. Tharpe St.
T199500320	19	01N	01W	Safety Kleen Corp.	MO	C	10	15	11	0	2 3082 W. Tharpe St.
T199500357	19	01N	01W	Safety Kleen Corp.	MO	C	10	15	10	0	2 3082 W. Tharpe St.
T199500356	19	01N	01W	Safety Kleen Corp.	MO	C	10	15	11	0	2 3082 W. Tharpe St.
T199500355	19	01N	01W	Safety Kleen Corp.	MO	C	10	15	10	0	2 3082 W. Tharpe St.
T199500354	19	01N	01W	Safety Kleen Corp.	MO	C	10	15	11	0	2 3082 W. Tharpe St.
T199500353	19	01N	01W	Safety Kleen Corp.	MO	C	10	15	11	0	2 3082 W. Tharpe St.
T199500352	19	01N	01W	Safety Kleen Corp.	MO	C	10	10	15	0	2 3082 W. Tharpe St.
T199500351	19	01N	01W	Safety Kleen Corp.	MO	C	10	15	10	0	2 3082 W. Tharpe St.
T199500350	19	01N	01W	Safety Kleen Corp.	MO	C	10	15	11	0	2 3082 W. Tharpe St.
T199500349	19	01N	01W	Safety Kleen Corp.	MO	C	10	15	11	0	2 3082 W. Tharpe St.
T200002432	19	01N	01W	Circle K Stores Inc.	MO	C	15	30			2 2037 Thomasville Road
T200000828	19	01N	01W	GW Hunter Inc.	MO	A	11	11			2 1662 Capital Circle NW
T200000827	19	01N	01W	GW Hunter Inc.	MO	A	11	11			2 1662 Capital Circle NW
T200000826	19	01N	01W	GW Hunter Inc.	MO	A	11	11			2 1662 Capital Circle NW
T200000825	19	01N	01W	GW Hunter Inc.	MO	A	11	11			2 1662 Capital Circle NW
P200001124	19	01N	01W	FDEP	MO	C	60	75			2 3425 W. Tharpe St.
P200001123	19	01N	01W	FDEP	MO	C	70	80			2 3425 W. Tharpe St.
P199900084	19	01N	01W	Ryder Truck Service	MO	C	40	55			2 3425 W. Tharpe Street
P199900083	19	01N	01W	Ryder Truck Service	MO	C	40	55			2 3425 W. Tharpe Street
T200402663	19	01N	01W	Sandco Inc	MO	A	0	150	90		4 West end of Tharpe St
T200002435	19	01N	01W	Circle K Stores Inc.	MO	C	15	30			2 2037 Thomasville Road
T200002434	19	01N	01W	Circle K Stores Inc.	MO	C	15	30			2 2037 Thomasville Road
T200002433	19	01N	01W	Circle K Stores Inc.	MO	C	15	30			2 2037 Thomasville Road
P199900082	19	01N	01W	Ryder Truck Service	MO	C	40	55			2 3425 W. Tharpe Street
T199500364	19	01N	01W	Safety Kleen Corp.	MO	C	10	15	11	0	2 3082 W. Tharpe St.
T199500363	19	01N	01W	Safety Kleen Corp.	MO	C	10	15	11	0	2 3082 W. Tharpe St.
T199500362	19	01N	01W	Safety Kleen Corp.	MO	C	10	15	10	0	2 3082 W. Tharpe St.
T199500361	19	01N	01W	Safety Kleen Corp.	MO	C	10	15	10	0	2 3082 W. Tharpe St.
T199500360	19	01N	01W	Safety Kleen Corp.	MO	C	10	15	11	0	2 3082 W. Tharpe St.
T199500359	19	01N	01W	Safety Kleen Corp.	MO	C	10	15	11	0	2 3082 W. Tharpe St.
T199500358	19	01N	01W	Safety Kleen Corp.	MO	C	10	15	11	0	2 3082 W. Tharpe St.
T199500340	19	01N	01W	Safety Kleen Corp.	MO	C	10	15	10	0	2 3082 W. Tharpe St.
T199500339	19	01N	01W	Safety Kleen Corp.	MO	C	10	15	10	0	2 3082 W. Tharpe St.
T199500348	19	01N	01W	Safety Kleen Corp.	MO	C	10	15	10	0	2 3082 W. Tharpe St.
T199500347	19	01N	01W	Safety Kleen Corp.	MO	C	10	15	11	0	2 3082 W. Tharpe St.
T199500346	19	01N	01W	Safety Kleen Corp.	MO	C	10	15	10	0	2 3082 W. Tharpe St.
T199500345	19	01N	01W	Safety Kleen Corp.	MO	C	10	15	10	0	2 3082 W. Tharpe St.
T199500344	19	01N	01W	Safety Kleen Corp.	MO	C	10	15	10	0	2 3082 W. Tharpe St.
T199500343	19	01N	01W	Safety Kleen Corp.	MO	C	10	15	10	0	2 3082 W. Tharpe St.
T199500319	19	01N	01W	Safety Kleen Corp.	MO	C	10	15		0	2 3082 W. Tharpe St.
T199500318	19	01N	01W	Safety Kleen Corp.	MO	C	10	15	11	0	2 3082 W. Tharpe St.
T199500317	19	01N	01W	Safety Kleen Corp.	MO	C	10	15	11	0	2 3082 W. Tharpe St.
T199500316	19	01N	01W	Safety Kleen Corp.	MO	C	10	15	11	0	2 3082 W. Tharpe St.
T199500315	19	01N	01W	Safety Kleen Corp.	MO	C	10	15	11	0	2 3082 W. Tharpe St.
T199500314	19	01N	01W	Safety Kleen Corp.	MO	C	10	15	11	0	2 3082 W. Tharpe St.
T199500313	19	01N	01W	Safety Kleen Corp.	MO	C	10	15	11	0	2 3082 W. Tharpe St.
T199500312	19	01N	01W	Safety Kleen Corp.	MO	C	10	15	11	0	2 3082 W. Tharpe St.
T199500332	19	01N	01W	Safety Kleen Corp.	MO	C	10	15	10	0	2 3082 W. Tharpe St.

T199500331	19 01N	01W	Safety Kleen Corp.	MO	C	10	15	11	0	2	3082 W. Tharpe St.
T199500330	19 01N	01W	Safety Kleen Corp.	MO	C	10	15	11	0	2	3082 W. Tharpe St.
T199500329	19 01N	01W	Safety Kleen Corp.	MO	C	10	15	11	0	2	3082 W. Tharpe St.
T199500328	19 01N	01W	Safety Kleen Corp.	MO	C	10	15	11	0	2	3082 W. Tharpe St.
T199500327	19 01N	01W	Safety Kleen Corp.	MO	C	10	15		0	2	3082 W. Tharpe St.
T199406777	19 01N	01W	Florida Dept of Environmental Protection	MO	C	55	65	58	0	2	Miracle Plaza Thomasville Rd.
T199402869	19 01N	01W	Capital City First National Bank	MO	C	15	25			2	Tenn. Capital Boulevard
T198705802	19 01N	01W	S.W. Ga Oil	MO	C	3	10			2	921 Thomasville Road
T198705800	19 01N	01W	S.W. Ga Oil	MO	C	5	12			2	921 Thomasville Road
T198700502	19 01N	01W	Trailway Bus Terminal	MO	C	23	23			2	817 Appleyard Dr.
T197700670	19 01N	01W	Theodore Wright	DO	C					4	Rt. 9, Box 1089
T199601635	19 01N	01W	Interstate Tallahassee West	DO	A		166			4	Commonwealth Blvd
T199305251	19 01N	01W	Wayne Sowell	DO	C	29	70	45	18	4	2029 Padlock
T199306251	19 01N	01W	Jim Bruce	DO	C	70	96	40	18	4	2521 Padlock
T198802875	19 01N	01W	John Steele	DO	C	112	140	100	12	4	Truck Route past Hwy 90
T199201428	20 01N	01W	McKenzie Tank Lines/Recovery	RW	C	25	65		10	6	2778 W. Tharpe St.
T197700645	20 01N	01W	Frank Donaldson	PS	C					4	Off Capital Circle
T198504810	20 01N	01W	City of Tallahassee #23	PS	C	250	410	85	2800	24	Mission Road
T199300460	20 01N	01W	McKenzie Tank Lines	OO	C	34	57	35	5	6	2778 W. Tharpe St.
T198705147	20 01N	01W	Suwannee Swifty	MO	C	12	25			4	2784 Tharpe Street
T198705150	20 01N	01W	Suwannee Swifty	MO	C	12	12			2	2784 Tharpe Street
T198705149	20 01N	01W	Suwannee Swifty	MO	C	12	12			2	2784 Tharpe Street
T198705148	20 01N	01W	Suwannee Swifty	MO	C	12	12			2	2784 Tharpe Street
T198705418	20 01N	01W	Chenoweth Distributing	MO	C	3	10			2	3420 W. Tharpe Street
T198705420	20 01N	01W	Chenoweth Distributin	MO	C	3	10			2	3420 W. Tharpe Street
T198705422	20 01N	01W	Chenoweth Distributin	MO	C	3	10			2	3420 W. Tharpe Street
T198805547	20 01N	01W	Chenoweth Distribution	MO	C	20	25			2	3420 W. Tharpe St.
T198805546	20 01N	01W	Chenoweth Distribution	MO	C	10	15			2	3420 W. Tharpe St.
T198801332	20 01N	01W	UPS	MO	C	5	12			2	3735 Hartsfield Road
T198801331	20 01N	01W	UPS	MO	C	5	12			2	3735 Hartsfield Road
T198801330	20 01N	01W	UPS	MO	C	5	12			2	3735 Hartsfield Road
T198801329	20 01N	01W	UPS	MO	C	5	12			2	3735 Hartsfield Road
T198705425	20 01N	01W	Chenoweth Distributin	MO	C	3	10			2	3420 W. Tharpe Street
T198705424	20 01N	01W	Chenoweth Distributin	MO	C	3	10			2	3420 W. Tharpe Street
T198705423	20 01N	01W	Chenoweth Distributin	MO	C	3	10			2	3420 W. Tharpe Street
T199003944	20 01N	01W	DER	MO	C	29	39	30		4	2887 W. Tharpe St.
T199003943	20 01N	01W	DER	MO	C	140	160	55		4	3080 W. Tharpe St.
T199003942	20 01N	01W	DER	MO	C	27	37	34		4	3080 W. Tharpe St.
P199002694	20 01N	01W	DER	MO	C	120	140	100		4	Tharpe Street
P199002693	20 01N	01W	DER	MO	C	120	140	100		4	Tharpe Street
P199002692	20 01N	01W	DER	MO	C	120	140	100		4	Tharpe Street
P199002683	20 01N	01W	DER	MO	C	25	35	30		4	Tharpe Street
P199002682	20 01N	01W	DER	MO	C	26	36	32		4	Tharpe Street
T199001604	20 01N	01W	Federal Express	MO	C	1	10	4		2	3401 Commonwealth Blvd.
T199202595	20 01N	01W	Tri-Eagle Distributing	MO	C	21	31	22		2	3420 W. Tharpe St
T199202873	20 01N	01W	Safety Clean Corp.	MO	C	40	45	35		2	3082 W. Tharpe St.
T199202872	20 01N	01W	Safety Clean Corp.	MO	C	40	45	35		2	3082 W. Tharpe St.
T199202871	20 01N	01W	Safety Clean Corp.	MO	C	34	66	35		2	3082 W. Tharpe St.
T199202325	20 01N	01W	Safety Kleen Corp.	MO	A	15	25			2	3082 West Tharpe St.
T199106185	20 01N	01W	Safety Clean Corp.	MO	C	2	12	10		2	3082 W. Tharpe St.
T199106184	20 01N	01W	Safety Clean Corp.	MO	C	20	30	25		2	3082 W. Tharpe St.
T199106183	20 01N	01W	Safety Clean Corp.	MO	C	20	30	25		2	3082 W. Tharpe St.
T199106182	20 01N	01W	Safety Clean Corp.	MO	C	43	48	27		2	3082 W. Tharpe St.
T199300497	20 01N	01W	Safety-Kleen Corp.	MO	C	36	46	27		2	3082 N. Tharpe St.
T199300729	20 01N	01W	McKenzie Tank Lines	MO	C	82	92	66		2	2778 West Tharpe St.
T199300725	20 01N	01W	McKenzie Tank Lines	MO	C	35	45	32		2	2778 West Tharpe St.
T199300724	20 01N	01W	McKenzie Tank Lines	MO	C	70	80	67		2	2778 West Tharpe St.

T199300723	20 01N	01W	McKenzie Tank Lines		MO	C	74	84	77		4	2778 West Tharpe St.
T199300722	20 01N	01W	McKenzie Tank Lines		MO	C	70	80	64		2	2778 West Tharpe St.
M199302109	20 01N	01W	Tri Eagle Dist.		MO	A	17	27			2	3420 W. Tharpe St.
M199302108	20 01N	01W	Tri Eagle Dist.		MO	A	21	31			2	3420 W. Tharpe St.
M199302107	20 01N	01W	Tri Eagle Dist.		MO	A	21	31			2	3420 W. Tharpe St.
T199301566	20 01N	01W	General Dynamics		MO	C	95	115			4	2930 Common Wealth
T199301565	20 01N	01W	General Dynamics		MO	C	90	110			4	2930 Common Wealth
M199300480	20 01N	01W	Tri Eagle Distributing		MO	C	17	27	20		2	3420 W. Tharpe St.
T199300735	20 01N	01W	McKenzie Tank Lines		MO	C	30	40	32		2	2778 West Tharpe St.
T199300734	20 01N	01W	McKenzie Tank Lines		MO	C	35	45	32		2	2778 West Tharpe St.
T199300733	20 01N	01W	McKenzie Tank Lines		MO	C	35	45	35		2	2778 West Tharpe St.
T199300732	20 01N	01W	McKenzie Tank Lines		MO	C	26	36	27		2	2778 West Tharpe St.
T199300731	20 01N	01W	McKenzie Tank Lines		MO	C	27	37	27		2	2778 West Tharpe St.
T199300730	20 01N	01W	McKenzie Tank Lines		MO	C	30	40	37		2	2778 West Tharpe St.
P199602271	20 01N	01W	Anheuser Busch		MO	C	20	35	25		2	3420 West Tharpe Street
T199408453	20 01N	01W	McKenzie Tank Lines, Inc.		MO	C		68	68	5	4	B-Town St.
T199408451	20 01N	01W	McKenzie Tank Lines, Inc.		MO	C	90	116	36	5	4	West Tharpe St.
T199407956	20 01N	01W	Mckenzie Tank Lines, Inc.		MO	C	25	40	27	0	2	2778 West Tharpe St.
T199407955	20 01N	01W	Mckenzie Tank Lines, Inc.		MO	C	25	35	25	0	2	2778 West Tharpe St.
T199407954	20 01N	01W	Mckenzie Tank Lines, Inc.		MO	C	35	45	39	0	2	2778 West Tharpe St.
T199403059	20 01N	01W	Ryder Truck		MO	A	10	15			2	3425 W. Tharpe St.
T199403058	20 01N	01W	Ryder Truck		MO	A	10	15			2	3425 W. Tharpe St.
T199403057	20 01N	01W	Ryder Truck		MO	A	10	15			2	3425 W. Tharpe St.
T200000436	20 01N	01W	Safety Kleen Corp		MO	A		30			2	3082 W. Tharpe St.
T200000435	20 01N	01W	Safety Kleen Corp		MO	A		30			2	3082 W. Tharpe St.
T200000434	20 01N	01W	Safety Kleen Corp		MO	A		30			2	3082 W. Tharpe St.
T200000433	20 01N	01W	Safety Kleen Corp		MO	A		30			2	3082 W. Tharpe St.
T199902230	20 01N	01W	Federal Express		MO	C	10	20	15		2	3401 Commonwealth Blvd.
T199902229	20 01N	01W	Federal Express		MO	C	10	20	15		2	3401 Commonwealth Blvd.
T199902228	20 01N	01W	Federal Express		MO	C	10	20	15		2	3401 Commonwealth Blvd.
T199902227	20 01N	01W	Federal Express		MO	C	30	40	15		2	3401 Commonwealth Blvd.
T199901642	20 01N	01W	United Parcel Service		MO	A	16	16			2	3735 Hartsfield Rd
T200600617	20 01N	01W	Ardaman & Associates		MO	C	63	75			2	3175 W Tharpe St
T200600616	20 01N	01W	Ardaman & Associates		MO	C	60	89			2	3175 W Tharpe St
T200400660	20 01N	01W	Card	Jim	MO	C	13	23			2	Stop N Save 1495 Cap Cir NW
T200400658	20 01N	01W	Card	Jim	MO	C	13	23			2	Stop N Save 1495 Cap Cir NW
T200400657	20 01N	01W	Card	Jim	MO	C	6	8			2	Stpo N Save 1495 Cap Cir NW
T200400666	20 01N	01W	Card	Jim	MO	C	7	17			2	Stpo N Save 1495 Capital Cr NW
T200400665	20 01N	01W	Card	Jim	MO	C	13	23			2	Stop N Save 1495 Cap Cir NW
T200400664	20 01N	01W	Card	Jim	MO	C	13	23			2	Stop N Save 1495 Cap Cir NW
T200400663	20 01N	01W	Card	Jim	MO	C	13	23			2	Stop N Save 1495 Cap Cir NW
T200400662	20 01N	01W	Card	Jim	MO	C	13	23			2	Stop N Save 1495 Cap Cir NW
T200400661	20 01N	01W	Card	Jim	MO	C	13	23			2	Stop N Save 1495 Cap Cir NW
T200400659	20 01N	01W	Card	Jim	MO	C	13	23			2	Stop N Save 1495 Cap Cir NW
T200400656	20 01N	01W	Card	Jim	MO	C	6	8			2	Stpo N Save 1495 Cap Cir NW
T200400655	20 01N	01W	Card	Jim	MO	C	6	8			2	Stpo N Save 1495 Cap Cir NW
T200400654	20 01N	01W	Card	Jim	MO	C	6	8			2	Stpo N Save 1495 Cap Cir NW
T200400653	20 01N	01W	Card	Jim	MO	C	6	8			2	Stpo N Save 1495 Cap Cir NW
T200400652	20 01N	01W	Card	Jim	MO	C	6	8			2	Stpo N Save 1495 Cap Cir NW
T200400651	20 01N	01W	Card	Jim	MO	C	6	8			2	Stpo N Save 1495 Cap Cir NW
T200400650	20 01N	01W	Card	Jim	MO	C	6	8			2	Stpo N Save 1495 Cap Cir NW
T200301276	20 01N	01W	Stop & Save, LLC		MO	C	2	7			2	1495 Capital circle NW
T200301275	20 01N	01W	Stop & Save, LLC		MO	C	2	7			2	1495 Capital circle NW
T200301274	20 01N	01W	Stop & Save, LLC		MO	C	23	25			2	1495 Capital Circle NW
T200301273	20 01N	01W	Stop & Save, LLC		MO	C	8	18			2	1495 Capital Circle NW
T200301272	20 01N	01W	Stop & Save, LLC		MO	C	8	18			2	1495 Capital Circle NW
T200301271	20 01N	01W	Stop & Save, LLC		MO	C	8	18			2	1495 Capital Circle NW

T200301270	20 01N	01W	Stop & Save, LLC		MO	C	8	18		2	1495 Capital Circle NW
T200301269	20 01N	01W	Stop & Save, LLC		MO	C	8	18		2	1495 Capital Circle NW
T200300043	20 01N	01W	Swifty Serve Environmental Risk Mgt		MO	C	3	18		2	1495 Capital Circle NW
T200300042	20 01N	01W	Swifty Serve Environmental Risk Mgt		MO	C	3	18		2	1495 Capital Circle NW
T200202769	20 01N	01W	Ardaman & Associates		MO	C	60	80		2	3175 W Tharpe St
T200200956	20 01N	01W	Ardaman & Assoc.		MO	C	58	65		2	3175 West Tharp Street
T200101270	20 01N	01W	Advent Environmental Inc		MO	C	10	20		2	Fedex 3401 Common Wealth Blvd
T200100786	20 01N	01W	Waters	Dan	MO	C	7	17	7	2	1495 NW Capital Circle
T200100785	20 01N	01W	Waters	Dan	MO	C	5	15	2	2	1495 NW Capital Circle
T200000452	20 01N	01W	Safety Kleen Corp		MO	A		54		2	3082 W. Tharpe St.
T200000445	20 01N	01W	Safety Kleen Corp		MO	A		25		2	3082 W. Tharpe St.
T200000457	20 01N	01W	Safety Kleen Corp		MO	A	15	15		2	3082 W.Tharpe St.
T200000456	20 01N	01W	Safety Kleen Corp		MO	A	15	15		2	3082 W Tharpe St.
T200000455	20 01N	01W	Safety Kleen Corp		MO	A	15	15		2	3082 W Tharpe St.
T200000454	20 01N	01W	Safety Kleen Corp		MO	A	15	15		2	3082 W Tharpe St.
T200000453	20 01N	01W	Safety Kleen Corp		MO	A	11	11		2	3082 W Tharpe St.
T200000451	20 01N	01W	Safety Kleen Corp		MO	A		32		2	3082 W. Tharpe St.
T200000450	20 01N	01W	Safety Kleen Corp		MO	A		32		2	3082 W. Tharpe St.
T200000449	20 01N	01W	Safety Kleen Corp		MO	A		17		2	3082 W. Tharpe St.
T200000448	20 01N	01W	Safety Kleen Corp		MO	A		46		2	3082 W. Tharpe St.
T200000447	20 01N	01W	Safety Kleen Corp		MO	A		66		2	3082 W. Tharpe St.
T200000446	20 01N	01W	Safety Kleen Corp		MO	A		25		2	3082 W. Tharpe St.
T200000444	20 01N	01W	Safety Kleen Corp		MO	A		50		2	3082 W. Tharpe St.
T200000443	20 01N	01W	Safety Kleen Corp		MO	A		45		2	3082 W. Tharpe St.
T200000442	20 01N	01W	Safety Kleen Corp		MO	A		45		2	3082 W. Tharpe St.
T200000441	20 01N	01W	Safety Kleen Corp		MO	A		45		2	3082 W. Tharpe St.
T200000440	20 01N	01W	Safety Kleen Corp		MO	A		30		2	3082 W. Tharpe St.
T200000439	20 01N	01W	Safety Kleen Corp		MO	A		30		2	3082 W. Tharpe St.
T200000438	20 01N	01W	Safety Kleen Corp		MO	A		30		2	3082 W. Tharpe St.
T200000437	20 01N	01W	Safety Kleen Corp		MO	A				2	3082 W. Tharpe St.
T199901641	20 01N	01W	United Parcel Service		MO	A	16	16		2	3735 Hartsfield Rd
T199901640	20 01N	01W	United Parcel Service		MO	A	6	6		2	3735 Hartsfield Rd
M199700202	20 01N	01W	McKenzie Tank Lines		MO	C	35	70		4	2778 West Tharpe Street
M199700201	20 01N	01W	McKenzie Tank Lines		MO	C	19	64	51	4	2778 West Tharpe Street
M199700200	20 01N	01W	McKenzie Tank Lines		MO	C	35	70	35	4	2778 West Tharpe Street
P199601984	20 01N	01W	Anheuser Busch		MO	C	15	30	26	2	3420 West Tharpe St.
P199601983	20 01N	01W	Anheuser Busch		MO	C	20	40		2	3420 West Tharpe St.
P199601982	20 01N	01W	Anheuser Busch		MO	C	20	40		2	3420 West Tharpe St.
T199403056	20 01N	01W	Ryder Truck		MO	A	10	15		2	3425 W. Tharpe St.
T199307879	20 01N	01W	Safety-Kleen		MO	C	20	30		2	3082 W. Tharpe St.
T199400032	20 01N	01W	City of Tallahassee		MO	C	25	45		2	Clark Dr. & Garber Dr.
T199400031	20 01N	01W	City of Tallahassee		MO	C	40	55		2	Clark Dr. & Garber Dr.
T199303040	20 01N	01W	First Union National Bank of Florida		MO	A	15	25		2	3009 & 3013 W. Tharpe St.
T199303039	20 01N	01W	First Union National Bank of Florida		MO	C	30	40		2	3009 & 3013 W. Tharpe St.
T199301568	20 01N	01W	General Dynamics		MO	A	91	106		2	2930 Commonwealth Blvd.
T199301567	20 01N	01W	General Dynamics		MO	A	95	115		2	2930 Commonwealth Blvd.
T199301717	20 01N	01W	McKenzie Tank Lines		MO	C	80	100		2	2778 W. Tharpe St.
T199301716	20 01N	01W	McKenzie Tank Lines		MO	C	100	122		2	2778 W. Tharpe St.
T199300505	20 01N	01W	Safety-Kleen Corp.		MO	C	.6	·16	13	2	3082 N. Tharpe St.
T199300504	20 01N	01W	Safety-Kleen Corp.		MO	C	7	17	13	2	3082 N. Tharpe St.
T199300503	20 01N	01W	Safety-Kleen Corp.		MO	C	5	15	13	2	3082 N. Tharpe St.
T199300501	20 01N	01W	Safety-Kleen Corp.		MO	C	21	31	27	2	3082 N. Tharpe St.
T199300500	20 01N	01W	Safety-Kleen Corp.		MO	C	21	26	10	2	3082 N. Tharpe St.
T199300499	20 01N	01W	Safety-Kleen Corp.		MO	C	24	34	27	2	3082 N. Tharpe St.
M199302106	20 01N	01W	Tri Eagle Dist.		MO	A	21	31		2	3420 W. Tharpe St.
T199300784	20 01N	01W	General Dynamics		MO	A	40	60		4	2930 Common Wealth Blvd.
T199300783	20 01N	01W	General Dynamics		MO	A	20	40		4	2930 Common Wealth Blvd.

T199300782	20 01N	01W	General Dynamics		MO	C	48	58			4 2930 Common Wealth Blvd.
T199300781	20 01N	01W	General Dynamics		MO	C	67	77			4 2930 Common Wealth Blvd.
T199201908	20 01N	01W	Ardaman & Assoc.		MO	C	70	80			2 3175 W. Tharpe St
T199202597	20 01N	01W	Tri-Eagle Distributing		MO	C	21	31			2 3420 W. Tharpe St
T199202596	20 01N	01W	Tri-Eagle Distributing		MO	C	21	31	22		2 3420 W. Tharpe St
T199104196	20 01N	01W	DER		MO	C	34	44	33		2 2778 W. Tharpe St.
T199104195	20 01N	01W	DER		MO	C	34	44	31		2 2778 W. Tharpe St.
T199104194	20 01N	01W	DER		MO	C	34	44	20		2 2778 W. Tharpe St.
T199003951	20 01N	01W	DER		MO	C	68	90	30		4 2778 W. Tharpe St.
T199003950	20 01N	01W	DER		MO	C	146	168	60		4 2778 W. Tharpe St.
T199003948	20 01N	01W	DER		MO	C	39	49	43		4 2227 Willie Vause Road
T199003946	20 01N	01W	DER		MO	C	24	34	30		4 3080 W. Tennessee St.
T199003945	20 01N	01W	DER		MO	C	108	129	55		4 2887 W. Tharpe St.
T199000211	20 01N	01W	General Dynamics		MO	C	40	60	5		4 2930 Commonwealth Blvd.
T198902840	20 01N	01W	General Dynamics		MO	C	22	44	35		4 2930 Commonwealth Blvd.
T198806955	20 01N	01W	Dixie Oil & Gas		MO	C	3	13	8		2 Capital Circle & Hartsfield Rd.
T198806954	20 01N	01W	Dixie Oil & Gas		MO	C	3	13	8		2 Capital Circle & Hartsfield Rd.
T198806953	20 01N	01W	Dixie Oil & Gas		MO	C	3	13	8		2 Capital Circle & Hartsfield Rd.
T198806952	20 01N	01W	Dixie Oil & Gas		MO	C	3	13	8		2 Capital Circle & Hartsfield Rd.
T198705421	20 01N	01W	Chenoweth Distributin		MO	C	3	10			2 3420 W. Tharpe Street
T198705419	20 01N	01W	Chenoweth Distributing		MO	C	3	10			2 3420 W. Tharpe Street
T199405801	20 01N	01W	Coca-Cola Double Bottom Center		LA	C	120	200	80	60	4 Off Maryland Circle
T198901569	20 01N	01W	Albritton Bros. Construction		HS	C	120	240	100	150	6 3660 Hartsfield Road/Well #1
T198903256	20 01N	01W	Albritton Bros. Const./Benedict		HR	C	120	240	100		4 3660 Hartsfield Road
T197800015	20 01N	01W	Charles Durbin		DO	C	69	115	60		4 1575 Blounstown
T199800059	20 01N	01W	City of Tallahassee		DO	A		90	60		4 1818 N. Mission Rd.
T197700892	20 01N	01W	Capital Home Builders		DO	C					4 Capital Circle
T198100580	20 01N	01W	George Harrison		DO	C	105	200	75		4 125 Mill Branch Rd.
T197900859	20 01N	01W	Billy Deering		DO	C	80	140		10	4 Rt. 14 Box 362 No. 56
T197701201	20 01N	01W	E. H. Shelfer		DO	C					4 1571 Blounstown
T198905758	21 01N	01W	City of Tallahassee		PS	A	160	247			6 Astoria Court
T199003949	21 01N	01W	DER		MO	C	180	200	125		4 2227 Willie Vause Road
T199601363	21 01N	01W	City of Tallahassee		MO	C	38	40	32	0	2 Tharpe & Mission Road
T199408214	21 01N	01W	McKenzie Tank Lines Inc.		MO	C	74	100	65	5	4 Grimes Street
T199801822	21 01N	01W	Autry Petroleum Co.		MO	C		40			1 2784 W Tharpe St.
T199801825	21 01N	01W	Autry Petroleum Co.		MO	A		40			1 2784 W Tharpe St.
T199801827	21 01N	01W	Autry Petroleum Co.		MO	A		40			1 2784 W Tharpe St.
T199801824	21 01N	01W	Autry Petroleum Co.		MO	C		40			1 2784 W.Tharpe St.
T200103151	21 01N	01W	Thai	Hoang Van	MO	C	15	35			2 2520 W Tharpe St
T200200308	21 01N	01W	Thai	Hoang Van	MO	C	15	35			2 2520 W Tharpe St
T200200307	21 01N	01W	Thai	Hoang Van	MO	C	15	35			2 2520 W Tharpe St
T200103159	21 01N	01W	Thai	Hoang Van	MO	C	15	35			2 2525 W Tharpe St
T200103158	21 01N	01W	Thai	Hoang Van	MO	C	35	54			2 2520 W Tharpe St
T200103157	21 01N	01W	Thai	Hoang Van	MO	C	15	35			2 2520 W Tharpe St
T200103156	21 01N	01W	Thai	Hoang Van	MO	C	15	35			2 2520 W Tharpe St
T200103155	21 01N	01W	Thai	Hoang Van	MO	C	15	35			2 2520 W Tharpe St
T200103153	21 01N	01W	Thai	Hoang Van	MO	C	15	35			2 2520 W Tharpe St
T200103152	21 01N	01W	Thai	Hoang Van	MO	C	15	35			2 2520 W Tharpe St
T200503157	21 01N	01W	Van Thai	Hoang	MO	C	5	30			4 2520 West Tharpe St
T200503156	21 01N	01W	Van Thai	Hoang	MO	C	5	30			4 2520 West Tharpe St
T200503155	21 01N	01W	Van Thai	Hoang	MO	C	5	30			4 2520 West Tharpe St
T200503154	21 01N	01W	Van Thai	Hoang	MO	C	5	30			4 2520 West Tharpe St
T200503153	21 01N	01W	Van Thai	Hoang	MO	C	5	30			4 2520 West Tharpe St
T200501042	21 01N	01W	Savannah Trace Developers Inc		MO	A	110	120	93		4 Nani Dr
T200402457	21 01N	01W	Advance Builders		MO	A		160			4 West Tharp St
P200303450	21 01N	01W	FDEP		MO	C	5	27			2 2520 West Tharpe Street
P200303449	21 01N	01W	FDEP		MO	C	5	27			2 2520 West Tharpe Street

P200303448	21 01N	01W	FDEP		MO	C	5	27			2 2520 West Tharpe Street
P200303447	21 01N	01W	FDEP		MO	C	5	30			4 2520 West Tharpe Street
P200303446	21 01N	01W	FDEP		MO	C	40	43			2 2520 West Tharpe Street
T200103154	21 01N	01W	Thai	Hoang Van	MO	C	15	35			2 2520 W Tharpe St
T200200312	21 01N	01W	Thai	Hoang Van	MO	C	15	35			2 2520 W Tharpe St
T200200311	21 01N	01W	Thai	Hoang Van	MO	C	15	35			2 2520 W Tharpe St
T200200310	21 01N	01W	Thai	Hoang Van	MO	C	15	35			2 2520 W Tharpe St
T200200309	21 01N	01W	Thai	Hoang Van	MO	C	15	35			2 2520 W Tharpe St
T200503161	21 01N	01W	Van Thai	Hoang	MO	C	38	40			4 2520 West Tharpe St
T200503167	21 01N	01W	Van Thai	Hoang	MO	C	38	40			4 2520 West Tharpe St
T200503166	21 01N	01W	Van Thai	Hoang	MO	C	38	40			4 2520 West Tharpe St
T200503165	21 01N	01W	Van Thai	Hoang	MO	C	38	40			4 2520 West Tharpe St
T200503164	21 01N	01W	Van Thai	Hoang	MO	C	38	40			4 2520 West Tharpe St
T200503163	21 01N	01W	Van Thai	Hoang	MO	C	38	40			4 2520 West Tharpe St
T200503160	21 01N	01W	Van Thai	Hoang	MO	C	5	30			4 2520 West Tharpe St
T200503159	21 01N	01W	Van Thai	Hoang	MO	C	5	30			4 2520 West Tharpe St
T200503158	21 01N	01W	Van Thai	Hoang	MO	C	5	30			4 2520 West Tharpe St
T200503162	21 01N	01W	Van Thai	Hoang	MO	C	38	40			4 2520 West Tharpe St
T200103150	21 01N	01W	Thai	Hoang Van	MO	C	15	35			2 2520 W Tharpe St
T199801828	21 01N	01W	Autry Petroleum Co.		MO	A		40			1 2784 W Tharpe St.
T199801826	21 01N	01W	Autry Petroleum Co.		MO	A		40			1 2784 W Tharpe St.
T199801823	21 01N	01W	Autry Petroleum Co.		MO	C		40			1 2784 W Tharpe St.
T199801821	21 01N	01W	Autry Petroleum Co.		MO	C		40			1 2784 W Tharpe St.
T198501286	21 01N	01W	Racket Club		LP	C	101	170	65	40	4 Off Tharpe St.
T199601288	21 01N	01W	Oakwood Animal Hospital		LP	A	95	95			4 2528 West Tharpe Street
T198100139	21 01N	01W	Palemetto Apartments		LA	C	70	135	62		4 Star Route 74-D
T198300945	21 01N	01W	Cardinal Industries		LA	C	73	137	55	75	6 Tharpe Street
T197600703	21 01N	01W	D. Farrington		DO	C	100	115		15	4 Off Tharpe St.
T197900668	21 01N	01W	Jessie Trimbley		DO	C	95	136	80	13	4 2225 Trimble Rd.
T197600185	21 01N	01W	Elmer Harrell		DO	C				20	4 2053 Taylor
T197900047	21 01N	01W	Harrell	LW	DO	C	100	152		6	4 2345 Moon Lane
T197600438	21 01N	01W	Alton B. Cromer		DO	C	87	150	85	50	4 2212 Willie Vause Rd.
T197700081	21 01N	01W	Frank Rakestran		DO	C					4 2731 Hartsfield Rd.
T198400762	21 01N	01W	Bill Fuller		DO	C	84	130	85		4 2529 Pecan Road
T200601205	21 01N	01W	Morrill	John A.	DO	A					4 2753 Pecan Rd
T200601204	21 01N	01W	Pelham	Shannon	DO	A	0	175	133		4 2749 Hartsfield Rd
T200601203	21 01N	01W	Pelham	Shannon	DO	A	0	215	131		4 2731 Hartsfield Rd
T200100258	21 01N	01W	Marty Ard Landscape		DO	C	90	130	60	52	4 2530 W. Tharpe Street
T199700789	21 01N	01W	Dixie Paving		DO	A		260			4 Hartsfield Rd.
T199503566	21 01N	01W	City of Tallahassee		DO	A		129		0	4 Pecan Road off Tharpe St.
T199503565	21 01N	01W	City of Tallahassee		DO	A		110		0	4 Pecan Road off Tharpe St.
T199503564	21 01N	01W	City of Tallahassee		DO	A		125		0	4 Pecan Road off Tharpe St.
T199305087	21 01N	01W	Paul H. Morgan Jr.		DO	A	70	75			4 2520 W. Tharpe St.
T199305086	21 01N	01W	SW Georgia Oil Co.		DO	A	70	75			4 2520 W. Tharpe St.
T199004094	21 01N	01W	Ajax Construction		DO	A	80	120			4 2529 Hartsfield Road
T198402476	21 01N	01W	Gary Kelley		DO	C	90	120		10	4 2510 Pecan Road
T198400691	21 01N	01W	Dawn Brown		DO	C	110	180	120		4 2705 Hartsfield Road
T200502137	21 01N	01W	Turner Heritage Homes Inc		DO	A		205			4 Mission and Hartsfield
T200502139	21 01N	01W	Turner Heritage Homes Inc		DO	A		210			4 Corner of Mission and Hartsfield
T200502138	21 01N	01W	Turner Heritage Homes Inc		DO	A		190			4 Corner of Mission and Hartsfield
T200201361	21 01N	01W	Bat Development		DO	A	140	140			4 2525 Hartsfield Rd
T200201360	21 01N	01W	Bat Development		DO	A	95	95			4 2330 Trimble Rd
M199800078	21 01N	01W	Johnson	Ducky	DO	A		100			4 Tharp Street & Tremble Road
T199800910	21 01N	01W	Jimmie Crowder Excavating		DO	A	135	175			4 2720 Hartsfield Rd.
M199800079	21 01N	01W	Johnson	Ducky	DO	A		100			4 Tharp Street & Tremble Road
T198101680	21 01N	01W	Robert C. Ashburn		DO	C	85	205	175	12	4 Hartsfield Rd., Off I-10
T197600475	21 01N	01W	Clyde Harrell		DO	R				30	4 Tharpe Street

T197900257	21 01N	01W	David Hayes		DO	C	56	91	62		4	2616 Tharpe St.
T197901112	21 01N	01W	LV Gainey		DO	C	110	144		8	4	1918 Nani Dr.
T197800905	21 01N	01W	Wayne Young		DO	C	128	135	6		4	2535 West Tharpe St.
T198000352	21 01N	01W	Pat Martin		DO	C	104	175	115		4	Tharpe St.
T198100326	21 01N	01W	Jess R. Bailey		DO	C	85	201	132		4	Willie Vause Rd.
T198800629	22 01N	01W	Munford, Inc.		MO	C	15	15			4	1603 W. Tharpe St.
T198800630	22 01N	01W	Munford, Inc.		MO	C	15	15			4	1603 W. Tharpe St.
T198800631	22 01N	01W	Munford, Inc.		MO	C	15	15			4	1603 W. Tharpe St.
T198900335	22 01N	01W	Budget Auto Rental		MO	C	2	12			2	628 N. Monroe Street
T198900336	22 01N	01W	Budget Auto Rental		MO	C	2	12			2	628 N. Monroe Street
T198800632	22 01N	01W	Munford, Inc.		MO	C	15	15			4	1603 W. Tharpe St.
T198501287	22 01N	01W	Racket Club		LP	C	128	170	70	40	4	Off Tharpe St.
T199003398	22 01N	01W	Regional Capital Corp.	PlanterCrossing Apts	LA	C	167	315	195	60	6	1447 Stone Road
T199901265	22 01N	01W	Developers	C&C	DO	A	230	230			4	off Hartsfield Rd
T200401076	22 01N	01W	Daws-Roberts General Contractors		DO	A		125			4	2405 Hartsfield Rd.
T200401077	22 01N	01W	Daws-Roberts General Contractors		DO	A		120			4	2403 Hartsfield Rd.
T199106258	27 01N	01W	Amerada Hess Corp.- Recovery		RW	C	20	50	38		5	1708 W. Tennessee St.
T199106256	27 01N	01W	Amerada Hess Corp.- Recovery		RW	C	25	50	39		5	1708 W. Tennessee St.
T199106257	27 01N	01W	Amerada Hess Corp.- Recovery		RW	C	25	50	38		5	1708 W. Tennessee St.
T199200299	27 01N	01W	Amerada Hess Corp		OO	C	25	35	26		2	1708 W. Tennessee St.
T199200300	27 01N	01W	Amerada Hess Corp		OO	C	25	35	26		2	1708 W. Tennessee St.
T199200303	27 01N	01W	Amerada Hess Corp		OO	C	25	35	26		2	1708 W. Tennessee St.
T199200302	27 01N	01W	Amerada Hess Corp		OO	C	25	35	26		2	1708 W. Tennessee St.
T199200301	27 01N	01W	Amerada Hess Corp		OO	C	25	35	26		2	1708 W. Tennessee St.
T199200304	27 01N	01W	Amerada Hess Corp		OO	C	25	35	26		2	1708 W. Tennessee St.
T198605782	27 01N	01W	Chevron USA, Inc.		MO	C	15	25	24		2	380 West Tharpe St.
T198605783	27 01N	01W	Chevron USA, Inc.		MO	C	15	25			2	380 West Tharpe St.
T198605784	27 01N	01W	Chevron USA, Inc.		MO	C	10	25			2	380 West Tharpe St.
T198703702	27 01N	01W	Munford, Inc.		MO	C	25	25			2	1603 W. Tharpe St.
T198703704	27 01N	01W	Munford, Inc.		MO	C	25	25			2	1603 W. Tharpe St.
T198905625	27 01N	01W	Amerada Hess		MO	C	37	55			2	1708 W. Tennessee St.
T199405248	27 01N	01W	Integroup, Inc.		MO	C	29	39	30		2	High Road & Tharpe, Suwannee Swifty
T199404025	27 01N	01W	Gayle Faughn		MO	A	5	20			2	2303 Don Andress Drive
T199404228	27 01N	01W	Gayle Fanghn		MO	C	10	25			2	2303 Don Anderes Ave.
T199404227	27 01N	01W	Gayle Fanghn		MO	C	10	20			2	2303 Don Anderes Ave.
T199404226	27 01N	01W	Gayle Fanghn		MO	C	10	20			2	2303 Don Anderes Ave.
T199306853	27 01N	01W	Gayle Faughn		MO	C	10	20			2	2303 Don Andres Dr.
M199200658	27 01N	01W	Suwanne Swifty		MO	C	11	11			2	1412 Alabama Street
M199200657	27 01N	01W	Suwanne Swifty		MO	C	11	20			2	1412 Alabama Street
M199200656	27 01N	01W	Suwanne Swifty		MO	C	20	20	16		2	1412 Alabama Street
T200202969	27 01N	01W	Hinson Oil Co.	Ed Hinson Jr.	MO	C	25	40			2	1605 W Tharpe St
T200102951	27 01N	01W	Hinson Oil Company	Wilson Hinson	MO	C	25	40	33		2	1603 Tharpe St
T200102952	27 01N	01W	Hinson Oil Company	Wilson Hinson	MO	C	25	40	33		2	1603 Tharpe St
T200102950	27 01N	01W	Hinson Oil Company	Wilson Hinson	MO	C	25	40	33		2	1603 Tharpe St
T200102949	27 01N	01W	Hinson Oil Company	Wilson Hinson	MO	C	25	40	33		2	1603 Tharpe St
T199801630	27 01N	01W	Gate Petroleum		MO	A		26			4	1708 W. Tennessee St.
T199801629	27 01N	01W	Gate Petroleum		MO	A		26			4	1708 W. Tennessee St.
T199801628	27 01N	01W	Gate Petroleum		MO	A		26			4	1708 W. Tennessee St.
T199801635	27 01N	01W	Gate Petroleum		MO	A		35			4	1708 W. Tennessee St.
P200402950	27 01N	01W	E. W. Henson		MO	C	30	50			1	1603 West Tharpe Street
P200402949	27 01N	01W	E. W. Henson		MO	C	30	50			1	1603 West Tharpe Street
P200402948	27 01N	01W	E. W. Henson		MO	C	30	50			1	1603 West Tharpe Street
P200402947	27 01N	01W	E. W. Henson		MO	C	30	50			1	1603 West Tharpe Street
P200402946	27 01N	01W	E. W. Henson		MO	C	30	50			1	1603 West Tharpe Street
T200303315	27 01N	01W	Texaco Seminole		MO	C	23	33			2	Whitehall & Slusher St
T200303314	27 01N	01W	Texaco Seminole		MO	C	23	33			2	Whitehall & Slusher St
T200303313	27 01N	01W	Texaco Seminole		MO	C	23	33			2	Whitehall & Slusher St

T200302010	27 01N	01W	Suwannee Swifty #268		MO	C	20	30			2	1603 W Tharpe St
T200600717	27 01N	01W	Express Lane, Inc		MO	C	30	50			2	1603 West Tharpe St
T200600716	27 01N	01W	Express Lane, Inc		MO	C	30	50			2	1603 West Tharpe St
P200402936	27 01N	01W	E. W. Henson		MO	C	30	50			1	1603 West Tharpe Street
P200402945	27 01N	01W	E. W. Henson		MO	C	30	50			1	1603 West Tharpe Street
P200402944	27 01N	01W	E. W. Henson		MO	C	30	50			1	1603 West Tharpe Street
P200402943	27 01N	01W	E. W. Henson		MO	C	30	50			1	1603 West Tharpe Street
P200402942	27 01N	01W	E. W. Henson		MO	C	30	50			1	1603 West Tharpe Street
P200402941	27 01N	01W	E. W. Henson		MO	C	30	50			1	1603 West Tharpe Street
P200402940	27 01N	01W	E. W. Henson		MO	C	30	50			1	1603 West Tharpe Street
T200600718	27 01N	01W	Express Lane, Inc		MO	C	30	50			2	1603 West Tharpe St
P200402939	27 01N	01W	E. W. Henson		MO	C	30	50			1	1603 West Tharpe Street
P200402938	27 01N	01W	E. W. Henson		MO	C	30	50			1	1603 West Tharpe Street
P200402937	27 01N	01W	E. W. Henson		MO	C	30	50			1	1603 West Tharpe Street
P200402935	27 01N	01W	E. W. Hinson		MO	C	30	50			2	1603 West Tharpe Street
P200402934	27 01N	01W	E. W. Hinson		MO	C	30	50			2	1603 West Tharpe Street
P200402933	27 01N	01W	E. W. Hinson		MO	C	30	50			2	1603 West Tharpe Street
P200402932	27 01N	01W	E. W. Hinson		MO	C	30	50			2	1603 West Tharpe Street
P200402951	27 01N	01W	E. W. Henson		MO	C	30	50			1	1603 West Tharpe Street
T200302009	27 01N	01W	Suwannee Swifty #268		MO	C	30	40			2	1603 W Tharpe St
T200302008	27 01N	01W	Suwannee Swifty #268		MO	C	30	40			2	1603 W Tharpe St
T200302007	27 01N	01W	Suwannee Swifty #268		MO	C	30	40			2	1603 W Tharpe St
T200202974	27 01N	01W	Hinson Oil Co.	Ed Hinson Jr.	MO	C	27	42			2	1605 W Tharpe St
T200202973	27 01N	01W	Hinson Oil Co.	Ed Hinson Jr.	MO	C	30	50			2	1605 W Tharpe St
T200202972	27 01N	01W	Hinson Oil Co.	Ed Hinson Jr.	MO	C	30	50			2	1605 W Tharpe St
T200202971	27 01N	01W	Hinson Oil Co.	Ed Hinson Jr.	MO	C	30	50			2	1605 W Tharpe St
T200202970	27 01N	01W	Hinson Oil Co.	Ed Hinson Jr.	MO	C	25	40			2	1605 W Tharpe St
T199801634	27 01N	01W	Gate Petroleum		MO	A		35			4	1708 W. Tennessee St.
T199801633	27 01N	01W	Gate Petroleum		MO	A		35			4	1708 W. Tennessee St.
T199801632	27 01N	01W	Gate Petroleum		MO	A		35			4	1708 W. Tennessee St.
T199801631	27 01N	01W	Gate Petroleum		MO	A		26			4	1708 W. Tennessee St.
T199501141	27 01N	01W	Integroup, Inc.		MO	A	29	39		0	2	Suwannee Swifty on High & Tharpe St.
T199406107	27 01N	01W	Gayle Faughn		MO	A	20	20			2	2303 Don Anders
T199406106	27 01N	01W	Gayle Faughn		MO	A	20	20			2	2303 Don Anders
T199406105	27 01N	01W	Gayle Faughn		MO	A	20	20			2	2303 Don Anders
T199005693	27 01N	01W	Amerada Hess		MO	C	25	35	26		2	1708 W. Tennessee St.
T199005694	27 01N	01W	Amerada Hess		MO	C	25	36	26		2	1708 W. Tennessee St.
T199005692	27 01N	01W	Amerada Hess		MO	C	25	35	26		2	1708 W. Tennessee St.
T198906128	27 01N	01W	Amerada Hess		MO	C	30	50	35		2	1708 W. Tennessee St.
T198703703	27 01N	01W	Munford, Inc.		MO	C	25	25			2	1603 W. Tharpe St.
T198703701	27 01N	01W	Munford, Inc.		MO	C	25	25			2	1603 W. Tharpe St.
T198301722	27 01N	01W	Gulf Sun Builders		DO	C	221	250	105		4	east side Ocala Rd. North
T199404680	28 01N	01W	Greyhound Lines, Inc./Recovery		RW	C	10	50			6	817 Appleyard Dr.
T199404681	28 01N	01W	Greyhound Lines, Inc./Recovery		RW	C	10	50			6	817 Appleyard Dr.
T199404682	28 01N	01W	Greyhound Lines, Inc./Recovery		RW	C	10	50			6	817 Appleyard Dr.
T199502183	28 01N	01W	Gene Ballenger/ Recovery		RW	C	5	25			8	1385 Blountstown Hwy
T199502189	28 01N	01W	Gene Ballenger/ Recovery		RW	C	5	40		0	6	1385 Blountstown Hwy
T199502188	28 01N	01W	Gene Ballenger/ Recovery		RW	C	5	28		0	6	1385 Blountstown Hwy
T198702843	28 01N	01W	Pie Nationwide		MO	C	2	25			2	320 Appleyard Drive
T198702844	28 01N	01W	Pie Nationwide		MO	C	25	25			2	320 Appleyard Drive
T198702845	28 01N	01W	Pie Nationwide		MO	C	25	25			2	320 Appleyard Drive
T198906157	28 01N	01W	Amoco Oil Co.		MO	C	16	26	18		4	Appleyard & Tennessee
T198907007	28 01N	01W	Amoco Oil Co.		MO	C	20	35	27		2	Corner of Appleyard & Tennessee
T198907009	28 01N	01W	Amoco Oil Co.		MO	C	20	35	30		2	Corner of Appleyard & Tennessee
T198907011	28 01N	01W	Amoco Oil Co.		MO	C	16	31	30		2	Corner of Appleyard & Tennessee
T198907013	28 01N	01W	Amoco Oil Co.		MO	C	17	27	20		2	Corner of Appleyard & Tennessee
T199003251	28 01N	01W	Amoco Oil Co.		MO	A	17	27	20		2	Tenn. & Appleyard Dr.

T199404676	28 01N	01W	Greyhound Lines, Inc.		MO	C	24	24			2 817 Appleyard Dr.
T199003258	28 01N	01W	Amoco Oil Co.		MO	A	20	35	24		2 Tenn. & Appleyard Dr.
T199003257	28 01N	01W	Amoco Oil Co.		MO	A	20	35	24		2 Tenn. & Appleyard Dr.
T199003256	28 01N	01W	Amoco Oil Co.		MO	A	20	35	24		2 Tenn. & Appleyard Dr.
T199003255	28 01N	01W	Amoco Oil Co.		MO	A	20	35	24		2 Tenn. & Appleyard Dr.
T199003254	28 01N	01W	Amoco Oil Co.		MO	A	20	34	26		2 Tenn. & Appleyard Dr.
T199003253	28 01N	01W	Amoco Oil Co.		MO	A	16	31	22		2 Tenn. & Appleyard Dr.
T199003252	28 01N	01W	Amoco Oil Co.		MO	A	17	27	22		2 Tenn. & Appleyard Dr.
T199003250	28 01N	01W	Amoco Oil Co.		MO	A	16	26	20		2 Tenn. & Appleyard Dr.
T199404675	28 01N	01W	Greyhound Lines, Inc.		MO	C	24	24			2 817 Appleyard Dr.
T199404674	28 01N	01W	Greyhound Lines, Inc.		MO	C	24	24			2 817 Appleyard Dr.
T199404673	28 01N	01W	Greyhound Lines, Inc.		MO	C	24	24			2 817 Appleyard Dr.
T199404672	28 01N	01W	Greyhound Lines, Inc.		MO	C	24	24			2 817 Appleyard Dr.
T199404671	28 01N	01W	Greyhound Lines, Inc.		MO	C	24	24			2 817 Appleyard Dr.
T199404670	28 01N	01W	Greyhound Lines, Inc.		MO	C	24	24			2 817 Appleyard Dr.
T199404679	28 01N	01W	Greyhound Lines, Inc.		MO	C	24	24			2 817 Appleyard Dr.
T199404678	28 01N	01W	Greyhound Lines, Inc.		MO	C	24	24			2 817 Appleyard Dr.
T199404677	28 01N	01W	Greyhound Lines, Inc.		MO	C	24	24			2 817 Appleyard Dr.
T199600721	28 01N	01W	City of Tallahassee		MO	C	10	40		0	2 2705 West Tennessee Street
T199600720	28 01N	01W	Howell	Jeanette	MO	C	20	40		0	2 2702 West Tennessee Street
T199600636	28 01N	01W	Howell	Jeanette	MO	C	15	30			2 2702 W. Tennessee St.
T199600635	28 01N	01W	Howell	Jeanette	MO	C	15	30			2 2702 W. Tennessee St.
T199600634	28 01N	01W	Howell	Jeanette	MO	C	15	30	0		2 2702 W. Tennessee St.
T199600633	28 01N	01W	Howell	Jeanette	MO	C	15	30	0		2 2702 W. Tennessee St.
T199600252	28 01N	01W	Team Toyota		MO	C	20	35	20		2 2800 West Tennessee Street
T199600580	28 01N	01W	Team Toyota		MO	C	33	33			2 2800 W. Tennessee St.
T199600579	28 01N	01W	Team Toyota		MO	C	23	33			2 2800 W. Tennessee St.
P200400639	28 01N	01W	FDEP		MO	C	15	35	25		2 210 E 7th Avenue
P200400638	28 01N	01W	FDEP		MO	C	35	50	25		2 210 E. 7th Avenue
P200202865	28 01N	01W	FDEP		MO	C	49	55	28		2 2520 West Tharpe Street
P200202870	28 01N	01W	FDEP		MO	C	16	35	28		2 2520 West Tharpe Street
P200202869	28 01N	01W	FDEP		MO	C	16	35	28		2 2520 West Tharpe Street
P200202868	28 01N	01W	FDEP		MO	C	16	35	28		2 2520 West Tharpe Street
P200202867	28 01N	01W	FDEP		MO	C	16	35	28		2 2520 West Tharpe Street
P200202866	28 01N	01W	FDEP		MO	C	16	35	28		2 2520 West Tharpe Street
P200202864	28 01N	01W	FDEP		MO	C	71	80	28		2 2520 West Tharpe Street
T200102619	28 01N	01W	McKenzie Tank Lines		MO	A		80			4 122 Appleyard Drive
T199600686	28 01N	01W	Peddie	J.K.	MO	C	15	30		0	2 Old Misty's Cafe 919 Appleyard Dr.
T199600685	28 01N	01W	Hinson, Jr.	E.W.	MO	C	30	45			2 2676 W. Tenn. St.
T199600969	28 01N	01W	Howell	Jeanette	MO	C	20	30	9		2 2702 West Tennessee Street
T199600731	28 01N	01W	Team Toyota		MO	C	25	25			2 2800 West Tennessee Street
T199600730	28 01N	01W	Team Toyota		MO	C	32	32			2 2800 West Tennessee Street
T199600578	28 01N	01W	Team Toyota		MO	C	33	33		0	2 2800 W. Tennessee St.
T199600346	28 01N	01W	Tean Toyota		MO	C	15	25	20		2 2800 West Tennessee Street
T199600535	28 01N	01W	Tean Toyota		MO	C	25	25	0		2 2800 West Tennessee Street
T199600534	28 01N	01W	Tean Toyota		MO	C	33	33	0		2 2800 West Tennessee Street
T199600538	28 01N	01W	Tean Toyota		MO	C	40	40			2 2800 West Tennessee Street
T199600537	28 01N	01W	Tean Toyota		MO	C	32	32			2 2800 West Tennessee Street
T199600536	28 01N	01W	Tean Toyota		MO	C	26	26			2 2800 West Tennessee Street
M199500288	28 01N	01W	McKenzie Tank Lines		MO	C	96	116		0	4 Appleyard & Hwy 90
T198907012	28 01N	01W	Amoco Oil Co.		MO	C	17	27			2 Corner of Appleyard & Tennessee
T198907010	28 01N	01W	Amoco Oil Co.		MO	C	20	35	31		2 Corner of Appleyard & Tennessee
T198907008	28 01N	01W	Amoco Oil Co.		MO	C	20	35	30		2 Corner of Appleyard & Tennessee
T198907006	28 01N	01W	Amoco Oil Co.		MO	C	20	35	30		2 Corner of Appleyard & Tennessee
T198702846	28 01N	01W	Pie Nationwide		MO	C	25	25			2 320 Appleyard Drive
T199005256	28 01N	01W	Esposito's Garden Center		LA	C	155	193	60	40	4 Appleyard Dr.
T200302402	28 01N	01W	Cameo Development Corporation		LA	C	142	225	85		6 off Mission Rd.

T197600995	28 01N	01W	Jesse H Lovett	DO	C				30	4 Hwy 90 West
T199901485	28 01N	01W	Daws-Roberts Construction	DO	A	130	130			4 off Country Lane
T200500358	28 01N	01W	Dauos-Roberts Const.	DO	A		110			4 Off Country Lane
T199901486	28 01N	01W	Daws-Roberts Construction	DO	A	80	80			2 off Country Lane
T199800207	28 01N	01W	B. Robinson Construction	DO	A		53			4 1803-1805 Trimble Rd.
T199001791	28 01N	01W	Leon County School Board	AI	C	124	200		100	6 Off Pensacola St., off Progress Dr.
T197800440	29 01N	01W	Smith Transfer Company	PS	C	117	214	75		4 Hwy 90 West
T198501139	29 01N	01W	Flint Equip. Co.	MO	C	21	21	4		1 Cnr Cap. Cir. and Gum Rd.
T198800101	29 01N	01W	Chevron USA Inc.	MO	C	15	15	10		4 E. Tennessee & Meridan
T198800102	29 01N	01W	Chevron USA Inc.	MO	C	15	15	10		4 E. Tennessee & Meridan
T198800104	29 01N	01W	Chevron USA Inc.	MO	C	16	16	10		4 E. Tennessee & Meridan
T198800106	29 01N	01W	Chevron USA Inc.	MO	C	14	14	10		4 E. Tennessee & Meridan
T198800107	29 01N	01W	Chevron USA Inc.	MO	C	14	14	10		4 E. Tennessee & Meridan
T198800105	29 01N	01W	Chevron USA Inc.	MO	C	14	14	10		4 E. Tennessee & Meridan
T198806450	29 01N	01W	Ryder Truck Rental	MO	C	3	13			2 3425 W. Tharpe St.
T198905422	29 01N	01W	Exxon Company USA	MO	C	25	25	10		4 1383 Blountstown Hwy.
T198905421	29 01N	01W	Exxon Company USA	MO	C	4	14	7		4 1383 Blountstown Hwy.
T198901549	29 01N	01W	NWFWMD	MO	C	100	120			4 Off of Tenn. St.
T198901657	29 01N	01W	MCO Investors, Inc.	MO	C	48	48	48		2 Corner Cap. Cir. and Hwy 90
T198900318	29 01N	01W	Exxon Co. USA	MO	C	9	19	16		4 1385 Bloutstown Hwy
T198900317	29 01N	01W	Exxon Co. USA	MO	C	9	19	16		4 1385 Bloutstown Hwy
T198900316	29 01N	01W	Exxon Co. USA	MO	C	12	27	16		4 1385 Bloutstown Hwy
T198806452	29 01N	01W	Ryder Truck Rental	MO	C	3	13			2 3425 W. Tharpe St.
T198806451	29 01N	01W	Ryder Truck Rental	MO	C	3	13			2 3425 W. Tharpe St.
T199104400	29 01N	01W	Exxon Co. USA	MO	C	8	20	12		4 1385 Blountstown Highway
T199002511	29 01N	01W	Exxon Co. USA	MO	C		15			4 1875 N. Monroe St.
T199002510	29 01N	01W	Exxon Co. USA	MO	C		15			4 1875 N. Monroe St.
T199002509	29 01N	01W	Exxon Co. USA	MO	C		15			4 1875 N. Monroe St.
T199002508	29 01N	01W	Exxon Co. USA	MO	C		40			4 1875 N. Monroe St.
T199002506	29 01N	01W	Exxon Co. USA	MO	C	5	20	10		4 1385 Blountstown Hwy.
T199002505	29 01N	01W	Exxon Co. USA	MO	C	18	38	22		4 1385 Blountstown Hwy.
T199002504	29 01N	01W	Exxon Co. USA	MO	C	15	30	21		4 1385 Blountstown Hwy.
T199000267	29 01N	01W	Exxon Co. USA	MO	C	10	25	21		4 1385 Blountstown Road
T199700488	29 01N	01W	Leon County	MO	C	35	40			2 Burgess St.
T199700487	29 01N	01W	Leon County	MO	C	9	14			2 Burgess St.
T199700486	29 01N	01W	Leon County	MO	C	17	17			2 SW Cor. Gum Rd. & Capital Circle
T199700485	29 01N	01W	Leon County	MO	C	17	35			2 SW Cor. Gum Rd. & Capital Circle
T199700484	29 01N	01W	Leon County	MO	C	9	14			2 3204 W. Tennessee St.
T199700483	29 01N	01W	Leon County	MO	C	25	30			2 3204 W. Tennessee St.
T199500065	29 01N	01W	Leon County School Board	MO	A	50	60		0	2 3395 West Tharpe Street
T199500064	29 01N	01W	Leon County School Board	MO	A	40	70		0	2 3395 West Tharpe Street
T199500063	29 01N	01W	Leon County School Board	MO	A	40	67		0	2 3395 West Tharpe Street
T199902224	29 01N	01W	Exxon Corp.	MO	C	20	20	0		2 1385 Blountstown Highway
T199902223	29 01N	01W	Exxon Corp.	MO	C	20	20	0		2 1385 Blountstown Highway
T199902222	29 01N	01W	Exxon Corp.	MO	C	20	20	0		2 1385 Blountstown Highway
T199902221	29 01N	01W	Exxon Corp.	MO	C	20	20	0		2 1385 Blountstown Highway
T199902220	29 01N	01W	Exxon Corp.	MO	C	20	20	0		2 1385 Blountstown Highway
T199902219	29 01N	01W	Exxon Corp.	MO	C	20	20	0		2 1385 Blountstown Highway
T199902218	29 01N	01W	Exxon Corp.	MO	C	20	20	0		2 1385 Blountstown Highway
T199902217	29 01N	01W	Exxon Corp.	MO	C	20	20	0		2 1385 Blountstown Highway
T199902216	29 01N	01W	Exxon Corp.	MO	C	20	20	0		2 1385 Blountstown Highway
T200101601	29 01N	01W	Wal-Mart	MO	C	15	35			1 4400 W. Tennessee St.
T200101599	29 01N	01W	Wal-Mart	MO	C	17	35			1 4400 W. Tennessee St.
T200002598	29 01N	01W	Exxon Mobile Corp.	MO	C	22	40			2 Thrifty Car/1385 Blountstown Hwy
T200001448	29 01N	01W	Leon County	MO	C	5	15			2 Gum Road & Capital Circle
T200000689	29 01N	01W	Dixie Oil Co.	MO	A	14	14			2 3101 West Tennessee St
T200000688	29 01N	01W	Dixie Oil Co.	MO	A	14	14			2 3101 West Tennessee St

T200000687	29 01N	01W	Dixie Oil Co.		MO	A	14	14			2 3101 West Tennessee St
T200000686	29 01N	01W	Dixie Oil Co.		MO	A	14	14			2 3101 West Tennessee St
T199902226	29 01N	01W	Exxon Corp		MO	C	20	20	0		2 1385 Blountstown Highway
T199902225	29 01N	01W	Exxon Corp.		MO	C	25	25	25		2 1385 Blountstown Highway
T199901339	29 01N	01W	Crossland Realty		MO	C	30	40			2 2780 W. Tennessee Street
T199901338	29 01N	01W	Crossland Realty		MO	C	30	40			2 2780 W. Tennessee Street
T199802143	29 01N	01W	Leed's Building Products Inc.		MO	A		25			1 1369 Blountstown Hwy
T199802142	29 01N	01W	Leed's Building Products Inc.		MO	C	20	25	25		1 1369 Blountstown Hwy
P199702853	29 01N	01W	Crown Management Company		MO	A		6	3		2 3987 W. Tennessee St.
P199702852	29 01N	01W	Crown Management Company		MO	A	20	30			2 3987 W. Tennessee St./Cap. Lincoln
P199702850	29 01N	01W	Crown Management Company		MO	C	20	30	3		2 3987 W. Tennessee St./Cap. Lincoln
P199702849	29 01N	01W	Crown Management Company		MO	C	25	35	3		2 3987 W. Tennessee St./Cap. Lincoln
T199404719	29 01N	01W	Leon Co. School Board		MO	C	42	67			2 3395 West Tharpe St.
T199404718	29 01N	01W	Leon Co. School Board		MO	C	40	70			2 3395 West Tharpe St.
T199404717	29 01N	01W	Leon Co. School Board		MO	C	50	60			2 3395 West Tharpe St.
M199201998	29 01N	01W	Palmer Harrell Buick		MO	C	12	12			2 3106 W. Tennessee St.
M199201997	29 01N	01W	Palmer Harrell Buick		MO	C	12	20			2 3106 W. Tennessee St.
T199200381	29 01N	01W	Exxon Oil Corp.		MO	C	45	50			2 1385 Blountstown Highway
T199200380	29 01N	01W	Exxon Oil Corp.		MO	C	70	75			2 1385 Blountstown Highway
T199104401	29 01N	01W	Exxcon Co. USA		MO	C	44	50			4 1385 Blountstown Highway
T199000266	29 01N	01W	Exxon Co. USA		MO	C	10	25	21		4 1385 Blountstown Road
T199000501	29 01N	01W	Exxon USA		MO	A	15	25	11		4 1385 Blountstown Highway
T199000500	29 01N	01W	Exxon USA		MO	A	15	25	11		4 1385 Blountstown Highway
T199000499	29 01N	01W	Exxon USA		MO	A	15	25	11		4 1385 Blountstown Highway
T199000498	29 01N	01W	Exxon USA		MO	A	15	25	11		4 1385 Blountstown Highway
T198905425	29 01N	01W	Exxon Company USA		MO	C	29	34	30		4 1383 Blountstown Hwy.
T198905424	29 01N	01W	Exxon Company USA		MO	C	12	12	6		4 1383 Blountstown Hwy.
T198905423	29 01N	01W	Exxon Company USA		MO	C	4	16	9		4 1383 Blountstown Hwy.
T198806449	29 01N	01W	Ryder Truck Rental		MO	C	3	13			2 3425 W. Tharpe St.
T198800103	29 01N	01W	Chevron USA Inc.		MO	C	15	15	10		4 E. Tennessee & Meridan
T198803736	29 01N	01W	Sperry & Associates		LP	C	85	150	65	20	4 Off Hwy. 261 & 90 West
T198706412	29 01N	01W	Sperry Ass. Inc.		LA	R	90	95	50	35	6 Off U.S. 90 West
T198708821	29 01N	01W	Hyman McGlamory		LA	C	61	140	43	30	4 828 Blountstown Hwy.
T200401105	29 01N	01W	Walmart #1408/Emergency		LA	C	92	165	80	150	6 4400 W. Tennessee St.
T200401946	29 01N	01W	Walmart #1408		LA	R	92	165	80	130	6 4400 W Tennessee St
T200200251	29 01N	01W	Automatic Irrigation Systems		LA	C	80	100	50		4 Off Capital Cir
T197700782	29 01N	01W	Jimmy Harrell		DO	C	70	108	40		4 Tharpe Street
T199700837	29 01N	01W	T.S. Builders Inc.		DO	A		70			3 off Tharpe St.
T200600709	29 01N	01W	Pelham	Shannon	DO	A	108	127	65		4 1570 Blountstown Rd
T200600710	29 01N	01W	Pelham	Shannon	DO	A	102	113	68		4 1570 Blountstown Rd
T199700838	29 01N	01W	T.S. Builders Inc.		DO	A		60			4 Off Tharpe St.
T198700465	29 01N	01W	James Register		DO	C	67	140	85	20	4 Capital Circle, S.W.
M200501055	30 01N	01W	State of Florida		PS	A	0	140			4 5317 W Tennessee St
M200501056	30 01N	01W	State of Florida		PS	A	0	140			4 5317 W Tennessee St
T198501497	30 01N	01W	Southern Bell Trailer Park		MO	C	13	13	7		1 5876 W. Tenn. St.
T198501498	30 01N	01W	Southern Bell Trailer Park		MO	C	13	13	8		1 5876 W. Tenn. St.
T198705143	30 01N	01W	Suwannee Swifty		MO	C	14	14	8		4 5899 W. Tennessee
T198501527	30 01N	01W	Southern Bell Trailer Park		MO	C	15	15	8		1 5876 W. Tenn. St.
T198705145	30 01N	01W	Suwannee Swifty		MO	C	13	13	8		4 5899 W. Tennessee
T198704965	30 01N	01W	F. S. Winterle & Son		MO	C	1	8			2 5011 W. Tennessee St.
T198704967	30 01N	01W	F. S. Winterle & Son		MO	C	1	8			2 5011 W. Tennessee St.
T198704968	30 01N	01W	F. S. Winterle & Son		MO	C	8				2 5011 W. Tennessee St.
T198902832	30 01N	01W	S. W. Ga. Oil Co.		MO	C	12	12			2 Tharpe St. & Cap. Circle
T199303668	30 01N	01W	Jr. Food Store #120		MO	C	4	14	6		2 5219 Hwy 90 W.
T199303667	30 01N	01W	Jr. Food Store #120		MO	C	4	14	6		2 5219 Hwy 90 W.
T199303666	30 01N	01W	Jr. Food Store #120		MO	C	4	14	6		2 5219 Hwy 90 W.
T199303665	30 01N	01W	Jr. Food Store #120		MO	C	2	10	6		2 5219 Hwy 90 W.

P199003529	30 01N	01W	K-Mart		MO	C	15	30	25		2	1700 N. Monroe Street
P199003528	30 01N	01W	K-Mart		MO	C	30	45	35		2	1700 N. Monroe Street
P199003527	30 01N	01W	K-Mart		MO	C	60	67	42		2	1700 N. Monroe Street
T198902834	30 01N	01W	S. W. Ga. Oil Co.		MO	C	12	12			2	Tharpe St. & Cap. Circle
T198902833	30 01N	01W	S. W. Ga. Oil Co.		MO	C	12	12			2	Tharpe St. & Cap. Circle
T199402241	30 01N	01W	Autry Petroleum Co.		MO	C	30	40	26		2	5899 W. Tennessee
T199402240	30 01N	01W	Autry Petroleum Co.		MO	C	20	30	21		2	5899 W. Tennessee
T199402239	30 01N	01W	Autry Petroleum Co.		MO	C	20	30	21		2	5899 W. Tennessee
T199402238	30 01N	01W	Autry Petroleum Co.		MO	C	27	37	25		2	5899 W. Tennessee
T199402237	30 01N	01W	Autry Petroleum Co.		MO	C	23	33	26		2	5899 W. Tennessee
T199402236	30 01N	01W	Autry Petroleum Co.		MO	C	25	35	26		2	5899 W. Tennessee
T199402235	30 01N	01W	Autry Petroleum Co.		MO	C	55	70	55		2	5899 W. Tennessee
T199303670	30 01N	01W	Jr. Food Store #120		MO	C	4	14	6		2	5219 Hwy 90 W.
T199303669	30 01N	01W	Jr. Food Store #120		MO	C	4	14	6		2	5219 Hwy 90 W.
T200102023	30 01N	01W	Swifty Mart #170		MO	C	18	28			1	5899 W Tennessee St
T200102022	30 01N	01W	Swifty Mart #170		MO	C	18	28			1	5899 W Tennessee St
T199801836	30 01N	01W	Autry Petroleum Co.		MO	A		11			1	5899 W. Tennessee St.
T199801835	30 01N	01W	Autry Petroleum Co.		MO	A		11			1	5899 W. Tennessee St.
T199801834	30 01N	01W	Autry Petroleum Co.		MO	A		11			1	5899 W. Tennessee St.
T199801833	30 01N	01W	Autry Petroleum Co.		MO	A		11			1	5899 W. Tennessee St.
T199801832	30 01N	01W	Autry Petroleum Co.		MO	C		11			1	5899 W. Tennessee St.
T199801831	30 01N	01W	Autry Petroleum Co.		MO	C		11			1	5899 W. Tennessee St.
T199801830	30 01N	01W	Autry Petroleum Co.		MO	C		11			1	5899 W. Tennessee St.
T200601161	30 01N	01W	Birdwell	Jearl	MO	C	5	13			2	5323 Highway 90
T200500501	30 01N	01W	Rainey Cawthon Distribution		MO	C	20	55			2	5 Points Shell 1334 Thomasville Rd
T200500500	30 01N	01W	Rainey Cawthon Distribution		MO	C	20	55			2	5 Points Shell 1334 Thomasville Rd
T200500499	30 01N	01W	Rainey Cawthon Distribution		MO	C	20	55			2	5 Points Shell 1334 Thomasville Rd
T200500498	30 01N	01W	Rainey Cawthon Distribution		MO	C	20	55			2	5 Points Shell 1334 Thomasville Rd
T200500497	30 01N	01W	Rainey Cawthon Distribution		MO	C	20	55			2	5 Points Shell 1334 Thomasville Rd
T200500496	30 01N	01W	Rainey Cawthon Distribution		MO	C	20	55			2	5 Points Shell 1334 Thomasville Rd
T200500495	30 01N	01W	Rainey Cawthon Distribution		MO	C	20	55			2	5 Points Shell 1334 Thomasville Rd
T200500494	30 01N	01W	Rainey Cawthon Distribution		MO	C	20	55			2	5 Points Shell 1334 Thomasville Rd
T200600975	30 01N	01W	Lavine Fricke		MO	C	20	57			2	Corner Capital Circle & Tennessee St.
T200600974	30 01N	01W	Lavine Fricke		MO	C	20	59			2	Corner Capital Circle & Tennessee St.
T200600973	30 01N	01W	Lavine Fricke		MO	C	20	57			2	Corner Capital Circle & Tennessee St.
T200600972	30 01N	01W	Lavine Fricke		MO	C	20	46			2	Corner Capital Circle & Tennessee St.
T200600971	30 01N	01W	Lavine Fricke		MO	C	20	47			2	Corner Capital Circle & Tennessee St.
T200601164	30 01N	01W	Birdwell	Jearl	MO	C	0	13			2	5323 Highway 90
T200601163	30 01N	01W	Birdwell	Jearl	MO	C	0	13			2	5323 Highway 90
T200601162	30 01N	01W	Birdwell	Jearl	MO	C	0	13			2	5323 Highway 90
T200500493	30 01N	01W	Rainey Cawthon Distribution		MO	C	20	55			2	5 Points Shell 1334 Thomasville Rd
T200500492	30 01N	01W	Rainey Cawthon Distribution		MO	C	20	55			2	5 Points Shell 1334 Thomasville Rd
T200500518	30 01N	01W	Rainey Cawthon Distribution		MO	C	40	45			4	1334 Thomasville Rd
T200500517	30 01N	01W	Rainey Cawthon Distribution		MO	C	40	45			4	1334 Thomasville Rd
T200500516	30 01N	01W	Rainey Cawthon Distribution		MO	C	40	45			4	1334 Thomasville Rd
T200500515	30 01N	01W	Rainey Cawthon Distribution		MO	C	20	45			4	1334 Thomasville Rd
T200102025	30 01N	01W	Swifty Mart #170		MO	C	18	28			1	5899 W Tennessee St
T200102024	30 01N	01W	Swifty Mart #170		MO	C	18	28			1	5899 W Tennessee St
T199801829	30 01N	01W	Autry Petroleum Co.		MO	C		11			1	5899 W. Tennessee St.
T199501514	30 01N	01W	Southwest Ga. Oil Company		MO	C	10	20	15	0	2	1456 Capital Circle N.W.
T199501513	30 01N	01W	Southwest Ga. Oil Company		MO	C	10	20	15	0	2	1456 Capital Circle N.W.
T199501512	30 01N	01W	Southwest Ga. Oil Company		MO	C	10	20	15	0	2	1456 Capital Circle N.W.
T199501511	30 01N	01W	Southwest Ga. Oil Company		MO	C	10	20	15	0	2	1456 Capital Circle N.W.
T199501510	30 01N	01W	Southwest Ga. Oil Company		MO	C	10	20	15	0	2	1456 Capital Circle N.W.
T198902831	30 01N	01W	S. W. Ga. Oil Co.		MO	C	12	12			2	Tharpe St. & Cap. Circle
T198704966	30 01N	01W	F. S. Winterle & Son		MO	C	1	8			2	5011 W. Tennessee St.
T198705146	30 01N	01W	Suwannee Swifty		MO	C	13	13	8		4	5899 W. Tennessee

T198705144	30 01N	01W	Suwannee Swifty	MO	C	13	13	8		4 5899 W. Tennessee
T198400778	30 01N	01W	John Morrissey, Sr.	LP	C	62	206	60	17	4 646 Capital Circle, N.W.
T198505167	30 01N	01W	Warren R. David Superior Service	LP	C	109	145	62	15	4 1244 Capital Circle, N.W.
T199500771	30 01N	01W	George Barineau	LP	A	105	125	50	0	4 Aenon Church Road off Hwy 90 W.
T199500772	30 01N	01W	George Barineau	LP	C	84	205	50	20	4 Aenon Church Road off Hwy 90 W.
T198806098	30 01N	01W	William Barineau	LP	C	63	110	40	20	4 Route 4, Box 369
T198502392	30 01N	01W	Collins Bros. Construction	HS	C	75	160	90	20	4 5012 W. Tennessee St.
T197700858	30 01N	01W	Lex Thompson Contractor	DO	C					4 Hwy. 90
T197900251	30 01N	01W	Warren David	DO	C	117	165	70		4 1238 Capital Circle N.W.
T198600512	30 01N	01W	John Zadakis	DO	C	105	170	85	20	4 U.S. 90 W. near Pepco & Gulf S
T198300470	30 01N	01W	R. W. Williford	DO	R	126	136	80		4 1301 Cochise Trail
T198403972	30 01N	01W	Terry Bell	DO	R	107	150			4 Route 4, Box 362, Lot 71
T198300609	30 01N	01W	Larry Brock	DO	C	47	100	40	15	4 Rt 14 Box 362 Lot #5
T198300283	30 01N	01W	R. W. Williford	DO	A					4 1301 Cochise Trail
T198501388	31 01N	01W	Paul Byrd, Jr.	MO	C	41	41			2 5680 Bltstwn Hwy, Western Est.
T198501528	31 01N	01W	Paul Byrd, Jr.	MO	C	20	20			1 5680 Blountstown Hwy, Western
T198602625	31 01N	01W	Rainey Cawthon Fuel Oil	MO	C	10	15	15		2 1813 W. Tennessee Street
T198602626	31 01N	01W	Rainey Cawthon Fuel Oil	MO	C	10	15	15		2 1813 W. Tennessee Street
T198806948	31 01N	01W	Dixie Oil & Gas	MO	C	2	9			2 3101 W. Tennessee Street
T198806950	31 01N	01W	Dixie Oil & Gas	MO	C	2	9			2 3101 W. Tennessee Street
T198902500	31 01N	01W	Smalley Transportation Co.	MO	C	15	16	10		2 4855 Gum Road
T198902502	31 01N	01W	Smalley Transportation Co.	MO	C	15	16	10		2 4855 Gum Road
T198905704	31 01N	01W	Paul Byrd, Jr.	MO	C	15	20	12		2 Hwy. 20 & Aenon Church Road
T199304522	31 01N	01W	Express Lane Inc.	MO	C	23	33	27		2 Sr. 20 & Aenon Church Rd.
T199304521	31 01N	01W	Express Lane Inc.	MO	C	20	30	25		2 Sr. 20 & Aenon Church Rd.
T199304520	31 01N	01W	Express Lane Inc.	MO	C	20	30	25		2 Sr. 20 & Aenon Church Rd.
T199304519	31 01N	01W	Express Lane Inc.	MO	C	23	33	26		2 Sr. 20 & Aenon Church Rd.
M199202557	31 01N	01W	Express Lane	MO	A	10	10			4 Hwy. 20 & Aenon Church Rd.
M199202556	31 01N	01W	Express Lane	MO	A	10	10			4 Hwy. 20 & Aenon Church Rd.
T199002606	31 01N	01W	Hinson Oil Company	MO	C	40	40			2 Aenon Church Road
T199002605	31 01N	01W	Hinson Oil Company	MO	C	30	30			2 Aenon Church Road
T198905705	31 01N	01W	Paul Byrd, Jr.	MO	C	5	10	5		2 Hwy. 20 & Aenon Church Road
T199404147	31 01N	01W	Express Lane #31	MO	C	34	49			2 SR 20 & Aenon Church Rd.
T199403639	31 01N	01W	BP Station 24482	MO	C	5	25	11		4 1225 S.Monroe St.
T199403493	31 01N	01W	Hinson Oil Co.	MO	C	40	50			2 SR 20 & Aenon Church Rd., Express Ln. 31
T199306609	31 01N	01W	Express Lane Inc.	MO	C	25	40			2 SR 20 & Arrow Church Rd.
T199306608	31 01N	01W	Express Lane Inc.	MO	C	25	40			2 SR 20 & Arrow Church Rd.
M199305807	31 01N	01W	Express Lane Inc.	MO	C	25	40			2 Hwy. 20 & Aenon Church Rd.
T199304525	31 01N	01W	Express Lane Inc.	MO	C	51	58			2 SR 20 & Aenon Church Rd.
T199304523	31 01N	01W	Express Lane Inc.	MO	C	28	38	30		2 Sr. 20 & Aenon Church Rd.
T198902503	31 01N	01W	Smalley Transportation Co.	MO	C	15	16	10		2 4855 Gum Road
P200201665	31 01N	01W	FDEP	MO	C	20	35			1 5711 Blountstown Highway
P200201664	31 01N	01W	FDEP	MO	C	20	35			1 5711 Blountstown Highway
T200102802	31 01N	01W	FDEP	MO	C	22	37			2 5711 Blountstown Hwy
T200102584	31 01N	01W	FDEP	MO	C	22	37			2 5711 Blountstown Hwy
T200102583	31 01N	01W	FDEP	MO	C	22	37			2 5711 Blountstown Hwy
T200102588	31 01N	01W	FDEP	MO	C	52	57			2 5711 Blountstown Hwy
T200102587	31 01N	01W	FDEP	MO	C	22	37			2 5711 Blountstown Hwy
T200102586	31 01N	01W	FDEP	MO	C	22	37			2 5711 Blountstown Hwy
T200102585	31 01N	01W	FDEP	MO	C	22	37			2 5711 Blountstown Hwy
T200301360	31 01N	01W	BP #24709 c/o URS Corp	MO	C	22	32			2 1703 W Tennessee St.
T200202153	31 01N	01W	Handex Environmental	MO	C	15	30			2 202 Tennessee St E
P200202619	31 01N	01W	FDEP	MO	C	20	28			1 5711 Blountstown Road
P200202618	31 01N	01W	FDEP	MO	C	20	30			1 5711 Blountstown Road
P200201672	31 01N	01W	FDEP	MO	C	20	35			1 5711 Blountstown Highway
P200201671	31 01N	01W	FDEP	MO	C	20	35			1 5711 Blountstown Highway
P200201670	31 01N	01W	FDEP	MO	C	20	35			1 5711 Blountstown Highway

P200201669	31 01N	01W	FDEP		MO	C	20	35			1 5711 Blountstown Highway
P200201668	31 01N	01W	FDEP		MO	C	20	35			1 5711 Blountstown Highway
P200201667	31 01N	01W	FDEP		MO	C	20	35			1 5711 Blountstown Highway
P200201666	31 01N	01W	FDEP		MO	C	20	35			1 5711 Blountstown Highway
T200501528	31 01N	01W	Anderson	Arnold	MO	C	2	12	3		2 5643 Gum Rd
T200501527	31 01N	01W	Anderson	Arnold	MO	C	2	12	3		2 5643 Gum Rd
T200501530	31 01N	01W	Anderson	Arnold	MO	C	2	12	3		2 5643 Gum Rd
T200501529	31 01N	01W	Anderson	Arnold	MO	C	2	12	3		2 5643 Gum Rd
T200501526	31 01N	01W	Anderson	Arnold	MO	C	2	12	3		2 5643 Gum Rd
T200100669	31 01N	01W	Saia Motor Freight Inc.		MO	C	10	20			2 4855 Gum Rd
T200100668	31 01N	01W	Saia Motor Freight Inc.		MO	C	10	20			2 4855 Gum Rd
T200100667	31 01N	01W	Saia Motor Freight Inc.		MO	C	10	20			2 4855 Gum Rd
T199406915	31 01N	01W	Smalley Transport Co.		MO	C	8	18	6	0	2 4855 Gum St.
T199406914	31 01N	01W	Smalley Transport Co.		MO	C	8	18	6	0	2 4855 Gum St.
T199406913	31 01N	01W	Smalley Transport Co.		MO	C	10	20	6	0	2 4855 Gum St.
T199406912	31 01N	01W	Smalley Transport Co.		MO	C	10	20	6	0	2 4855 Gum St.
T198902501	31 01N	01W	Smalley Transportation Co.		MO	C	15	16	10		2 4855 Gum Road
T198806951	31 01N	01W	Dixie Oil & Gas		MO	C	2	9			2 3101 W. Tennessee Street
T198806949	31 01N	01W	Dixie Oil & Gas		MO	C	2	9			2 3101 W. Tennessee Street
T198602628	31 01N	01W	Rainey Cawthon Fuel Oil		MO	C	20	25			2 1813 W. Tennessee Street
T198602627	31 01N	01W	Rainey Cawthon Fuel Oil		MO	C	10	15	15		2 1813 W. Tennessee Street
T199400226	31 01N	01W	J.P. Harrell		LP	C	99	160	40	20	4 5135 Gum Rd
T199902122	31 01N	01W	C.W. Roberts Contracting, Inc.		IN	C	121	170	52		6 1201 Gum Road
T197600389	31 01N	01W	Ottis Wallace		DO	C	146	200		15	4 Off Hwy. 20 W.
T197700332	31 01N	01W	Mattie Green		DO	C	100	135	4		4 S. Gum Road
T200401563	31 01N	01W	Joyner	Steve	DO	C	50	90	35	20	5 545 Birwood
T199901759	31 01N	01W	Young	Dennis	DO	C	63	110	46	25	4 473 Birwood East
T199501905	31 01N	01W	Paul Byrd		DO	A		135		0	4 Hwy 20 & Aenon Church Road
T199408835	31 01N	01W	Clint Sweringer		DO	A	60	60		0	2 1090 Jackson Bluff Rd.
T199408834	31 01N	01W	Clint Sweringer		DO	C	69	115	50	18	4 1090 Jackson Bluff Rd.
T199400350	31 01N	01W	Johnny Harrell		DO	C	163	166	42	20	4 5135 Gum Rd.
T199304348	31 01N	01W	Greg Fox		DO	C	110	220	90	10	4 5374 Old Jackson Bluff
T199005982	31 01N	01W	Van T. Greene, Jr.		DO	C	118	135	39	10	4 Gum Road
T199002070	31 01N	01W	Rodney D. Hart		DO	C	51	90	23	15	4 Deese Lane
T198802598	31 01N	01W	Mrs. Mattie Green		DO	C	163	170	40	20	4 Gum Road
T197900695	31 01N	01W	C L Dampler		DO	C				25	4 113 Bask St.
T197900696	31 01N	01W	C L Dampler		DO	C				25	4 113 Bask St.
T197900725	31 01N	01W	Dan Harlow		DO	C	121	127	36	15	4 Off Aenon Church Road
T197801057	31 01N	01W	William Joyner		DO	C	165	180	150		4 Hwy 20
T198100993	31 01N	01W	Edward R. Harrell		DO	C	50	60	40		4 Rt. 14 Box 347-A
T198101327	31 01N	01W	Ernest G. White		DO	C	84	84	60		4 Aenon Ch. Rd.
T198601991	32 01N	01W	Lester A. Chester		SN	C	70	120	70		4 Swamp Fox Road
T199901627	32 01N	01W	Florida Dept. Env. Protection		RW	C	22	42			6 Hwy 20 Cluster Intersection Hwy 20
T199901628	32 01N	01W	Florida Dept. Env. Protection		RW	C	42	62			6 Hwy 20 Cluster Intersection Hwy 20
T200202688	32 01N	01W	Everett	Don	RW	C	2	20			4 22400 Blountstown Pkwy
T199901629	32 01N	01W	Florida Dept. Env. Protection		RW	C	25	55			6 Hwy 20 Cluster Intersection Hwy 20
T197900826	32 01N	01W	Wayne H. Coloney Co.		PS	C	92	147	28	100	6 Capital Circle S.W.
T197800497	32 01N	01W	Bill Bellflower		PS	C	82	130	62		4 4400 W. Pensacola St.
T198100417	32 01N	01W	McKenzie Tank Lines		PS	C	113	203	85		6 Blountstown Hwy.
T198401469	32 01N	01W	S.W. Ga. Oil Company, Inc.		MO	A	112	146			4 4338 W. Pensacola St.
T198600005	32 01N	01W	Sing Oil Company		MO	C	20	25			2 Corner of Sr 20 & 263
T198704970	32 01N	01W	F. S. Winterle & Son		MO	C	17	25			2 4325 W. Pensacola St.
T198704972	32 01N	01W	F. S. Winterle & Son		MO	C	17	25			2 4325 W. Pensacola St.
T198707256	32 01N	01W	S.W. Georgia Oil		MO	C	18	25			2 Capital Circle & Hwy 20
T198707269	32 01N	01W	S.W. Georgia Oil		MO	C	4	11			2 W. Tharpe 2520 St.
T198707268	32 01N	01W	S.W. Georgia Oil		MO	C	4	11			2 W. Tharpe 2520 St.
T198707267	32 01N	01W	S.W. Georgia Oil		MO	C	4	11			2 W. Tharpe 2520 St.

T198707262	32	01N	01W	S.W. Georgia Oil		MO	C	18	25		2 Capital Circle & Hwy 20
T198707261	32	01N	01W	S.W. Georgia Oil		MO	C	18	25		2 Capital Circle & Hwy 20
T198707260	32	01N	01W	S.W. Georgia Oil		MO	C	18	25		2 Capital Circle & Hwy 20
T198707259	32	01N	01W	S.W. Georgia Oil		MO	C	18	25		2 Capital Circle & Hwy 20
T198707258	32	01N	01W	S.W. Georgia Oil		MO	C	18	25		2 Capital Circle & Hwy 20
T198707257	32	01N	01W	S.W. Georgia Oil		MO	C	18	25		2 Capital Circle & Hwy 20
T198706019	32	01N	01W	F. S. Winterle & Son		MO	C	5	12		2 317 Blountstown Hwy.
T198706018	32	01N	01W	F. S. Winterle & Son		MO	C	5	12		2 317 Blountstown Hwy.
T198706017	32	01N	01W	F. S. Winterle & Son		MO	C	5	12		2 317 Blountstown Hwy.
T198707866	32	01N	01W	E-Z Serve, Inc.		MO	C	5	14		4 3733 Lifford Circle
T198707865	32	01N	01W	E-Z Serve, Inc.		MO	C	5	14		4 3733 Lifford Circle
T198707864	32	01N	01W	E-Z Serve, Inc.		MO	C	5	14		4 3733 Lifford Circle
T198707863	32	01N	01W	E-Z Serve, Inc.		MO	C	5	14		4 3733 Lifford Circle
T198706020	32	01N	01W	F. S. Winterle & Son		MO	C	5	12		2 317 Blountstown Hwy.
T198707270	32	01N	01W	S.W. Georgia Oil		MO	C	4	11		2 W. Tharpe 2520 St.
T198801164	32	01N	01W	Dept. Environmental Reg.		MO	C	89	89	80	4 168 Blountstown Hwy.
T198801463	32	01N	01W	Fla. Dept. of Environmental Reg.		MO	A	71	71		2 Hwy 20 & Capital Circle - S.W. Cor.
T198708299	32	01N	01W	F.D.E.R.		MO	C	59	71	61	4 S.W. corner Hwy 20 & Capital Cir.
T198708298	32	01N	01W	F.D.E.R.		MO	C	69	73	51	4 S.W. corner Hwy 20 & Capital Cir.
T198708297	32	01N	01W	F.D.E.R.		MO	C	52	52	43	4 S.W. corner Hwy 20 & Capital Cir.
T198708296	32	01N	01W	F.D.E.R.		MO	C	59	59	41	4 S.E. corner Hwy 20 & Capital Cir.
T198800708	32	01N	01W	FDER		MO	C	62	62	39	2 NW corner Hwy 20 & Capital Cir.
T198800707	32	01N	01W	FDER		MO	C	79	84	72	4 S.P.C. Capital Cir. north of Hwy 20
T198800706	32	01N	01W	FDER		MO	C	79	84	72	4 S.P.C. Capital Cir. north of Hwy 20
M199106130	32	01N	01W	Eli Roberts Oil Co.		MO	C	11	11		2 4856 Highway 20 W.
M199106129	32	01N	01W	Eli Roberts Oil Co.		MO	C	11	11		2 4856 Highway 20 W.
M199106128	32	01N	01W	Eli Roberts Oil Co.		MO	C	11	20		2 4856 Highway 20 W.
T199105524	32	01N	01W	Jerry's Chevron		MO	C	8	8		2 1662 Capitol Circle N.W.
T199102397	32	01N	01W	Mrs Grace Cross		MO	A	15	30		2 Capital Asphalt Bounstown Hwy
T199102329	32	01N	01W	Grace Cross		MO	C	15	30		2 Capital Asphalt, Blountstown Hwy.
T199102328	32	01N	01W	Grace Cross		MO	C	5	20		2 Capital Asphalt, Blountstown Hwy.
T199102331	32	01N	01W	Grace Cross		MO	C	35	50		2 Capital Asphalt, Blountstown Hwy.
T199102330	32	01N	01W	Grace Cross		MO	C	35	49		2 Capital Asphalt, Blountstown Hwy.
T199301915	32	01N	01W	Sing Food Stores		MO	C	93	103	95	4 4394 Blountstown Hwy.
T199301914	32	01N	01W	Sing Food Stores		MO	C	40	50	44	4 4394 Blountstown Hwy.
T199301913	32	01N	01W	Sing Food Stores		MO	C	70	85	77	4 4394 Blountstown Hwy.
T199301912	32	01N	01W	Sing Food Stores		MO	C	20	40	30	4 4394 Blountstown Hwy.
T199301911	32	01N	01W	Sing Food Stores		MO	C	20	40	35	4 4394 Blountstown Hwy.
T199301825	32	01N	01W	DOT		MO	C	60	75		4 Hwy. 263 & Hwy. 20
T199301824	32	01N	01W	DOT		MO	C	99	109	104	4 Hwy. 263 & Hwy. 20
T199301823	32	01N	01W	DOT		MO	C	50	60	55	4 Hwy. 263 & Hwy. 20
T199301822	32	01N	01W	DOT		MO	C	60	70	65	4 Hwy. 263 & Hwy. 20
T199300680	32	01N	01W	Dept. of Transportation		MO	C	70	85	75	4 4394 Blountstown Hwy.
T199300679	32	01N	01W	Dept. of Transportation		MO	C	50	60	55	4 4326 Pensacola St.
T199300678	32	01N	01W	Dept. of Transportation		MO	C	20	40	30	4 400 NW Capital Cir.
T199300677	32	01N	01W	Dept. of Transportation		MO	C	60	70	65	4 4345 W. Pensacola St.
T199301930	32	01N	01W	Jr. Food Store #208		MO	C		110		4 400 NW Capital Cir.
T199301929	32	01N	01W	Jr. Food Store #208		MO	C	35	75	40	4 400 NW Capital Cir.
T199301928	32	01N	01W	Jr. Food Store #208		MO	C	65	75	70	4 400 NW Capital Cir.
T199301927	32	01N	01W	Jr. Food Store #208		MO	C	50	60	45	4 400 NW Capital Cir.
T199301926	32	01N	01W	Jr. Food Store #208		MO	C	50	60	45	4 400 NW Capital Cir.
T199601454	32	01N	01W	Tillman	Frank	MO	C	7	17		2 Off Cap. Cir. N. American Van Lines
T199601554	32	01N	01W	Tillman	Frank	MO	C	7	17		2 American Van Lines
T199601813	32	01N	01W	Tillman	Frank	MO	C		8		2 America Van Lines
T199601812	32	01N	01W	Tillman	Frank	MO	C		8		2 N. America Van Lines
T199601757	32	01N	01W	Tillman	Frank	MO	C	4	9		2 North American Van Lines
M199600489	32	01N	01W	Sonas Systems of Florida Inc.		MO	C	31	44		2 600 Blountstown Hwy

M199600490	32 01N	01W	Sonas Systems of Florida Inc.		MO	A	40	50		2 600 Blountstown Hwy
T199403115	32 01N	01W	Jack Robinson		MO	A	3	15		2 Hwy 263 & 27 N.
T199306517	32 01N	01W	Southern Prestressed Concrete		MO	C	20	35	25	4 Capital Circle SW
T200502302	32 01N	01W	Texaco #4208		MO	C	50	70		2 400 Capital Circle SW
T200502301	32 01N	01W	Texaco #4208		MO	C	45	65		2 400 Capital Circle SW
T200502300	32 01N	01W	Texaco #4208		MO	C	45	65		2 400 Capital Circle SW
T200502299	32 01N	01W	Texaco #4208		MO	C	45	65		2 400 Capital Circle SW
T200501833	32 01N	01W	Stone	Bubba	MO	C	100	110	63	2 SR 263 and HWY 20
T200501832	32 01N	01W	Stone	Bubba	MO	C	95	105	63	2 SR 263 and HWY 20
T200501830	32 01N	01W	Stone	Bubba	MO	C	85	95	63	2 SR 263 and HWY 20
T200501829	32 01N	01W	Stone	Bubba	MO	C	85	95	63	2 SR 263 and HWY 20
T200501827	32 01N	01W	Stone	Bubba	MO	C	115	125	63	2 SR 263 and HWY 20
T200501831	32 01N	01W	Stone	Bubba	MO	C	150	160	63	2 SR 263 and HWY 20
T200203703	32 01N	01W	Island Food Store		MO	C	55	65		2 Blountstown Hwy & Capital Circle NW
T200203702	32 01N	01W	Island Food Store		MO	C	55	65		2 Blountstown Hwy & Capital Circle NW
T200203701	32 01N	01W	Island Food Store		MO	C	55	65		2 Blountstown Hwy & Capital Circle NW
T200203700	32 01N	01W	Island Food Store		MO	C	55	65		2 Blountstown Hwy & Capital Circle NW
T200203699	32 01N	01W	Island Food Store		MO	C	55	65		2 Blountstown Hwy & Capital Circle NW
T200203698	32 01N	01W	Island Food Store		MO	C	55	65		2 Blountstown Hwy & Capital Circle NW
T200203697	32 01N	01W	Island Food Store		MO	C	55	65		2 Blountstown Hwy & Capital Circle NW
T200201005	32 01N	01W	First Communications		MO	C	80	100		2 234 Blountstown Hwy
P200104780	32 01N	01W	FDEP		MO	C	46	51	48	2 22400 Blountstown Hwy
P200104754	32 01N	01W	FDEP		MO	C	4	12	3	2 22400 Blountstown Hwy.
P200104753	32 01N	01W	FDEP		MO	C	4	12	3	2 22400 Blountstown Hwy.
P200104752	32 01N	01W	FDEP		MO	C	4	12	3	2 22400 Blountstown Hwy.
P200104751	32 01N	01W	FDEP		MO	C	4	12	3	2 22400 Blountstown Hwy.
P200104750	32 01N	01W	FDEP		MO	C	4	12	3	2 22400 Blountstown Hwy.
T200102987	32 01N	01W	Livingston	Charles	MO	C	12	32		4 234 Blountstown Hwy
T200103062	32 01N	01W	First Communications		MO	C	40	70		4 234 Blountstown Hwy
T200103061	32 01N	01W	First Communications		MO	C	40	79		4 234 Blountstown Hwy
T200103060	32 01N	01W	First Communications		MO	C	90	100		2 234 Blountstown Hwy
T200103059	32 01N	01W	First Communications		MO	C	20	120		2 234 Blountstown Hwy
T200103058	32 01N	01W	First Communications		MO	C	20	120		5 234 Blountstown Hwy
T200103057	32 01N	01W	First Communications		MO	C	20	120		5 234 Blountstown Hwy
T200100144	32 01N	01W	First Communications		MO	C	20	35		1 234 Blounstown Hwy
T200100143	32 01N	01W	First Communications		MO	C	20	35		1 234 Blounstown Hwy
T200100142	32 01N	01W	First Communications		MO	C	20	35		1 234 Blounstown Hwy
T200100141	32 01N	01W	First Communications		MO	C	45	55		1 234 Blounstown Hwy
T200100140	32 01N	01W	First Communications		MO	C	45	55		1 234 Blounstown Hwy
T200100139	32 01N	01W	First Communications		MO	C	45	55		1 234 Blounstown Hwy
T200100138	32 01N	01W	First Communications		MO	C	40	90		1 234 Blounstown Hwy
T200100137	32 01N	01W	First Communications		MO	C	45	55		4 234 Blounstown Hwy
T200100136	32 01N	01W	First Communications		MO	C	20	35		4 234 Blounstown Hwy
T200001170	32 01N	01W	City of Tallahassee		MO	C	140	145	6	2 234 Blountstown Hwy.
T199901634	32 01N	01W	Florida Dept. Env. Protection		MO	C	25	55		2 Hwy 20 Cluster Inersection Hwy 20
T199901635	32 01N	01W	Florida Dept. Env. Protection		MO	C	25	55		2 Hwy 20 Cluster Inersection Hwy 20
T199901633	32 01N	01W	Florida Dept. Env. Protection		MO	C	47	67		2 Hwy 20 Cluster Inersection Hwy 20
T199901632	32 01N	01W	Florida Dept. Env. Protection		MO	C	44	64		2 Hwy 20 Cluster Inersection Hwy 20
T199901631	32 01N	01W	Florida Dept. Env. Protection		MO	C	30	60		2 Hwy 20 Cluster Inersection Hwy 20
T199901630	32 01N	01W	Florida Dept. Env. Protection		MO	C	30	60		2 Hwy 20 Cluster Inersection Hwy 20
T199802000	32 01N	01W	DEP		MO	C	115	125		2 234 Blountstown Hwy
T199801999	32 01N	01W	DEP		MO	C	115	125		2 234 Blountstown Hwy
T199801998	32 01N	01W	DEP		MO	C	115	125		2 234 Blountstown Hwy
T199801997	32 01N	01W	DEP		MO	C	115	125		2 234 Blountstown Hwy
P199800723	32 01N	01W	Inland Food Store		MO	C	61	71	61	2 4336 Pensacola Street
P199800722	32 01N	01W	Inland Food Store		MO	C	35	50		2 4336 Pensacola Street
P199800721	32 01N	01W	Inland Food Store		MO	C	45	60	50	2 4336 Pensacola Street

P199800720	32 01N	01W	Inland Food Store	MO	C	45	60	50		2	4336 Pensacola Street
P199800719	32 01N	01W	Inland Food Store	MO	C	45	60	50		2	4336 Pensacola Street
P199800717	32 01N	01W	EZ Serve Convenience Stores	MO	C	95	100	45		2	400 Capital Circle NW
P199800716	32 01N	01W	Amoco	MO	C	30	40	31		2	4394 Blountstown Hwy
T199601414	32 01N	01W	Tillman Frank	MO	C	5	10			2	on site American Van Lines
T199306516	32 01N	01W	Southern Prestressed Concrete	MO	C	20	40	25		4	Capital Circle SW
T199306515	32 01N	01W	Tallahassee Communications, Inc.	MO	C	75	90	60		2	234 Blountstown Hwy.
T199306514	32 01N	01W	Tallahassee Communications, Inc.	MO	C	75	90	60		2	234 Blountstown Hwy.
T199306513	32 01N	01W	Tallahassee Communications, Inc.	MO	C	75	90	60		2	234 Blountstown Hwy.
T199306512	32 01N	01W	Tallahassee Communications, Inc.	MO	C	75	90	60		2	234 Blountstown Hwy.
T199306511	32 01N	01W	FDOT	MO	C	75	90	60		4	on SR 263 Row
T199303038	32 01N	01W	Jack Robinson	MO	C	2	15			2	Corner of SR-263 & US 27N
T199306982	32 01N	01W	Tallahassee Communications, Inc.	MO	C	70	90	60		2	234 Blountstown Hwy.
T199301925	32 01N	01W	Inland Food Store	MO	C	60	70	65		4	4336 Pensacola St.
T199301924	32 01N	01W	Inland Food Store	MO	C	95	105			4	4336 Pensacola St.
T199301923	32 01N	01W	Inland Food Store	MO	C	61	71	55		4	4336 Pensacola St.
T199301922	32 01N	01W	Inland Food Store	MO	C	20	40	30		4	4336 Pensacola St.
T199301921	32 01N	01W	Inland Food Store	MO	C	20	40	30		4	4336 Pensacola St.
T199301918	32 01N	01W	Burger King/Davgar Rest.	MO	C	70	90	80		4	4345 W. Pensacola St.
T199301917	32 01N	01W	Burger King/Davgar Rest.	MO	C	70	90	80		4	4345 W. Pensacola St.
T199301916	32 01N	01W	Burger King/Davgar Rest.	MO	C	65	75			4	4345 W. Pensacola St.
T199301821	32 01N	01W	DOT	MO	C	20	40	30		4	Hwy. 263 & Hwy. 20
T199301820	32 01N	01W	DOT	MO	C	20	40	30		4	Hwy. 263 & Hwy. 20
T199301819	32 01N	01W	DOT	MO	C	40	50			4	Hwy. 263 & Hwy. 20
T199301818	32 01N	01W	DOT	MO	C	45	60			4	Hwy. 263 & Hwy. 20
T199203447	32 01N	01W	Sonas Systems Florida Ltd.	MO	C	5	15			2	600 Blountstown Hwy
T199203446	32 01N	01W	Sonas Systems Florida Ltd.	MO	C	5	15			2	600 Blountstown Hwy
M199200344	32 01N	01W	Capital Asphalt, Inc.	MO	C	36	46			2	Hwy. 263 & 20
M199106131	32 01N	01W	Eli Roberts Oil Co.	MO	C	11	11			2	4856 Highway 20 W.
T199100646	32 01N	01W	Capital Asphalt, Inc.	MO	C	19	19			2	Hwy. 20 & 263
T199100645	32 01N	01W	Capital Asphalt, Inc.	MO	C	19	19			2	Hwy. 20 & 263
M199100435	32 01N	01W	Capital Asphalt	MO	C	46	46			2	Hwy. 20 & 263
M199100434	32 01N	01W	Capital Asphalt	MO	C	46	46			2	Hwy. 20 & 263
M199100433	32 01N	01W	Capital Asphalt	MO	C	47	47			2	Hwy. 20 & 263
M199005229	32 01N	01W	S. W. Ga. Oil Co.	MO	C	13	13			2	Inlet St. & Hwy. 263
T199002025	32 01N	01W	G & M	MO	C	15	25			2	4394 Blountstown Hwy.
T199002024	32 01N	01W	G & M	MO	C	13	23			2	4394 Blountstown Hwy.
T198800705	32 01N	01W	FDER	MO	C	90	90	24		2	4329 W. Pensacola St.
T198800704	32 01N	01W	FDER	MO	C	90	90	24		2	4329 W. Pensacola St.
T198800703	32 01N	01W	FDER	MO	C	62	65	43		2	Jackson Bluff Rd. & Capital Cir.
T198708295	32 01N	01W	F.D.E.R.	MO	C	62	62	44		4	S.E. corner Hwy 20 & Capital Cir.
T198708294	32 01N	01W	F.D.E.R.	MO	C	39	39	29		4	N.E. corner Hwy 20 & Capital Cir.
T198708293	32 01N	01W	F.D.E.R.	MO	C	31	31	22		4	N.E. corner Hwy 20 & Capital Cir.
T198708292	32 01N	01W	F.D.E.R.	MO	C	41	41	29		4	N.E. corner Hwy 20 & Capital Cir.
T198708291	32 01N	01W	F.D.E.R.	MO	C	39	39	25		4	N.E. corner Hwy 20 & Capital Cir.
T198707255	32 01N	01W	S.W. Georgia Oil	MO	C	18	25			2	Capital Circle & Hwy 20
T198704971	32 01N	01W	F. S. Winterle & Son	MO	C	17	25			2	4325 W. Pensacola St.
T198704969	32 01N	01W	F. S. Winterle & Son	MO	C	17	25			2	4325 W. Pensacola St.
T198600006	32 01N	01W	Sing Oil Company	MO	C	20	25			2	Corner of Sr 20 & 263
T198600004	32 01N	01W	Sing Oil Company	MO	C	20	25			2	Corner of Sr 20 & 263
T198600003	32 01N	01W	Sing Oil Company	MO	C	20	25			2	Corner of Sr 20 & 263
T198401470	32 01N	01W	Southwest Ga.Oil Co.,Inc.	MO	A	96	151			4	4338 W. Pensacola St.
T198401979	32 01N	01W	Smalley Transport.Co.	LP	C	60	80	25	12	4	Gum Road
T198603246	32 01N	01W	Marvin L. Stewart	LA	R		110	55	15	4	4229 W. Pensacola St.
T198800822	32 01N	01W	Tom McKenzie	LA	C	88	190	71	10	4	Blountstown Highway
T198500091	32 01N	01W	Sam Crowder	IN	C	82	180	45	200	6	Off Hwy 20
T197700284	32 01N	01W	Harold Johnson	DO	C	56	110	20		4	Jackson Bluff Road

T197600200	32 01N	01W	D. W. Grant		DO	C	150	170	100	1000	4	Rt. 4, Box 538
T198802141	32 01N	01W	Rex Enterprises of Tall		DO	A		125			4	S.E. Cornor of Capital Cir. & 20
T199901157	32 01N	01W	Southwest Georgia Oil Company		DO	A	100	140			4	Capital Circle Southwest
T200502382	32 01N	01W	Leon Co. School Board		DO	A		85			6	SR 20 & West Brodie St.
T200200612	32 01N	01W	Crowder	Sam	DO	C	80	180	70	20	4	Off Smitty's Lane
T199701560	32 01N	01W	Joyner Electric		DO	C	94	110	40	20	4	4955 Swamp Fox Rd
T198100074	32 01N	01W	Ed O'Ney		DO	C	58	72	40		4	650 Blountstown Rd.
T198001230	32 01N	01W	H. N. Baggett		DO	C	100	140	80		4	404 Blountstown Hwy
T198200660	32 01N	01W	Dennis Young		DO	C	53	90	40	12	4	491 Birwood East
T199700115	32 01N	01W	Hollon	Danny	CO	C	95	147	80	12	4	Swamp Fox Rd
T198400899	32 01N	01W	Tom McKenzie		AI	C	104	206	73	20	4	Hwy 20 & 263
T199600689	33 01N	01W	Tallahassee Pepsi Corporation		RW	C	50	50			2	3119 West Pensacola Street
T199600690	33 01N	01W	Tallahassee Pepsi Corporation		RW	C	50	50			2	3119 West Pensacola Street
T198500920	33 01N	01W	Tallahassee Comm. College		MO	C	25	25			2	Appleyard Dr & Tennessee
T198503861	33 01N	01W	Tallahassee Community College		MO	C	5	5			2	444 Appleyard Drive
T198503862	33 01N	01W	Tallahassee Community College		MO	C	5	5			2	444 Appleyard Drive
T198503863	33 01N	01W	Tallahassee Community College		MO	C	5	5			2	444 Appleyard Drive
T198503668	33 01N	01W	Tallahassee Community College		MO	C	15	15			2	Pensacola & Appleyard-by pool
T198503719	33 01N	01W	Tallahassee Community College		MO	C	5	5			2	444 Appleyard Drive
T198503720	33 01N	01W	Tallahassee Community College		MO	C	5	5			2	444 Appleyard Drive
T198503721	33 01N	01W	Tallahassee Community College		MO	C	5	5			2	444 Appleyard Drive
T198503624	33 01N	01W	Tallahassee Community College		MO	C	11	11			2	Pensacola & Appleyard Dr.
T198800090	33 01N	01W	Chevron USA Inc.		MO	C	44	44	37		4	S. W. corner W. Pensacola/Woodward
T198800091	33 01N	01W	Chevron USA Inc.		MO	C	48	48	36		4	S. W. corner W. Pensacola/Woodward
T198800092	33 01N	01W	Chevron USA Inc.		MO	A	47	47	37		4	S. W. corner W. Pensacola/Woodward
T198800093	33 01N	01W	Chevron USA Inc.		MO	C	47	47	36		4	S. W. corner W. Pensacola/Woodward
T198800094	33 01N	01W	Chevron USA Inc.		MO	C	45	45	35		4	S. W. corner W. Pensacola/Woodward
T198800095	33 01N	01W	Chevron USA Inc.		MO	C	45	45	34		4	S. W. corner W. Pensacola/Woodward
T198800096	33 01N	01W	Chevron USA Inc.		MO	C	35	35	24		4	S. W. corner W. Pensacola/Woodward
T198705315	33 01N	01W	Leon County Sch. Board Warehouse		MO	C	2	12			2	602 Appleyard Drive
T198705316	33 01N	01W	Leon County School Board Warehouse		MO	C	2	12			2	602 Appleyard Drive
T198705317	33 01N	01W	Leon County School Board Warehouse		MO	C	2	12			2	602 Appleyard Drive
T198705318	33 01N	01W	Leon County School Board Warehouse		MO	C	2	12			2	602 Appleyard Drive
T198708612	33 01N	01W	Suwannee Swifty Stores		MO	C	11	11	6		2	Cor. Pensacola & Catcus St.
T198708613	33 01N	01W	Suwannee Swifty Stores		MO	C	11	11	6		2	Cor. Pensacola & Catcus St.
T198708614	33 01N	01W	Suwannee Swifty Stores		MO	C	11	11	6		2	Cor. Pensacola & Catcus St.
T198708615	33 01N	01W	Suwannee Swifty Stores		MO	C	11	11	6		2	Cor. Pensacola & Catcus St.
T198708754	33 01N	01W	Deeb Syde P. Et al		MO	C	15	15			2	W. Pensacola St.
T198708755	33 01N	01W	Deeb Syde P. Et al		MO	C	9	9			2	W. Pensacola St.
T198901499	33 01N	01W	City of Tallahassee		MO	C	12	12			2	1100 Dupree St.
T198901500	33 01N	01W	City of Tallahassee		MO	C	12	12			2	1100 Dupree St.
T198901501	33 01N	01W	City of Tallahassee		MO	C	12	12			2	1100 Dupree St.
T198901502	33 01N	01W	City of Tallahassee		MO	C	12	12			2	555 Appleyard Dr.
T198901503	33 01N	01W	City of Tallahassee		MO	C	12	12			2	555 Appleyard Dr.
T198901504	33 01N	01W	City of Tallahassee		MO	C	12	12			2	555 Appleyard Dr.
T198901489	33 01N	01W	City of Tallahassee		MO	C	12	12			2	1100 Depree St.
T198901490	33 01N	01W	City of Tallahassee		MO	C	12	12			2	555 Appleyard Dr.
T198901491	33 01N	01W	City of Tallahassee		MO	C	12	12			2	1100 Dupree St.
T198901492	33 01N	01W	City of Tallahassee		MO	C	12	12			2	1100 Dupree St.
T198901493	33 01N	01W	City of Tallahassee		MO	C	12	12			2	1100 Dupree St.
T198901494	33 01N	01W	City of Tallahassee		MO	C	12	12			2	1100 Dupree St.
T198901495	33 01N	01W	City of Tallahassee		MO	C	12	12			2	1100 Dupree St.
T198901496	33 01N	01W	City of Tallahassee		MO	C	12	12			2	1100 Dupree St.
T198901497	33 01N	01W	City of Tallahassee		MO	C	12	12			2	1100 Dupree St.
T198901498	33 01N	01W	City of Tallahassee		MO	C	12	112			2	1100 Dupree St.
T198903856	33 01N	01W	City of Tallahassee		MO	C	13	13	7		2	1100 DuPree St.
T198903857	33 01N	01W	City of Tallahassee		MO	C	13	13	7		2	1100 DuPree St.

T198903858	33 01N	01W	City of Tallahassee	MO	C	13	13	7	2 1100 DuPree St.
T198903859	33 01N	01W	City of Tallahassee	MO	C	13	13	7	2 1100 DuPree St.
T198905028	33 01N	01W	City of Tallahassee	MO	C	10	10	4	2 1100 DuPree Street
T198905029	33 01N	01W	City of Tallahassee	MO	C	10	10	4	2 1100 DuPree Street
T199102642	33 01N	01W	Greyhound Lines, Inc.	MO	C	65	75	35	2 817 Appleyard Drive
T199102647	33 01N	01W	Greyhound Lines Inc.	MO	C	30	50	30	2 817 Appleyard Drive
T199102648	33 01N	01W	Greyhound Lines Inc.	MO	C	30	50	30	2 817 Appleyard Drive
T199102649	33 01N	01W	Greyhound Lines Inc.	MO	C	20	50		2 817 Appleyard Drive
T199102650	33 01N	01W	Greyhound Lines Inc.	MO	C	15	45	20	2 817 Appleyard Drive
T199102651	33 01N	01W	Greyhound Lines Inc.	MO	C	19	49	20	2 817 Appleyard Drive
T199102652	33 01N	01W	Greyhound Lines Inc.	MO	C	19	49	30	2 817 Appleyard Drive
M199106120	33 01N	01W	Eli Roberts Oil Co.	MO	C	11	20		2 2065 W. Tennessee
M199106121	33 01N	01W	Eli Roberts Oil Co.	MO	C	11	11		2 2065 W. Tennessee
M199106122	33 01N	01W	Eli Roberts Oil Co.	MO	C	11	11		2 2065 W. Tennessee
M199106123	33 01N	01W	Eli Roberts Oil Co.	MO	C	11	11		2 2065 W. Tennessee
T199200163	33 01N	01W	Greyhound Lines Inc.	MO	C	12	32	18	2 817 Appleyard Dr.
T199200164	33 01N	01W	Greyhound Lines Inc.	MO	C	15	35	19	2 817 Appleyard Dr.
T199200165	33 01N	01W	Greyhound Lines Inc.	MO	C	12	32	20	2 817 Appleyard Dr.
T199202677	33 01N	01W	Leon County School Board	MO	A	2	12		2 520 Appleyard Drive
T199202678	33 01N	01W	Leon County School Board	MO	A	2	12		2 520 Appleyard Drive
T199202679	33 01N	01W	Leon County School Board	MO	A	2	12		2 520 Appleyard Drive
T199600691	33 01N	01W	Tallahassee Pepsi Corporation	MO	C	15	15		2 3119 West Pensacola Street
T199202680	33 01N	01W	Leon County School Board	MO	A	2	12		2 520 Appleyard Drive
T199202509	33 01N	01W	City of Tallahassee	MO	C	5	20	15	2 2899 W. Pensacola
T199202510	33 01N	01W	City of Tallahassee	MO	C	5	20	15	2 2899 W. Pensacola
T199202511	33 01N	01W	City of Tallahassee	MO	C	5	20	15	2 2899 W. Pensacola
T199202512	33 01N	01W	City of Tallahassee	MO	C	5	20	15	2 2899 W. Pensacola
T199202513	33 01N	01W	City of Tallahassee	MO	C	5	20	15	2 2899 W. Pensacola
T199202777	33 01N	01W	Dodge Country	MO	C	25	30		2 2755 W. Tennessee
T199202778	33 01N	01W	Dodge Country	MO	C	25	30		2 2755 W. Tennessee
T199800901	33 01N	01W	City of Tallahassee	MO	C	10	15		2 Appleyard Dr.
T199800117	33 01N	01W	Tallahassee Community College	MO	C	8	21		2 Appleyard Drive
T199800116	33 01N	01W	Tallahassee Community College	MO	C	8	21		2 444 Appleyard Drive
T199702046	33 01N	01W	Tallahassee Community College	MO	C	9	20		2 444 Appleyard Dr.
T199702045	33 01N	01W	Tallahassee Community College	MO	C	10	20		2 444 Appleyard Dr.
T199702044	33 01N	01W	Tallahassee Community College	MO	C	10	20		2 444 Appleyard Dr.
T199700223	33 01N	01W	Tennaco	MO	C	11	26	19	2 2410 West Pensacola Avenue
T199700222	33 01N	01W	Tennaco	MO	C	11	26	19	2 2410 West Pensacola Avenue
T199700221	33 01N	01W	Tennaco	MO	C	11	26	19	2 2410 West Pensacola Avenue
T200100677	33 01N	01W	City of Tallahassee	MO	A	15	15		2 Taltran- Appleyard Drive
T200002297	33 01N	01W	Swannee Swifty Food Stores	MO	C	35	50		2 1603 W. Tharpe St.
T200002296	33 01N	01W	Swannee Swifty Food Stores	MO	C	35	50		2 1603 W. Tharpe St.
T200002295	33 01N	01W	Swannee Swifty Food Stores	MO	C	35	50		2 1603 W. Tharpe St.
T200000745	33 01N	01W	City of Tallahassee	MO	A	13	13		2 400 Dupree Street
T200000744	33 01N	01W	City of Tallahassee	MO	A	13	13		2 400 Dupree Street
T200000743	33 01N	01W	City of Tallahassee	MO	A	13	13		2 400 Dupree Street
T199901794	33 01N	01W	Pepsi Cola	MO	C	25	35		2 3919 W. Pensocola
T199901183	33 01N	01W	TCC	MO	A	25	25		2 444 Appleyard Dr.
T200500074	33 01N	01W	URS Corporation	MO	C	5	15		2 Fleet Mngmnt Fueling 400 Dupree St
T200500075	33 01N	01W	URS Corporation	MO	C	5	15		2 Fleet Mngmnt Fueling 400 Dupree St
T200500076	33 01N	01W	URS Corporation	MO	C	5	15		2 Fleet Mngmnt Fueling 400 Dupree St
T200500073	33 01N	01W	URS Corporation	MO	C	20	25		2 Fleet Mngmnt Fueling 400 Dupree St
T200500072	33 01N	01W	URS Corporation	MO	C	20	25		2 Fleet Mngmnt Fueling 400 Dupree St
P200500144	33 01N	01W	FDEP	MO	C	15	20		2 400 Dupree Street
T200302529	33 01N	01W	City of Tallahassee	MO	C	20	25		2 Fleet Management Dupree St.
T200302528	33 01N	01W	City of Tallahassee	MO	C	20	25		2 Fleet Management Dupree St.
T200302530	33 01N	01W	City of Tallahassee	MO	C	25	30		2 Fleet Management Dupree St.

T200302527	33 01N	01W	City of Tallahassee	MO	C	20	25		2	Fleet Management Dupree St.
T200301338	33 01N	01W	City of Tallahassee	MO	C	20	25		2	Fleet Mngmt.
T200301337	33 01N	01W	City of Tallahassee	MO	C	7	17		2	Fleet Mngmt. Dupreee st.
T200301336	33 01N	01W	City of Tallahassee	MO	C	7	17		2	Fleet Mngmt. Dupreee st.
T200300832	33 01N	01W	City of Tallahassee	MO	C	5	16		2	Fleet Management, Dupree St.
T200300911	33 01N	01W	City of Tallahassee	MO	C	16	16		2	Fleet Management-Dupree St.
T200300814	33 01N	01W	City of Tallahassee	MO	C	5	20		2	Fleet Management Dupree St.
T200300813	33 01N	01W	City of Tallahassee	MO	C	5	10		2	Fleet Management Dupree St.
T200300812	33 01N	01W	City of Tallahassee	MO	C	5	10		2	Fleet Management Dupree St.
T200300811	33 01N	01W	City of Tallahassee	MO	C	5	10		2	Fleet Management Dupree St.
T200300810	33 01N	01W	City of Tallahassee	MO	C	5	10		2	Fleet Management Dupree St.
T200300653	33 01N	01W	City of Tallahassee	MO	C	5	10		2	Dupree St
T200300652	33 01N	01W	City of Tallahassee	MO	C	4	14		2	Dupree St
T200300651	33 01N	01W	City of Tallahassee	MO	C	2	12		2	Dupree St
T200300650	33 01N	01W	City of Tallahassee	MO	C	3	10		2	Dupree St
T200300649	33 01N	01W	City of Tallahassee	MO	C	10	20		2	Dupree St
T200300648	33 01N	01W	City of Tallahassee	MO	C	10	20		2	Dupree St
T200300647	33 01N	01W	City of Tallahassee	MO	C	10	20		2	Dupree St
T200300646	33 01N	01W	City of Tallahassee	MO	C	10	20		2	Dupree St
T200300645	33 01N	01W	City of Tallahassee	MO	C	10	20		2	Dupree St
T200300644	33 01N	01W	City of Tallahassee	MO	C	10	20		2	Dupree St
T200300643	33 01N	01W	City of Tallahassee	MO	C	10	20		2	Dupree St
T200200973	33 01N	01W	A&D Discount Beverage	MO	C	10	25		2	2752 W Pensacola St
T200201813	33 01N	01W	A&D Discount Beverage	MO	C	10	35		4	2752 Pensacola St.
T200201815	33 01N	01W	A&D Discount Beverage	MO	C	10	35		4	2752 Pensacola St.
T200201814	33 01N	01W	A&D Discount Beverage	MO	C	10	35		4	2752 Pensacola St.
T200201812	33 01N	01W	A&D Discount Beverage	MO	C	10	35		4	2752 Pensacola St.
T200201809	33 01N	01W	A&D Discount Beverage	MO	C	15	35		2	2752 Pensacola St.
T200201808	33 01N	01W	A&D Discount Beverage	MO	C	15	35		2	2752 Pensacola St.
T200201807	33 01N	01W	A&D Discount Beverage	MO	C	15	35		2	2752 Pensacola St.
T200201806	33 01N	01W	A&D Discount Beverage	MO	C	35	45		2	2752 Pensacola St.
T200200978	33 01N	01W	A&D Discount Beverage	MO	C	10	25		2	2752 W Pensacola St
T200200977	33 01N	01W	A&D Discount Beverage	MO	C	10	25		2	2752 W Pensacola St
T200200976	33 01N	01W	A&D Discount Beverage	MO	C	10	25		2	2752 W Pensacola St
T200200975	33 01N	01W	A&D Discount Beverage	MO	C	10	25		2	2752 W Pensacola St
T200200974	33 01N	01W	A&D Discount Beverage	MO	C	10	25		2	2752 W Pensacola St
T200200972	33 01N	01W	A&D Discount Beverage	MO	C	10	25		2	2752 W Pensacola St
T200200971	33 01N	01W	A&D Discount Beverage	MO	C	10	25		2	2752 W Pensacola St
T200200970	33 01N	01W	A&D Discount Beverage	MO	C	10	25		2	2752 W Pensacola St
T200200969	33 01N	01W	A&D Discount Beverage	MO	C	10	25		2	2752 W Pensacola St
T200200968	33 01N	01W	A&D Discount Beverage	MO	C	10	25		2	2752 W Pensacola St
T200200967	33 01N	01W	A&D Discount Beverage	MO	C	10	25		2	2752 W Pensacola St
T200200966	33 01N	01W	A&D Discount Beverage	MO	C	10	25		2	2752 W Pensacola St
T200200965	33 01N	01W	A&D Discount Beverage	MO	C	10	25		2	2752 W Pensacola St
T200200964	33 01N	01W	A&D Discount Beverage	MO	C	10	25		2	2752 W Pensacola St
T200200963	33 01N	01W	A&D Discount Beverage	MO	C	10	25		2	2752 W Pensacola St
T200200962	33 01N	01W	A&D Discount Beverage	MO	C	10	25		2	2752 W Pensacola St
T200200961	33 01N	01W	A&D Discount Beverage	MO	C	10	25		2	2752 W Pensacola St
T200200960	33 01N	01W	A&D Discount Beverage	MO	C	10	25		2	2752 W Pensacola St
T200200959	33 01N	01W	A&D Discount Beverage	MO	C	10	25		2	2752 W Pensacola St
T199901182	33 01N	01W	TCC	MO	A	25	25		2	444 Appleyard Dr.
T199901181	33 01N	01W	TCC	MO	A	25	25		2	444 Appleyard Dr.
T199901180	33 01N	01W	TCC	MO	A	25	25		2	444 Appleyard Dr.
T199900991	33 01N	01W	Unisource/TCC	MO	A		25		2	444 Appleyard Dr.
T199900679	33 01N	01W	Tennaco (El Paso Energy)	MO	C	5	30	20	2	2410 W. Pensacola St.
T199900678	33 01N	01W	Tennaco (El Paso Energy)	MO	C	5	30	20	2	2410 W. Pensacola St.
T199900677	33 01N	01W	Tennaco (El Paso Energy)	MO	C	5	30	20	2	2410 W. Pensacola St.

T199900593	33 01N	01W	Pepsi Cola	MO	C	12	25			2 3919 W. Pensacola St.
T199700220	33 01N	01W	Tennaco	MO	C	11	26	19		2 2410 West Pensacola Avenue
T199700219	33 01N	01W	Tennaco	MO	C	11	25	19		2 2410 West Pensacola Avenue
T199700218	33 01N	01W	Tennaco	MO	C	11	26	19		2 2410 West Pensacola Avenue
T199700217	33 01N	01W	Tennaco	MO	C	11	26	19		2 2410 West Pensacola Avenue
T199700216	33 01N	01W	Tennaco	MO	C	11	26	19		2 2410 West Pensacola Avenue
T199700215	33 01N	01W	Tennaco	MO	C	35	40	19		2 2410 West Pensacola Avenue
T199601088	33 01N	01W	Tallahassee Pepsi	MO	R	10	52			4 3119 W. Pensacola St.
T199700956	33 01N	01W	Sprint-Florida	MO	A		15			2 706 Mabry St.
T199200076	33 01N	01W	Greyhound Lines Inc.	MO	C	32	32	19		2 817 Appleyard Dr.
T199200077	33 01N	01W	Greyhound Lines Inc.	MO	C	32	32	19		2 817 Appleyard Dr.
T199204921	33 01N	01W	Dodge Country	MO	C	40	50			2 2755 W Tennessee St
T199204922	33 01N	01W	Dodge Country	MO	C	20	30			2 2755 W Tennessee St
T199204923	33 01N	01W	Dodge Country	MO	C	25	30			2 2755 W Tennessee St
T199204552	33 01N	01W	Dodge Country	MO	C	20	30			2 2755 W. Tennessee St.
T199204553	33 01N	01W	Dodge Country	MO	C	20	30			2 2755 W. Tennessee St.
T199204503	33 01N	01W	Greyhound Lines, Inc.	MO	C	45	55			2 817 Appleyard Dr.
T199204504	33 01N	01W	Greyhound Lines, Inc.	MO	C	5	40			4 817 Appleyard Dr.
T199204505	33 01N	01W	Greyhound Lines, Inc.	MO	A		55			4 817 Appleyard Dr.
P199203876	33 01N	01W	City of Tallahassee	MO	C	5	20	12		2 2899 W. Pensacola St.
P199203877	33 01N	01W	City of Tallahassee	MO	C	5	20	12		2 2899 W. Pensacola St.
P199203878	33 01N	01W	City of Tallahassee	MO	C	5	20	12		2 2899 W. Pensacola St.
P199203879	33 01N	01W	City of Tallahassee	MO	C	5	20	12		2 2899 W. Pensacola St.
P199203880	33 01N	01W	City of Tallahassee	MO	C	35	40	12		2 2899 W. Pensacola St.
T199205836	33 01N	01W	Dodge Country	MO	C	20	30			2 2755 W. Tennessee
T199205837	33 01N	01W	Dodge Country	MO	C	20	30			2 2755 W. Tennessee
T199303708	33 01N	01W	Dodge Country	MO	C	75	80			2 2755 W. Tennessee St.
T199303021	33 01N	01W	Dodge Country	MO	C	10	25			2 2755 W. Tennessee St
T199303022	33 01N	01W	Dodge Country	MO	C	10	25			2 2755 W. Tennessee St
T199303023	33 01N	01W	Dodge Country	MO	C	10	25			2 2755 W. Tennessee St
T199303024	33 01N	01W	Dodge Country	MO	C	10	25			2 2755 W. Tennessee St
T199303025	33 01N	01W	Dodge Country	MO	C	45	60			2 2755 W. Tennessee St
T199303026	33 01N	01W	Dodge Country	MO	C	45	55			2 2755 W. Tennessee St
T199303027	33 01N	01W	Dodge Country	MO	C	50	60			2 2755 W. Tennessee St
T199307485	33 01N	01W	Dodge Country	MO	C	10	35			2 2755 W. Tennessee St.
T199307302	33 01N	01W	Dodge Country	MO	C	42	52			2 2755 W. Tennessee St.
T199307303	33 01N	01W	Dodge Country	MO	C	42	52			2 2755 W. Tennessee St.
T199307304	33 01N	01W	Dodge Country	MO	C	10	30			2 2755 W. Tennessee St.
T199307305	33 01N	01W	Dodge Country	MO	C	10	25			2 2755 W. Tennessee St.
T199307306	33 01N	01W	Dodge Country	MO	C	10	35			2 2755 W. Tennessee St.
T199400162	33 01N	01W	Dodge Country	MO	C	33	40			2 2755 W. Tennessee St.
T199401521	33 01N	01W	Tallahassee Pepsi Cola	MO	C	15	30			2 3919 W. Pensacola St.
T199406612	33 01N	01W	Tallahassee Pepsi-Cola	MO	C	10	15		0	2 3919 W. Pensacola St.
T199406613	33 01N	01W	Tallahassee Pepsi-Cola	MO	C	35	45		0	2 3919 W. Pensacola St.
T199406108	33 01N	01W	Tallahassee Pepsi Cola	MO	C	10	30	20		2 3919 West Pensacola St.
T199406109	33 01N	01W	Tallahassee Pepsi Cola	MO	C	10	30	21		2 3919 West Pensacola St.
T199408747	33 01N	01W	Leon County	MO	C	14	29	19	0	2 2965 Municple Way
T199408748	33 01N	01W	Leon County	MO	C	14	29	19	0	2 2965 Municple Way
T199408749	33 01N	01W	Leon County	MO	C	14	29	19	0	2 2965 Municiple Way
T199500715	33 01N	01W	Suwannee Swifty Stores Inc.	MO	C	10	35	9	0	2 2752 W. Pensacola St.
T199500716	33 01N	01W	Suwannee Swifty Stores Inc.	MO	C	10	35	7	0	2 2752 W. Pensacola St.
T199500671	33 01N	01W	Suwannee Swifty Stores, Inc.	MO	C	10	35	6	0	2 2752 W. Pensacola St.
T199501649	33 01N	01W	Tall. Pepsi	MO	C	12	22		0	2 3919 W. Pensacola St.
T199501582	33 01N	01W	Tallahassee Pepsi-Cola	MO	C	12	22		0	2 3919 West Pensacola St
T199501343	33 01N	01W	Tallahassee Pepsi Cola	MO	C	12	22		0	2 3919 West Pensacola St.
T199501344	33 01N	01W	Tallahassee Pepsi Cola	MO	C	12	25		0	2 3919 West Pensacola St.
T199501345	33 01N	01W	Tallahassee Pepsi Cola	MO	C	12	25		0	2 3919 West Pensacola St.

T199503701	33 01N	01W	Tennaco Oil	MO	C	25	35		0	2 2410 W. Pensacola St.
T199503482	33 01N	01W	Tallahassee Pepsi Company	MO	C	2	51			4 3919 West Pensacola Street
T199503483	33 01N	01W	Tallahassee Pepsi Company	MO	C	5	15			4 3919 West Pensacola Street
T199503484	33 01N	01W	Tallahassee Pepsi Company	MO	C	5	15			4 3919 West Pensacola Street
T199503485	33 01N	01W	Tallahassee Pepsi Company	MO	C	5	15			4 3919 West Pensacola Street
T199503697	33 01N	01W	Tennaco Oil	MO	C	23	33		0	2 2410 W. Pensacola St.
T199503698	33 01N	01W	Tennaco Oil	MO	C	12	22		0	2 2410 W. Pensacola St.
T199503699	33 01N	01W	Tennaco Oil	MO	C	27	37		0	2 2410 W. Pensacola St.
T199503700	33 01N	01W	Tennaco Oil	MO	C	24	34		0	2 2410 W. Pensacola St.
T199600688	33 01N	01W	Tallahassee Pepsi Corporation	MO	C	15	15			2 3119 West Pensacola Street
T199204648	34 01N	01W	Fina Oil / Recovery	RW	C	18	42			8 2065 W. Pensacola St.
T199501146	34 01N	01W	Fina Oil/ Recovery	RW	C	20	50		0	5 2065 West Pensacola St.
T199501147	34 01N	01W	Fina Oil/ Recovery	RW	C	20	50		0	5 2065 West Pensacola St.
T198700065	34 01N	01W	Fina Oil Company	MO	C	3	21			2 2065 W. Pensacola Street
T198700066	34 01N	01W	Fina Oil Company	MO	C	3	21			2 2065 W. Pensacola Street
T198700067	34 01N	01W	Fina Oil Company	MO	C	3	21			2 2065 W. Pensacola St.
T198605731	34 01N	01W	Sing Oil Co.	MO	C	10	15			2 2009 W. Pensacola St.
T198605733	34 01N	01W	Sing Oil Co.	MO	C	18	23			2 2009 W. Pensacola St.
T198606409	34 01N	01W	Bordens Dairy	MO	C	11	11			2 947 Chipley St.
T198606411	34 01N	01W	Bordens Dairy	MO	C	11	11			2 947 Chipley St.
T198605673	34 01N	01W	Exxon Company	MO	C	24	25			4 2008 W. Pensacola
T198605675	34 01N	01W	Exxon Company	MO	C	24	25			4 2008 W. Pensacola
T198704963	34 01N	01W	F. S. Winterle & Son	MO	C	2	7			2 Gaines & Woodward Streets
T198704962	34 01N	01W	F. S. Winterle & Son	MO	C	2	7			2 Gaines & Woodward Streets
T198704961	34 01N	01W	F. S. Winterle & Son	MO	C	2	7			2 Gaines & Woodward Streets
T198702921	34 01N	01W	Fina Oil Company	MO	C	20	40	26		2 2065 W. Pensacola St.
T198702920	34 01N	01W	Fina Oil Company	MO	C	20	40	26		2 2065 W. Pensacola St.
T198702919	34 01N	01W	Fina Oil Company	MO	C	20	40			2 2065 W. Pensacola St.
T198702918	34 01N	01W	Fina Oil Company	MO	C	20	42	25		2 2065 W. Pensacola St.
T198702917	34 01N	01W	Fina Oil Company	MO	C	20	40	23		2 2065 W. Pensacola St.
T198605676	34 01N	01W	Exxon Company	MO	C	24	25			4 2008 W. Pensacola
T198805893	34 01N	01W	Weaver Oil Co.	MO	C	10	10			2 1949 W. Tennessee St.
T198805892	34 01N	01W	Weaver Oil Co.	MO	C	10	10			2 1949 W. Tennessee St.
T198805891	34 01N	01W	Weaver Oil Co.	MO	C	10	10			2 1949 W. Tennessee St.
T198805890	34 01N	01W	Weaver Oil Co.	MO	C	10	10			2 1949 W. Tennessee St.
T198801168	34 01N	01W	Eli Roberts	MO	C	2	12		4	2 2065 W. Pensacola St.
T198801167	34 01N	01W	Eli Roberts	MO	C	2	12		4	2 2065 W. Pensacola St.
T198801166	34 01N	01W	Eli Roberts	MO	C	2	12		4	2 2065 W. Pensacola St.
T198801165	34 01N	01W	Eli Roberts	MO	C	2	12		4	2 2065 W. Pensacola St.
T198801415	34 01N	01W	Rainey Cawthon	MO	C	2	12			4 Tennessee St. & Call St.
T199106314	34 01N	01W	Pafford Oil Co.	MO	C	17	27	18		2 1881 W. Pensacola St.
T199106313	34 01N	01W	Pafford Oil Co.	MO	C	17	27	18		2 1881 W. Pensacola St.
T199106400	34 01N	01W	Exxon Co. U.S.A.	MO	C	68	73	32		2 2008 W. Pensacola St.
T199106399	34 01N	01W	Exxon Co. U.S.A.	MO	C	30	45	32		2 2008 W. Pensacola St.
T199102337	34 01N	01W	Exxon Co. USA	MO	C	36	51	38		4 2008 W. Pensacola St.
T199102336	34 01N	01W	Exxon Co. USA	MO	C	70	75	69		4 2008 W. Pensacola St.
P199004001	34 01N	01W	Chevron USA	MO	C	32	42			2 Cor. Woodward & W. Pensacola
M199005885	34 01N	01W	Sing Oil Company	MO	C	12	12			2 Pensacola & Ocala Road
T199005331	34 01N	01W	Exxon Co. USA	MO	C	15	30			4 2008 W. Pensacola St.
T199205395	34 01N	01W	Fina Oil	MO	C	28	45	12		2 2065 W. Pensacola St.
T199204649	34 01N	01W	Fina Oil	MO	C	28	45			2 2065 W. Pensacola St.
T199201289	34 01N	01W	Pafford Oil Co.	MO	C	40	45	27		2 1881 W. Pensacola St.
T199201288	34 01N	01W	Pafford Oil Co.	MO	C	20	30	23		2 1881 W. Pensacola St.
T199201178	34 01N	01W	Exxon Co. USA	MO	C	61	86	74		4 2008 W. Pensacola St.
T199201177	34 01N	01W	Exxon Co. USA	MO	C	61	86	74		4 2008 W. Pensacola St.
T199201176	34 01N	01W	Exxon Co. USA	MO	C	94	99	40		4 2008 W. Pensacola St.
T199201896	34 01N	01W	Amoco Corporation	MO	C	7	47	36		4 2009 W. Pensacola St.

T199203007	34 01N	01W	Fina Oil Co.	MO	C		42			2	2065 W. Pensacola St.
T199400493	34 01N	01W	BP Oil #24704	MO	C	45	45			4	1955 W. Pensacola St.
T199306093	34 01N	01W	Fina Oil	MO	C	50	68			4	2065 W. Pensacola St.
T199304704	34 01N	01W	Carter McCain	MO	A	20	25			2	1327 Jackson Bluff Rd.
T199300697	34 01N	01W	BP Station #24704	MO	C	16	26			2	1955 W. Pensacola St
T199300696	34 01N	01W	BP Station #24704	MO	C	35	45			2	1955 W. Pensacola St
T199300695	34 01N	01W	BP Station #24704	MO	C	35	45			2	1955 W. Pensacola St
T199300694	34 01N	01W	BP Station #24704	MO	C	35	45			2	1955 W. Pensacola St
T199300957	34 01N	01W	Exxon Company USA	MO	C	73	80	35		2	2008 W. Pensacola St.
T199300956	34 01N	01W	Exxon Company USA	MO	C	30	50	35		2	2008 W. Pensacola St.
T199501746	34 01N	01W	Amoco Oil Company	MO	C	27	42	29	0	2	2009 West Pensacola St.
T199501745	34 01N	01W	Amoco Oil Company	MO	C	27	42	29	0	2	2009 West Pensacola St.
T199501744	34 01N	01W	Amoco Oil Company	MO	C	27	42	29	0	2	2009 West Pensacola St.
M199408976	34 01N	01W	Weaver Oil Co.	MO	C	15	30		0	2	Corner of Ocala & West Tennessee St.
M199408975	34 01N	01W	Weaver Oil Co.	MO	C	10	25		0	2	Corner of Ocala & West Tennessee St.
M199408974	34 01N	01W	Weaver Oil Co.	MO	C	14	29		0	2	Corner of Ocala & West Tennessee St.
T199403660	34 01N	01W	BP Station	MO	C	15	45	32		4	1955 N. Pensacola St.
T199403811	34 01N	01W	Sing Oil Company	MO	C	28	48	33		2	2009 N. Pensacola St.
T199401863	34 01N	01W	FINA Oil	MO	C	10	31			2	2065 W. Pensacola St.
T200000135	34 01N	01W	Gates Petroleum #1195	MO	C	20	35			2	1708 West Tennessee Street
T200000134	34 01N	01W	Gates Petroleum #1195	MO	C	20	35			2	1708 West Tennessee Street
T200000133	34 01N	01W	Gates Petroleum #1195	MO	C	20	35			2	1708 West Tennessee Street
T200000132	34 01N	01W	Gates Petroleum #1195	MO	C	20	35			2	1708 West Tennessee Street
T199802101	34 01N	01W	Proctor Honda	MO	A		54			2	2371 W. Tennessee St.
T199802100	34 01N	01W	Proctor Honda	MO	A		54			2	2371 W. Tennessee St.
T199802099	34 01N	01W	Proctor Honda	MO	A		54			2	2371 W. Tennessee St.
T199802098	34 01N	01W	Proctor Honda	MO	A		54			2	2371 W. Tennessee St.
T199900110	34 01N	01W	Amoco Oil Co.	MO	C	25	45			2	2009 W. Pensacola St.
P200204883	34 01N	01W	FDEP	MO	C	67	77			2	2009 Pensacola Street
P200204882	34 01N	01W	FDEP	MO	C	41	46			2	2009 Pensacola Street
T200300096	34 01N	01W	Timesaver #9 - 226	MO	C	25	25			1	2415 Jackson Bluff Road
T200300095	34 01N	01W	Timesaver #9 - 226	MO	C	25	25			1	2415 Jackson Bluff Road
T200300094	34 01N	01W	Timesaver #9 - 226	MO	C	25	25			1	2415 Jackson Bluff Road
T200203289	34 01N	01W	Timesaver #9-226	MO	C	10	23			1	2415 Jackson Bluff Rd
T200203288	34 01N	01W	Timesaver #9-226	MO	C	10	23			1	2415 Jackson Bluff Rd
T200203287	34 01N	01W	Timesaver #9-226	MO	C	10	23			1	2415 Jackson Bluff Rd
T200203286	34 01N	01W	Timesaver #9-226	MO	C	10	23			1	2415 Jackson Bluff Rd
T200203285	34 01N	01W	Timesaver #9-226	MO	C	10	23			1	2415 Jackson Bluff Rd
T200203284	34 01N	01W	Timesaver #9-226	MO	C	10	23			1	2415 Jackson Bluff Rd
T200203283	34 01N	01W	Timesaver #9-226	MO	C	10	25			1	2415 Jackson Bluff Rd
T200203282	34 01N	01W	Timesaver #9-226	MO	C	10	25			1	2415 Jackson Bluff Rd
T200201937	34 01N	01W	Petro South	MO	C	8	23			1	2415 Jackson Bluff Rd
T200201936	34 01N	01W	Petro South	MO	C	8	23			1	2415 Jackson Bluff Rd
T200201935	34 01N	01W	Petro South	MO	C	8	23			1	2415 Jackson Bluff Rd
T200201671	34 01N	01W	Circle K Stores Inc.	MO	C	49	59			2	2009 W Pensacola St
T200201670	34 01N	01W	Circle K Stores Inc.	MO	C	23	33			2	2009 W Pensacola St
T200201669	34 01N	01W	Circle K Stores Inc.	MO	C	17	27			2	2009 W Pensacola St
T200201668	34 01N	01W	Circle K Stores Inc.	MO	C	24	34			2	2009 W Pensacola St
T200201667	34 01N	01W	Circle K Stores Inc.	MO	C	20	30			2	2009 W Pensacola St
T200201666	34 01N	01W	Circle K Stores Inc.	MO	C	20	30			2	2009 W Pensacola St
T200201665	34 01N	01W	Circle K Stores Inc.	MO	C	60	65			2	2009 W Pensacola St
T200201664	34 01N	01W	Circle K Stores Inc.	MO	C	68	73			2	2009 W Pensacola St
T200201663	34 01N	01W	Circle K Stores Inc.	MO	C	60	90			2	2009 W Pensacola St
T200201662	34 01N	01W	Circle K Stores Inc.	MO	C	67	77			2	2009 W Pensacola St
T200201774	34 01N	01W	Suwannee Swifty #256	MO	C	30	45			2	2101 W Pensacola St
T200201773	34 01N	01W	Suwannee Swifty #256	MO	C	30	45			2	2101 W Pensacola St
T200201772	34 01N	01W	Suwannee Swifty #256	MO	C	30	45			2	2101 W Pensacola St

T200201771	34 01N	01W	Suwannee Swifty #256		MO	C	30	45		2 2101 W Pensacola St
T200201770	34 01N	01W	Suwannee Swifty #256		MO	C	25	40		2 2101 W Pensacola St
T200201769	34 01N	01W	Suwannee Swifty #256		MO	C	25	40		2 2101 W Pensacola St
T200103082	34 01N	01W	Hinson Oil Co	Wilson Hinson	MO	C	30	45		2 2101 W Pensacola St
T200103091	34 01N	01W	Hinson Oil Co	Wilson Hinson	MO	C	28	43		2 2101 W Pensacola St
T200200389	34 01N	01W	El Paso Corp		MO	C	5	10		2 2410 W Pensacola St
T200103092	34 01N	01W	Hinson Oil Co	Wilson Hinson	MO	C	24	39		2 2101 W Pensacola St
T200103090	34 01N	01W	Hinson Oil Co	Wilson Hinson	MO	C	28	43		2 2101 W Pensacola St
T200103089	34 01N	01W	Hinson Oil Co	Wilson Hinson	MO	C	28	43		2 2101 W Pensacola St
T200103088	34 01N	01W	Hinson Oil Co	Wilson Hinson	MO	C	28	43		2 2101 W Pensacola St
T200103087	34 01N	01W	Hinson Oil Co	Wilson Hinson	MO	C	28	43		2 2101 W Pensacola St
T200103086	34 01N	01W	Hinson Oil Co	Wilson Hinson	MO	C	28	43		2 2101 W Pensacola St
T200103085	34 01N	01W	Hinson Oil Co	Wilson Hinson	MO	C	28	43		2 2101 W Pensacola St
T200103084	34 01N	01W	Hinson Oil Co	Wilson Hinson	MO	C	28	43		2 2101 W Pensacola St
T200103083	34 01N	01W	Hinson Oil Co	Wilson Hinson	MO	C	30	45		2 2101 W Pensacola St
T200103081	34 01N	01W	Hinson Oil Co	Wilson Hinson	MO	C	50	55		2 2101 W Pensacola St
T200101038	34 01N	01W	Circle K Corp		MO	C	20	40		2 2009 W Pensacola Street
T200100590	34 01N	01W	Circle K Corporation		MO	C	10	40		2 2009 West Pensacola
T200002105	34 01N	01W	EPAC Oil Co.		MO	C	10	40	30	2 2410 W. Pensacola St
T200002104	34 01N	01W	EPAC Oil Co.		MO	C	10	40	30	2 2410 W. Pensacola St
T200002103	34 01N	01W	EPAC Oil Co.		MO	C	10	40	30	2 2410 W. Pensacola St
T200002102	34 01N	01W	EPAC Oil Co.		MO	C	10	40	30	2 2410 W. Pensacola St
T200002121	34 01N	01W	EPAC Oil Co.		MO	C	40	40	30	2 2410 W. Pensacola St.
T200002111	34 01N	01W	EPAC Oil Co.		MO	C	10	40	30	2 2410 W. Pensacola St
T200002125	34 01N	01W	EPAC Oil Co.		MO	C	40	40	30	2 2410 W. Pensacola St.
T200002124	34 01N	01W	EPAC Oil Co.		MO	C	40	40	30	2 2410 W. Pensacola St.
T200002123	34 01N	01W	EPAC Oil Co.		MO	C	40	40	30	2 2410 W. Pensacola St.
T200002122	34 01N	01W	EPAC Oil Co.		MO	C	40	40	30	2 2410 W. Pensacola St.
T200002120	34 01N	01W	EPAC Oil Co.		MO	C	40	40	30	2 2410 W. Pensacola St.
T200002119	34 01N	01W	EPAC Oil Co.		MO	C	40	40	30	2 2410 W. Pensacola St.
T200002118	34 01N	01W	EPAC Oil Co.		MO	C	40	40	30	2 2410 W. Pensacola St.
T200002117	34 01N	01W	EPAC Oil Co.		MO	C	40	40	30	2 2410 W. Pensacola St.
T200002116	34 01N	01W	EPAC Oil Co.		MO	C	40	40	30	2 2410 W. Pensacola St.
T200002115	34 01N	01W	EPAC Oil Co.		MO	C	40	40	30	2 2410 W. Pensacola St.
T200002114	34 01N	01W	EPAC Oil Co.		MO	C	40	40	30	2 2410 W. Pensacola St.
T200002113	34 01N	01W	EPAC Oil Co.		MO	C	40	40	30	2 2410 W. Pensacola St.
T200002112	34 01N	01W	EPAC Oil Co.		MO	C	40	40	30	2 2410 W. Pensacola St.
T200002110	34 01N	01W	EPAC Oil Co.		MO	C	10	40	30	2 2410 W. Pensacola St
T200002109	34 01N	01W	EPAC Oil Co.		MO	C	10	40	30	2 2410 W. Pensacola St
T200002108	34 01N	01W	EPAC Oil Co.		MO	C	10	40	30	2 2410 W. Pensacola St
T200002107	34 01N	01W	EPAC Oil Co.		MO	C	10	40	30	2 2410 W. Pensacola St
T200002106	34 01N	01W	EPAC Oil Co.		MO	C	10	40	30	2 2410 W. Pensacola St
T200001663	34 01N	01W	Tallahassee Ford Inc		MO	A	6	6		4 2415 W. Tennessee St.
T200001014	34 01N	01W	Petro South		MO	A		11		2 2752 W. Pensacola St.
T200502647	34 01N	01W	FDEP		MO	A		24		4 2410 Pensacola St.
T200502646	34 01N	01W	FDEP		MO	A		24		4 2410 Pensacola St.
T200502645	34 01N	01W	FDEP		MO	A		24		4 2410 Pensacola St.
T200502644	34 01N	01W	FDEP		MO	A		24		4 2410 Pensacola St.
T200501623	34 01N	01W	Circle K Sores, Inc		MO	C	57	60		2 Circle K 2009 W. Pensacola Street
T200501622	34 01N	01W	Circle K Stores, Inc		MO	C	27	47		4 Circle K 2009 W. Pensacola Street
T200501700	34 01N	01W	Ghazvini	Steve	MO	C	5	40		2 Suwannee Swifty 256 2101W Pensacola St.
T200501699	34 01N	01W	Ghazvini	Steve	MO	C	5	40		2 Suwannee Swifty 256 2101W Pensacola St.
T200501698	34 01N	01W	Ghazvini	Steve	MO	C	5	40		2 Suwannee Swifty 256 2101W Pensacola St.
T200501697	34 01N	01W	Ghazvini	Steve	MO	C	20	30		2 Suwannee Swifty 256 2101 W Pensacola St.
T200501694	34 01N	01W	Ghazvini	Steve	MO	C	60	78		1 Suwannee Swifty 2101 W Pensacola St.
T200500298	34 01N	01W	Proctor Motor		MO	C	40	50	45	2 2400 W Tennessee St
T200401833	34 01N	01W	Atofina Petrochemicals		MO	A		40		2 Fina #6622 2065 W. Pensacola St.

T200401576	34 01N	01W	G.W. Hunter Inc.		MO	C	65	80			2 Exxon @ 2008 W. Pensacola
T200401575	34 01N	01W	G.W. Hunter Inc.		MO	C	65	80			2 Exxon @ 2008 W. Pensacola
T200400963	34 01N	01W	FDEP		MO	C	30	40			2 2065 W. Pensacola St.
T200400418	34 01N	01W	Cirkle K		MO	C	15	30			1 Cir K #5178 2009 W Pensacola St
T200302126	34 01N	01W	Circle K		MO	C	15	40			2 2009 W Pensacola St
T200302128	34 01N	01W	Circle K		MO	C	15	40			2 2009 W Pensacola St
T200302127	34 01N	01W	Circle K		MO	C	15	40			2 2009 W Pensacola St
T200301979	34 01N	01W	Suwannee Swifty # 256		MO	C	3	35			4 2101 Pensacola St
T200301978	34 01N	01W	Suwannee Swifty # 256		MO	C	5	30			2 2101 Pensacola St
T200301977	34 01N	01W	Suwannee Swifty # 256		MO	C	30	45			2 2101 Pensacola St
T200301976	34 01N	01W	Suwannee Swifty # 256		MO	C	65	70			2 2101 Pensacola St
P200204607	34 01N	01W	FDEP		MO	C	137	142			2 2008 West Pensacola Street
T200203281	34 01N	01W	Timesaver #9-226		MO	C	35	43			2 2415 Jackson Bluff Rd
P200204606	34 01N	01W	FDEP		MO	C	70	76			2 2008 West Pensacola Street
P200204605	34 01N	01W	FDEP		MO	C	111	116			2 2008 West Pensacola Street
P200204604	34 01N	01W	FDEP		MO	C	111	116			2 2008 West Pensacola Street
P200204603	34 01N	01W	FDEP		MO	C	111	116			2 2008 West Pensacola Street
P200204885	34 01N	01W	FDEP		MO	C	67	77			2 2009 Pensacola Street
P200204884	34 01N	01W	FDEP		MO	C	67	77			2 2009 Pensacola Street
T200001013	34 01N	01W	Petro South		MO	A		11			2 2752 W. Pensacola St.
T200001012	34 01N	01W	Petro South		MO	A		11			2 2752 W. Pensacola St.
T200001011	34 01N	01W	Petro South		MO	A	11	11			2 2752 W. Pensacola St.
T200000335	34 01N	01W	Circle k Corp.		MO	A		12			2 5178, 2009 N. Pensacola Street
T200000793	34 01N	01W	Circle K Corp		MO	A	13	13			2 Circle K # 5178 2009 W. Pensacola St.
T200000792	34 01N	01W	Circle K Corp		MO	A	13	13			2 Circle K # 5178 2009 W. Pensacola St.
T200000791	34 01N	01W	Circle K Corp		MO	A	13	13			2 Circle K # 5178 2009 W. Pensacola St.
T200000136	34 01N	01W	Gates Petroleum #1195		MO	C	18	23			2 1708 West Tennessee Street
T199900109	34 01N	01W	Amoco Oil Co.		MO	C	25	45			2 2009 W. Pensacola St.
T199900108	34 01N	01W	Amoco Oil Co.		MO	C	25	45			2 2009 W. Pensacola St.
T199900264	34 01N	01W	Fina Oil		MO	C	21	45			5 2065 W. Pensacola
T199900263	34 01N	01W	Fina Oil		MO	C	21	45			5 2065 W. Pensacola
T199601571	34 01N	01W	Amoco Corp.	Amoco #60463	MO	C	30	30			2 2009 W. Pensacola St.
T199602091	34 01N	01W	Leon	Steven M.	MO	C	15	25			2 Ocala & Pensacola Road
T199600453	34 01N	01W	Rupp	Michael	MO	C	45	55	27		2 2410 W. Pensacola St.
T199502329	34 01N	01W	Exxon Co. USA		MO	C	60	75		0	2 2008 W. Pensacola Ave.
T199401862	34 01N	01W	FINA Oil		MO	C	7	31			2 2065 W. Pensacola St.
T199401861	34 01N	01W	FINA Oil		MO	C	7	31			2 2065 W. Pensacola St.
T199402923	34 01N	01W	Sing Oil Company		MO	C	28	48	33		2 2009 W. Pensacola St.
T199307311	34 01N	01W	BP Oil Co.		MO	C	15	45	32		4 1955 W. Pensacola St.
T199307310	34 01N	01W	BP Oil Co.		MO	C	15	45	32		4 1955 W. Pensacola St.
T199400520	34 01N	01W	W.W. Boyd		MO	C	70	90	82		2 2008 W. Pensacola St.
T199400519	34 01N	01W	W.W. Boyd		MO	C	75	90	82		2 2008 W. Pensacola St.
T199400494	34 01N	01W	BP Oil #24704		MO	C	13	45			4 1955 W. Pensacola St.
T199207130	34 01N	01W	Proctors Honda		MO	C	33	43			2 2371 Tennessee St.
M199206795	34 01N	01W	Proctor's Honda		MO	C	39	54			2 2371 Tennessee St.
M199206794	34 01N	01W	Proctor's Honda		MO	C	34	54			2 2371 Tennessee St.
M199206793	34 01N	01W	Proctor's Honda		MO	C	43	58			2 2371 Tennessee St.
T199300307	34 01N	01W	Fina Oil Co.		MO	C	86	105			2 2065 W. Pensacola St.
T199300306	34 01N	01W	Fina Oil Co.		MO	C	25	45			2 2065 W. Pensacola St.
T199204650	34 01N	01W	Fina Oil		MO	C	25	42			2 2065 W. Pensacola St.
T199204198	34 01N	01W	Fina Oil		MO	C	28	45			2 2065 W. Pensacola St.
M199200655	34 01N	01W	Alterman Transport		MO	C	15	15			2 3035 Jackson Bluff Rd.
M199200654	34 01N	01W	Alterman Transport		MO	C	15	15			2 3035 Jackson Bluff Rd.
M199200653	34 01N	01W	Alterman Transport		MO	C	15	20			2 3035 Jackson Bluff Rd.
T199203006	34 01N	01W	Fina Oil Co.		MO	C		42			2 2065 W. Pensacola St.
T199203005	34 01N	01W	Fina Oil Co.		MO	C	36	42			2 2065 W. Pensacola St.
T199203004	34 01N	01W	Fina Oil Co.		MO	C	26	42			2 2065 W. Pensacola St.

T199106316	34 01N	01W	Pafford Oil Co.	MO	C	17	27	18	2	1881 W. Pensacola St.
T199106315	34 01N	01W	Pafford Oil Co.	MO	C	17	27	18	2	1881 W. Pensacola St.
T199005330	34 01N	01W	Exxon Co. USA	MO	C	15	30		4	2008 W. Pensacola St.
T199005329	34 01N	01W	Exxon Co. USA	MO	C	15	30		4	2008 W. Pensacola St.
T199002029	34 01N	01W	G & M	MO	C	15	25		2	2009 W. Pensacola St.
T199002028	34 01N	01W	G & M	MO	C	14	24		2	2009 W. Pensacola St.
T199000497	34 01N	01W	Exxon USA	MO	A	15	25		4	2008 W. Pensacola Street
T199000496	34 01N	01W	Exxon USA	MO	A	15	25		4	2008 W. Pensacola Street
T199000495	34 01N	01W	Exxon USA	MO	A	15	25		4	2008 W. Pensacola Street
T199000494	34 01N	01W	Exxon USA	MO	A	15	25		4	2008 W. Pensacola Street
T198801414	34 01N	01W	Rainey Cawthon	MO	C	2	12		4	Tennessee St. & Call St.
T198801413	34 01N	01W	Rainey Cawthon	MO	C	2	12		4	Tennessee St. & Call St.
T198801412	34 01N	01W	Rainey Cawthon	MO	C	2	12		4	Tennessee St. & Call St.
T198708017	34 01N	01W	Uhaul of Tallahassee	MO	C	10	15		2	2201 W. Tennessee St.
T198708016	34 01N	01W	Uhaul of Tallahassee	MO	C	10	15		2	2201 W. Tennessee St.
T198708015	34 01N	01W	Uhaul of Tallahassee	MO	C	10	15		2	2201 W. Tennessee St.
T198708014	34 01N	01W	Uhaul of Tallahassee	MO	C	15	20		2	2201 W. Tennessee St.
T198704964	34 01N	01W	F. S. Winterle & Son	MO	C	2	7		2	Gaines & Woodward Streets
T198605674	34 01N	01W	Exxon Company	MO	C	24	25		4	2008 W. Pensacola
T198606412	34 01N	01W	Bordens Dairy	MO	C	11	11		2	947 Chipley St.
T198606410	34 01N	01W	Bordens Dairy	MO	C	11	11		2	947 Chipley St.
T198605734	34 01N	01W	Sing Oil Co.	MO	C	10	15		2	2009 W. Pensacola St.
T198605732	34 01N	01W	Sing Oil Co.	MO	C	10	15		2	2009 W. Pensacola St.
T198700068	34 01N	01W	Fina Oil Company	MO	C	3	21		2	2065 W. Pensacola Street
T200400521	34 01N	01W	Capstone	LA	A	160	245		8	Ocala Rd Student Housing
T197900038	34 01N	01W	Robert Hatch	DO	C		180		4	212 Ocala Rd.
T200201240	34 01N	01W	Tuscany Village Villas L.L.C.	DO	A		45		3	2043 Bell Vue Way
T199801242	34 01N	01W	Tuscany Village	DO	A		75		4	Bellview Way & Ocala

Permit #	SEC	TWN	RNG	Last Name	First Nam	Use	Type	Casing	Depth	H2O Level	Pump Rate	Diam	Well Street
T197800924	1	01N	02W	Vester Kelly		DO	C	204	215	70		4	4153 Pamela Lane
T197800400	1	01N	02W	Joseph Shaw		DO	C	72	123	30		4	Stonler Road
T198000616	1	01N	02W	Dick Wilson		DO	C	63	105	25		4	Stouter Rd.
T198000831	1	01N	02W	Dick Wilson		DO	C	51	105	20		4	Off Capital Circle N.W.
T198100579	1	01N	02W	Alpine Villas		DO	C	56	105	20		4	Stonlier Rd.
T199501927	1	01N	02W	Craig Watford		DO	C	53	65	35	20	4	Padlock Rd Lot 1-A
T198200695	2	01N	02W	Frank Otiz		DO	C	101	120	30	6	4	Silver Lake Rd.
T197800867	3	01N	02W	Homer E. Vick		DO	C	150	170	6		4	Rt. 14 Box 368
T198606142	3	01N	02W	Renee Conners		DO	C	76	102	36	12	4	Silver Lake, Lot 15
T199004378	9	01N	02W	BP Oil Co.		MO	C	15	25			2	Int. of Fred George Rd. & N. Monroe
T199004379	9	01N	02W	BP Oil Co.		MO	C	15	25			2	Int. of Fred George Rd. & N. Monroe
T200000673	9	01N	02W	Dixie Oil Co.		MO	A	12	12			2	I-10 at Highway 90 West
T200000674	9	01N	02W	Dixie Oil Co.		MO	A	12	12			2	I-10 at Highway 90 West
T200000675	9	01N	02W	Dixie Oil Co.		MO	A	12	12			2	I-10 at Highway 90 West
T200000672	9	01N	02W	Dixie Oil Co.		MO	A	12	12			2	I-10 at Highway 90 West
T197901499	10	01N	02W	John C. Mantznas		DO	C	90	120	50	10	4	8141 Ida Rd.
T197801082	10	01N	02W	Don Keenon		DO	C	103	215			4	WW Kelley Rd.
T199503153	12	01N	02W	Chuck Renwick		DO	C	42	70	20	18	4	2050 Padlock Place
T198100113	13	01N	02W	Frank Clare		DO	C	114	130	80		4	5636 Mossytop Way
T198200268	13	01N	02W	Ned Campbell		DO	C	56	84	50	15	4	2301 Old Bainbridge Road
T198501848	13	01N	02W	John Sullivan, Jr.		DO	C	76	120	45	20	4	Riverwood Acres on Jamey Road
T198501001	13	01N	02W	H. R. Pool		DO	C	80	110	60	10	4	3125 Jamey Road
T199302475	13	01N	02W	Brian Moore Construction		DO	C	77	140	47	20	4	Off Maddox Rd.
T199502200	13	01N	02W	Leonard Chester		DO	C	42	80	42	15	4	turn left at the end of Maddox Rd 1.7 Mi
T200401570	13	01N	02W	Lee	Terry	DO	C	70	95	50	12	4	6027 Michaela Way
T200600245	13	01N	02W	Maxwell Custom Homes		DO	C	84	165	30	18	4	Michael Way
T197700373	14	01N	02W	Leroy Bryant		DO	C					4	Rt. 15, Box 494-C
T197701006	15	01N	02W	D. W. Hartsfield		DO	C					4	Hwy 90
T197600888	15	01N	02W	Alton M. Wagner		DO	C	78	124	41	25	4	Louvenia Drive
T198702840	17	01N	02W	Willie Proctor		DO	C	101	162	115	14	4	4911 Gearheart Rd.
T200402136	18	01N	02W	Ralston	Jay	DO	C	151	230	110	35	4	1275 Turkey Knoll Rd
T198702516	19	01N	02W	Gulf Oil Company		MO	C	25	25			4	1890 Thomasville Road
T198702517	19	01N	02W	Gulf Oil Company		MO	C	25	25			4	1890 Thomasville Road
T198702518	19	01N	02W	Gulf Oil Company		MO	C	25	25			4	1890 Thomasville Road
T198702519	19	01N	02W	Gulf Oil Company		MO	C	25	25			4	1890 Thomasville Road
T198402628	22	01N	02W	Gerald Sellars		DO	C	70	90	40	10	4	Route 6, Box 723
T200000403	23	01N	02W	Pennyworth Homes		LP	C	100	160	20	10	4	9335 West Tennessee Street
T199400141	23	01N	02W	Patrick Barriball		LA	C	71	93	31	15	4	3475 Geddie Rd.
T197800152	23	01N	02W	Carlton Lagusta		DO	C		100			4	831 Winnie Lane
T197700570	23	01N	02W	Ollie Walker		DO	C		75			4	Rt. 1, Box 148
T197700605	23	01N	02W	Frank Keller		DO	C					4	Orange Ave.
T197701029	23	01N	02W	George Bell		DO	C		80	6		4	Winnie Lane
T197900524	23	01N	02W	Buddy Barinean		DO	C				25	4	Hwy 90 W
T197600812	23	01N	02W	Ley Thompson		DO	C				35	4	Off Hwy. 260
T197900256	23	01N	02W	Terry Herron		DO	C	50	65			4	Hwy. 90 W.
T197801200	23	01N	02W	Charles McBride		DO	C					4	Rt 4 Box 413-C
T197800673	23	01N	02W	W. F. Hawless		DO	C	84	135	40		4	Rt. 4 Box 413 E
T198100982	23	01N	02W	Tom Keffover		DO	C	57	100	50		4	7676 Chrissy Carry Lane
T198403394	23	01N	02W	Stafford Ellsworth		DO	C	63	80			4	Hwy. 90
T198602924	23	01N	02W	Bill George		DO	C	90	112	20	8	4	Route 4, Box 464-K
T198605427	23	01N	02W	Ed Schimp		DO	C	84	101	42	10	4	8177 Winnie Lane
T198801211	23	01N	02W	Stanley Stephen		DO	C	87	103	40	18	4	Route 4, Box 464-N
T198803108	23	01N	02W	Stanley Steplen		DO	R	110	111	40	18	4	Rt. 4 Box 464-AN
T198906330	23	01N	02W	Vickie Callaway		DO	C	106	180	60	20	4	Off Hwy 90 West
T199003241	23	01N	02W	Don Cox		DO	C	105	155	31	20	4	Houston Road, Ochlochonee Ridge
T200302571	23	01N	02W	Barlow	Carl Henry	DO	C	107	155	50	20	4	309 Mark Avenue

T200301402	23 01N	02W	Davis	Rebecca	DO	C	105	150	35	19	4	304 Mark Ave
T200000495	23 01N	02W	Pennyworth Homes		DO	A	160	160			4	9500 W. Tennessee St.
T199901760	23 01N	02W	Allen	Bert	DO	C	53	95	18	15	4	Rt 4 Box 464 Lot
T199701564	23 01N	02W	Joyner	Bob	DO	C	76	125	40	20	5	4645 Mark Ave
T199700136	23 01N	02W	Callaway	Mike	DO	C	95	200	57	16	4	Rt 4 Box 410
T199700430	23 01N	02W	Wilder	Karen	DO	C	75	100	35	20	5	Mark Ave.
T199700853	23 01N	02W	George	Joann	DO	C	63	90	80	120	4	Hwy/ 90 West 1/10 mile before Getty Rd.
T199700657	23 01N	02W	Kelly	Tom	DO	C	65	90	45	12	4	Hwy 90 W. near Getty Rd.
T199201296	23 01N	02W	William Davis		DO	C	42	85	30	12	4	Getty Road & Hwy. 90 W.
M199306971	23 01N	02W	James Hutto		DO	C	90	145	56	20	4	SR 260
T199701978	24 01N	02W	R.D. Moody & Asso.	City of Tall	LP	C	71	140	51	16	4	Off 90W, off Lewis Loop Rd/Power Sub Sta
T197900954	24 01N	02W	Bill George		DO	C	80	95	30	1000	4	Hwy. 90 W.
T200002327	24 01N	02W	Callaway	Paul	DO	C	75	135	65	20	5	160 Lazy Creek Run
T200401463	24 01N	02W	Hwy 90 Home Center		DO	C	85	140	40	12	5	Mike Callaway - Lazy Creek Run
T199700836	24 01N	02W	Holzworth	Tom	DO	C	63	125	50	120	4	Hwy 90 W. 2 miles past Truck Rt.
T197800093	25 01N	02W	Rowe Drilling Company, Inc.		PS	C	166	327	123		6	Hwy. 90 West
T199006420	25 01N	02W	City of Tallahassee		PS	A	149	354			8	Hwy. 90 W., Bayhead Mobile Home Pk
T199006421	25 01N	02W	City of Tallahassee		PS	A	141	359			8	Hwy. 90 W., Bayhead Mobile Home Pk
T198701972	25 01N	02W	Earl D. Bland		MO	C	13	13			4	Poplar Drive
T199101851	25 01N	02W	City of Tallahassee		MO	C	3	13			2	AB Hopkins Station, Geddie Road
T198701973	25 01N	02W	Earl D. Bland		MO	C	13	13			4	Poplar Drive
T198701975	25 01N	02W	Earl D. Bland		MO	C	13	13			4	Poplar Drive
T198701974	25 01N	02W	Earl D. Bland		MO	C	13	13			4	Poplar Drive
T199101852	25 01N	02W	City of Tallahassee		MO	C	3	13			2	AB Hopkins Station, Geddie Road
T199301437	25 01N	02W	Uniprop		MO	A	35	35			2	7535 W. Tennessee St.
T199301436	25 01N	02W	Uniprop		MO	A	35	35			2	7535 W. Tennessee St.
T199301435	25 01N	02W	Uniprop		MO	A	40	40			2	7535 W. Tennessee St.
T199301434	25 01N	02W	Uniprop		MO	C	35	35	19		2	7535 W. Tennessee St.
T199301433	25 01N	02W	Uniprop		MO	C	40	40	19		2	7535 W. Tennessee St.
T199301432	25 01N	02W	Uniprop		MO	C	35	35	19		2	7535 W. Tennessee St.
T199101853	25 01N	02W	City of Tallahassee		MO	C	3	13			2	AB Hopkins Station, Geddie Road
T197700684	25 01N	02W	Phillip E. Potter		DO	C					4	Off Hwy. 90 W.
T197601020	25 01N	02W	Julius Harley		DO	C	90	120	20	10	4	Rt. 14 Box 350
T197900621	25 01N	02W	James Helms		DO	C				1000	4	102 Green Rd.
T197900659	25 01N	02W	Everette Taylor		DO	C	130	135		10	4	Off Hwy. 90 W.
T197900715	25 01N	02W	Bill Mims		DO	C	96	128	51	12	4	Fernwood Road, Off Hwy. 90 W.
T197900767	25 01N	02W	Mike Smith		DO	C				30	4	Hwy. 90 West
T197600164	25 01N	02W	Larry Dansby		DO	C	90	165	90	12	4	Off Hwy. 90 W.
T197901498	25 01N	02W	Orville Grant		DO	C	84	97	47	10	4	Off Hwy. 90 W.
T197901024	25 01N	02W	Roger Simmons		DO	C				30	4	4105 Menlard Dr.
T197900305	25 01N	02W	Leonard Hainey		DO	C	62	114	48		4	7907 Christy Carey Lane
T197900302	25 01N	02W	Joseph F. Wyrick		DO	C	51	98	42		4	Christy Carey Lane
T197800758	25 01N	02W	Roy Callaham		DO	C	127	150	63	10	4	Off Hwy. 90 W.
T197800861	25 01N	02W	Robert L. Brady		DO	C	93	130	40		4	Bethel Church Rd. off Hwy. 90 W.
T197800837	25 01N	02W	Hentz Barineau		DO	C	84	102	44		4	7674 Christy Carey Lane
T197900266	25 01N	02W	G. W. Wood		DO	C	70	77			4	Off Hwy. 90 W.
T197901507	25 01N	02W	Leslie Veal		DO	C	120	125		20	4	Off Hwy. 90 W.
T197801275	25 01N	02W	Roy Callaham		DO	C					4	Hwy. 90 West
T198200440	25 01N	02W	R. W. Willford		DO	C	75	129	74	15	4	1301 Cochise Trail
T198200979	25 01N	02W	Warren Gay, Jr.		DO	C	115	150	100	12	4	Off Hwy 90 West
T198000980	25 01N	02W	Jenny Tucker		DO	C	73	110	67		4	1166 Comanchee
T198001228	25 01N	02W	James Birch		DO	C	95	160	95		4	7961 Christy Carey Lane
T198000061	25 01N	02W	Larry Williams		DO	C	98	131	79		4	Off Hwy. 90 W.
T198000558	25 01N	02W	Therrell Marks		DO	C	63	101	52		4	Buffalo Pass
T198000557	25 01N	02W	Bill Lewis		DO	C	75	110	56		4	Cochise Trail
T198001069	25 01N	02W	Arlene Cubbedge		DO	C	80	100	50		4	Country Oak Acres
T198100369	25 01N	02W	Lennie C. Green		DO	C	70	100	56		4	1316 Comanche Trail

T198604271	25 01N	02W	Rebecca Levings		DO	C	90	135	66	10	4	Off Comechie Lane
T198602954	25 01N	02W	Myrtle L. Ganey		DO	C	45	80	29	12	4	8088 Ida Road
T198600179	25 01N	02W	Patrick Baniball		DO	C	48	76	34	15	4	8124 Ida Road
T198601110	25 01N	02W	Lester K. Walls		DO	C	80	125	57	12	4	1395 Cochise Trail
T198504862	25 01N	02W	Faith Kent		DO	C	70	140	80	20	4	Lot 17, Longwood Estates
T198600210	25 01N	02W	Margie Gearhardt		DO	C	51	73	31	15	4	8114 Ida Road
T198501003	25 01N	02W	P. M. Bell		DO	C	100	150	80	10	4	Off U.S. 90W
T198402076	25 01N	02W	Judy Harrell		DO	C	65	126	40	12	4	8095 Ida Road
T198401659	25 01N	02W	Delsie Free		DO	C	95	140	15	20	4	8059 Ida Road
T200302378	25 01N	02W	Allbritton	Gale	DO	C	77	135	81	12	4	7655 Christy Carey Lane
M200001490	25 01N	02W	Bruce	Tim	DO	C	60	120	38	10	4	8150 Ida Road
T200000411	25 01N	02W	Majend	Natin	DO	C	52	90	36	15	4	8151 Ida Rd
T199800727	25 01N	02W	Thompson	Carrie	DO	C	146	200	60	20	4	off Bethel Church Rd.
T199700247	25 01N	02W	Torres	Clemente	DO	C	80	160	70	12	5	Off Comanche Ln
T199601324	25 01N	02W	Willis	Irvin Stanle	DO	C	87	145	85		4	Christy Cary Lane
T199503450	25 01N	02W	Randy Calhoun		DO	C	76	150	60	18	4	Commanchee Lane
T199600484	25 01N	02W	Pruett	B Lynn	DO	C	95	140	80	12	4	Bethel Church Road
T199500932	25 01N	02W	John Obrien		DO	C	56	100	50	18	4	Bethal Rd.
T200500895	25 01N	02W	Hipps	Jerry	DO	C	155	200	15	10	4	426 Comanche Ln
T200400547	25 01N	02W	Hamilton-Mathis	Mary K.	DO	C	70	140		20	4	1255 Poplar Ln
T200302511	25 01N	02W	Green	Beverly	DO	C	84	145	80	12	4	7709 Christy Cary Ln.
T199400105	25 01N	02W	David Rodriguez		DO	C	63	98	40	15	4	8168 Ida Rd.
T199305910	25 01N	02W	Bay Head		DO	A	84	125			4	Hwy 90 W., Lot 59
T199206111	25 01N	02W	Crystal Messer		DO	C	119	270	87	20	4	Off Horseman Assn Rd.
T199103335	25 01N	02W	Butch Callahan		DO	C	70	115	60	12	4	7800 Christy Carey Lane
T199103295	25 01N	02W	Dog Boyd		DO	C	80	85	45	20	4	Hwy. 90 W. & Pisgah Road
T199100711	25 01N	02W	Billy R. Lewis		DO	C	30	90	50	20	4	Buffalo Pass
T199100493	25 01N	02W	Panhandle Const. Co.		DO	C	109	160	78	20	4	Bethel Church Road
T199100492	25 01N	02W	Panhandle Const. Co.		DO	C	109	160	82	20	4	Bethel Church Road
T199100713	25 01N	02W	Billy R. Lewis		DO	C	128	145	80	20	4	Buffalo Pass
T199006042	25 01N	02W	Earl Moore		DO	C	60	102	55	12	4	Hwy. 90 W.
T198902917	25 01N	02W	Therrell Marks		DO	R	124	140	92	12	4	7785 Buffalo Pass Road
T198901635	25 01N	02W	Myrtle Ganey		DO	R	50	76	44		4	8088 Ida Rd.
T198806325	25 01N	02W	Bill Lewis		DO	R	93	130	78	15	4	1442 Cochise Trail
T198900693	25 01N	02W	Don Callahan		DO	C	70	125	60	12	4	Off Hwy 90 West
T198901968	25 01N	02W	Keith Walls		DO	R	90	180	80	12	4	1395 Cochise Trail
T198802767	25 01N	02W	George A. Woodard		DO	C	145	180	50	18	4	2040 Dele Drive
T198400724	25 01N	02W	Paul Randallo		DO	C	80	120			4	2 miles off 90 west
T198300282	25 01N	02W	R. W. Williford		DO	C	57	110	67	15	4	1301 Cochise Trail
T198301815	25 01N	02W	Lamar Beard		DO	C	96	130	70	15	4	Off 90W-behind Pet Motel
T198100979	25 01N	02W	Ann Marsh		DO	C	126	150	80		4	Bethel Church Rd.
T198101615	25 01N	02W	Eloise Spence		DO	C	100	125		10	4	Off Hwy 90
T198200144	25 01N	02W	Lillie Cooper		DO	C	50	205		15	4	Rt. 4 Box 478A
T198200120	25 01N	02W	Herbert Warner		DO	C	74	115	75	15	4	Cochise Trail
T198101831	25 01N	02W	W. L. Moon		DO	C	75	130	80	20	4	1067 Apalosa St.
T198100099	25 01N	02W	Pennyworth Homes		DO	C	121	137	87		4	Off Hwy. 90 W.
T198100185	25 01N	02W	Richard D. Barineau		DO	C	80	115	63		4	1351 Cochise Trail
T198100184	25 01N	02W	Richard Grant		DO	C	62	91	62		4	7834 Buffalo Pass
T198100183	25 01N	02W	Graves Parrish		DO	C	73	105	60		4	Rt. 14 Box 351
T198001296	25 01N	02W	Donnie A Abbott		DO	C	42	87	38	15	4	Bethel Rd.
T198000766	25 01N	02W	C. G. Messer		DO	C	126	215	80		4	Rt. 4 Box 3893
T197901472	25 01N	02W	Jim McJunkin		DO	C	80	124	60	12	4	Rt. 14 Box 351
T197800786	25 01N	02W	Bill Screws		DO	C	58	78	48		4	7995 W. Tennessee
T197900558	25 01N	02W	Albert Helms		DO	C				10	4	102 Kreen Dr.
T197900880	25 01N	02W	Graves Parrish		DO	C	56	92	50	12	4	310 Christy Carey Lane
T197900726	25 01N	02W	Bob Mathisen		DO	C	90	135		10	6	Off Hwy. 90 W.
T197900686	25 01N	02W	Buddy Mims		DO	C	78	111	68	15	4	Fernwood Road off Hwy. 90 W.

T197700131	25	01N	02W	Wayne Hicks		DO	C	80	160	60		4 Highway 90 W.
T197700395	25	01N	02W	T. J. Barrineau		DO	C					4 Hwy 90 W
T197700995	25	01N	02W	Richard E. Bass		DO	C	107	151	69		4 Barrineau Road
T199101854	26	01N	02W	City of Tallahassee		MO	C	3	13			2 AB Hopkins Station, Geddie Road
T199101855	26	01N	02W	City of Tallahassee		MO	C	3	13			2 AB Hopkins Station, Geddie Road
T199500786	26	01N	02W	Jeanette Curtis/ City of THL Elec De		MO	A	15	15		0	2 Geddie Rd.
T199101856	26	01N	02W	City of Tallahassee		MO	C	3	13			2 AB Hopkins Station, Geddie Road
T199500788	26	01N	02W	Jeanette Curtis/ City of THL Elec De		MO	A	15	15		0	2 Geddie Rd.
T199500790	26	01N	02W	Jeanette Curtis/ City of THL Elec De		MO	A	15	15		0	2 Geddie Rd.
T199500792	26	01N	02W	Jeanette Curtis/ City of THL Elec De		MO	A	15	15		0	2 Geddie Rd.
T199501571	26	01N	02W	City of Tallahassee		MO	C	3	8		0	2 Hopkins Gen. Plant at Geddie Road
T199501573	26	01N	02W	City of Tallahassee		MO	C	2	7		0	2 Hopkins Gen. Plant at Geddie Road
T199501574	26	01N	02W	City of Tallahassee		MO	C	2	7		0	2 Hopkins Gen. Plant at Geddie Road
T199501572	26	01N	02W	City of Tallahassee		MO	C	2	7		0	2 Hopkins Gen. Plant at Geddie Road
T199500793	26	01N	02W	Jeanette Curtis/ City of THL Elec De		MO	A	15	15		0	2 Geddie Rd.
T199500791	26	01N	02W	Jeanette Curtis/ City of THL Elec De		MO	A	15	15		0	2 Geddie Rd.
T199500789	26	01N	02W	Jeanette Curtis/ City of THL Elec De		MO	A	15	15		0	2 Geddie Rd.
T199500787	26	01N	02W	Jeanette Curtis/ City of THL Elec De		MO	A	15	15		0	2 Geddie Rd.
T199601376	26	01N	02W	Childers Construction/Di Division of		LP	C	81	315	66		6 Geddie Road
T197700667	26	01N	02W	George Connell		DO	C					4 5680 Blountstown Hwy.
T197700671	26	01N	02W	Paul Byrd		DO	C	112	125	6		4 8071 Ida Rd.
T197701216	26	01N	02W	Wilma J. Paramore		DO	C	53	80	30	8	4 Ida Road & Geddie Road
T199800780	26	01N	02W	Christiano	Sal	DO	C	75	120	50	18	4 7925 Christy Cary Way
T199601876	26	01N	02W	Allison	John	DO	C	80	150	45	18	4 8168 Winney Lane
T199503969	26	01N	02W	Jimmy Allen		DO	C	82	200	78	20	4 1323 Commanche Lane
T199500813	26	01N	02W	City of Tallahassee-Hopkins Power		DO	A	100	367		0	4 Geddie Road
T197800182	26	01N	02W	James Gainey		DO	C	71	128	61		4 Ida Road & Hwy. 90 W.
T197800605	26	01N	02W	James McCardle		DO	C	67	90	6		4 Rt. 4 Box 90
T197700139	26	01N	02W	John Mantzanas		DO	C	80	130	55		4 Geddie Road, Burns Acres
T198400195	26	01N	02W	R. A. Oven, Jr.		DO	C	68	140	50	20	4 Christy Carey Lane
T198403371	26	01N	02W	Ronald L. Hartsfield		DO	C	124	155	120	10	4 8117 Ida Road
T199002858	26	01N	02W	Ollie Walker		DO	C	62	74	24	15	4 8153 Ida Road
T199101321	26	01N	02W	Ralph Carter		DO	C	63	160	50	12	4 Mark Avenue
T197701099	27	01N	02W	Wayne Hicks		DO	C	100	125			4 2023 Joa Rd
T197700871	28	01N	02W	Louise Maige		DO	C	184	212	61		4 State Road 20
T197600974	28	01N	02W	Bill Shaw		DO	C	120	160	60	10	4 5167 Pensacola
T197900173	28	01N	02W	State Of Florida/Forestry		DO	C	105	150	90		4 1214 Tower Rd.
T198301575	30	01N	02W	Thomas E. King		DO	C	60	125	24		4 Coes Landing Road
T198501303	30	01N	02W	Ted Weiss		DO	C	146	170	80	10	4 Coes Landing Road
T198504622	30	01N	02W	A. C. Tidwell		DO	C	110	145	40	20	4 Off Hwy. 20, Coe's Landing
T198601471	30	01N	02W	Walter B. Smith		DO	C	149	196	80	20	4 Coe Landing Road
T198700806	30	01N	02W	Ben Smith		DO	C	94	175	60	20	4 Coes Landing Lake Talquin
T198701535	30	01N	02W	Oris Herring		DO	C	82	126	63	10	4 Coe Landing Road
T198701185	30	01N	02W	David DeLoach		DO	C	122	158	65	15	4 Lot 9, Coe's Landing Road
T198702150	30	01N	02W	Robert Duncan		DO	C	133	160	54	10	4 Coe Rd.
T198805015	30	01N	02W	Jimmy Shiver		DO	C	96	161	69	10	4 Coe Road
T198805235	30	01N	02W	Southeastern Homes		DO	C	70	100	50	12	4 Off Coe Landing
T198903531	30	01N	02W	Larry Levy		DO	C	147	181	60	18	4 Coe Landing Road
T198906283	30	01N	02W	Sharman Umbholt		DO	C	110	155	80	12	4 Coe Landing Road
T199100200	30	01N	02W	Frank Carter		DO	C	100	160	30	20	4 Coe Landing Rd.
T199105998	30	01N	02W	Dennis Rogers		DO	C	150	175	80	12	4 Off Hwy. 20, Coe's Bluff
T199303384	30	01N	02W	Randall Lee		DO	C	84	130	38	18	4 12884 Coes Bluff
T199600043	30	01N	02W	Jim Bell Construction		DO	C	90	200	60	10	4 Coe's Landing
T200501427	30	01N	02W	Byrd	Terry	DO	C	103	202	40	12	4 1024 Coe Landing Road
T198702505	31	01N	02W	Gulf Oil Company		MO	C	25	25			4 1011 S. Magnolia Drive
T198702506	31	01N	02W	Gulf Oil Company		MO	C	25	25			4 1011 S. Magnolia Drive
T198702507	31	01N	02W	Gulf Oil Company		MO	C	25	25			4 1011 S. Magnolia Drive

T198702508	31 01N	02W	Gulf Oil Company		MO	C	25	25			4 E. Tennessee & Magnolia
T198702511	31 01N	02W	Gulf Oil Company		MO	C	25	25			4 E. Tennessee & Magnolia
T198702510	31 01N	02W	Gulf Oil Company		MO	C	25	25			4 E. Tennessee & Magnolia
T198702509	31 01N	02W	Gulf Oil Company		MO	C	25	25			4 E. Tennessee & Magnolia
T198100622	31 01N	02W	Dallas J. Padgett		LP	C	80	150	85		4 4317 West Pensacola
T197600173	31 01N	02W	Miles Shiver		DO	C	180	195	50	20	4 Star Route Box 75-Y
T200203688	31 01N	02W	Lee	Tracy	DO	C	160	220	50	12	4 Clyde Ln
T200100338	31 01N	02W	Smith	Lynn	DO	C	168	240	61	18	4 Auroca Cove
T199701539	31 01N	02W	Brown	Homer	DO	C	95	130	40	120	4 Coe's Landing Rd.
T199303041	31 01N	02W	Delicia Jordan		DO	C	95	260	50	10	4 01120 Coe Landing Rd.
T199101470	31 01N	02W	Jim Bell		DO	C	105	175	40	12	4 Coe Landing Road & Hwy. 20
T199000634	31 01N	02W	Dennis Rogers		DO	C	105	175	50	12	4 Hwy 20 and Coes Landing
T198902749	31 01N	02W	Harold Brown		DO	C	120	180	50	10	4 Hall Landing Rd.
T198801962	31 01N	02W	Robert Wolfe		DO	R	212	265	105	12	4 Hwy 20 & Coe's Landing Road
T198801465	31 01N	02W	Robert Wolff		DO	C	116	260	80	12	4 Hwy 20 & Coes Landing Road
T200503049	31 01N	02W	Cox	Don	DO	C	167	240	64	18	4 Talquin Springs
T200502679	31 01N	02W	America's Home Place		DO	C	160	225	63	16	4 Off Coe Landing Rd
T200502651	31 01N	02W	Moss Creek Custom Homes		DO	C	70	275	30	20	4 226 Coe Landing Road
T200402451	31 01N	02W	Fletcher	Craig	DO	C	140	240	55	12	4 228 Coe Landing Road
T200500659	31 01N	02W	America's Home Place		DO	C	170	225	110	12	4 Hwy 20 W
T200402388	31 01N	02W	Brown	Debbie	DO	C	140	262	40	12	4 180 Coa Landing Rd
T200302688	31 01N	02W	Lee	Tracy	DO	C	140	220	45	20	4 1592 Lake McCullom Dr.
T200302885	31 01N	02W	Wilcox	W.E.	DO	C	140	240	50	12	4 Coe Landing Road
T200302986	31 01N	02W	Grzyb	Art	DO	C	160	220	50	20	4 Coe Landing Road
T200301529	31 01N	02W	Baldwin Builders		DO	C	135	200	40	12	4 Lake McCollum Lane 1572
T197600114	31 01N	02W	Clyde Johnson		DO	C	155	200	85	25	4 Hwy. 20 W.
T197600787	31 01N	02W	Russell Dostec		DO	C				20	4 Star Rt. Box 72
T198603766	31 01N	02W	Jene Rickering		DO	C	150	175	20	10	4 Route 2, Box 9115
T198800115	31 01N	02W	Willie Oder		DO	C	112	200	80	12	4 7 mi. out Hwy 20
T197800937	31 01N	02W	B. P. Lee		DO	C					4 Hwy. 20 W.
T198001103	31 01N	02W	J. B. McCollum		DO	C	146	205	61		4 Star Route Box 77A
T198200973	31 01N	02W	James Shiver		DO	C	198	205	81	15	4 Hwy 20 West
T199500713	32 01N	02W	Suwannee Swifty Stores Inc.		MO	C	15	35	25	0	2 5711 Blountstown Hwy
T199500714	32 01N	02W	Suwannee Swifty Stores Inc.		MO	C	15	35	24	0	2 5711 Blountstown Hwy
T199500670	32 01N	02W	Suwannee Swifty Stores, Inc.		MO	C	20	40	24	0	2 5711 Blountstown Hwy
T198101421	32 01N	02W	Orris Herring		LA	C	130	165	100		4 Hwy. 20
T197701065	32 01N	02W	Elizabeth Willis		DO	C	140	205	6		4 Hwy 20
T198402022	32 01N	02W	Rick Hutchinson		DO	C	94	156	68	15	4 Off Hwy.90, off Hwy.20
T198401932	32 01N	02W	Tony Simpson		DO	C	98	145	100		4 Off 20 W. near Race Track
T199501780	32 01N	02W	Albert Weaver		DO	C	76	100	75	18	4 Hwy 20
T199503472	32 01N	02W	Jeffery A. Lund		DO	C	94	160	60	10	4 1269 Cornerstone Lane
T200202097	32 01N	02W	Parker	Cathie	DO	C	120	220	110	12	4 1228 Turnip Patch
T200201984	32 01N	02W	Presnell	Matt	DO	C	145	200	100	20	4 Turnip Patch Rd
T200101737	32 01N	02W	Shipman	Keith	DO	C	0	120	110	12	4 Turnip Patch
T200002351	32 01N	02W	Duncan	Oliver	DO	C	115	200	90	18	4 9751 Blountstown Hwy
T199700934	32 01N	02W	Van Ly	Tao	DO	C	116	200	70	20	4 1324 Late Sunset Way
T199503941	32 01N	02W	Dan Nichols		DO	C	99	160	74	12	4 1260 Cornerstone Ln
T198402078	32 01N	02W	Patricia Padgham		DO	C	92	130	90	10	4 Star Route 2, Box 9335
T198402523	32 01N	02W	Jerry Troup		DO	C	142	165	100	10	4 1/4 Mi. past Race Track, Hwy 20 W.
T198501110	32 01N	02W	Henry Hughes		DO	C	75	150	95	10	4 Star Rt 2, Box 9355
T198702352	32 01N	02W	Kyle McCroan		DO	C	84	215	74	20	4 Hwy 20 West
T199006529	32 01N	02W	Prem Sabrahmanyam		DO	C	84	160	75	12	4 Hwy. 20 W.
T199401644	32 01N	02W	Shirley Larock		DO	C	142	300	106	20	4 off HWY 20
T198300098	33 01N	02W	Talquin Electric Coop.		PS	C	200	300		250	8 Post Oak Dr. Whispering Pines #2 SubDiv.
T198100623	33 01N	02W	Alvin Adams		LA	C	140	250	100		4 Star Route B Box 11 Hwy 20 W
T198100624	33 01N	02W	Alvin Adams		LA	C	160	277	140		4 Star Route 13 Box 11 Hwy 20 W
T197701087	33 01N	02W	Jimmy Shiver		DO	C	50	156			4 Rt. 12, Hwy 20

T197900830	33 01N	02W	Pennyworth Homes		DO	C	84	131	62	15	4	Off Jackson Bluff Rd.
M199500419	33 01N	02W	Kyle McCroan		DO	C	125	200	40	10	4	Hwy 20
T200402405	33 01N	02W	Bryant	JD	DO	C	84	160	64		4	9460 Hwy 20 - Blountstown Hwy
T199304808	33 01N	02W	Dallas Register		DO	C	76	160	90	18	4	Hwy. 20 - 997
T197801115	33 01N	02W	William H. Rayfield		DO	C	90	115	60		4	Route 10 Box 149 A
T197801128	33 01N	02W	Corbett C. Murphy		DO	C	95	123	63		4	Hwy. 20 W.
T198000901	33 01N	02W	Pennyworth Homes		DO	C	73	120	53		4	Off Hwy 20 W.
T198806790	34 01N	02W	Sunshine Jr. Stores, Inc.		MO	C	10	10	5		4	Hwy 20 & Silver Lake Rd.
T198806791	34 01N	02W	Sunshine Jr. Stores, Inc.		MO	C	10	10	5		4	Hwy 20 & Silver Lake Rd.
T198806792	34 01N	02W	Sunshine Jr. Stores, Inc.		MO	C	10	10	5		4	Hwy 20 & Silver Lake Rd.
T198806793	34 01N	02W	Sunshine Jr. Stores, Inc.		MO	C	10	10	5		4	Hwy 20 & Silver Lake Rd.
M199005872	34 01N	02W	Roberts Grocery		MO	C	10	10	5		2	Hwy. 20
M199005874	34 01N	02W	Roberts Grocery		MO	C	10	10	5		2	Hwy. 20
T199801440	34 01N	02W	Solomon Construction		MO	C	40	50	38		2	Hwy 20 W. of Silver Lake Rd.
T199901845	34 01N	02W	Solomon Construction Inc		MO	C	27	47	20		4	Solomons Pit Hwy 20
T199901805	34 01N	02W	Solomon Construction Inc		MO	C	137	157	85		4	Solomons Pit Hwy 20
T200300142	34 01N	02W	Former Suwannee Swifty		MO	C	12	12			2	8021 Blountstown Hwy
T200300141	34 01N	02W	Former Suwannee Swifty		MO	C	12	12			2	8021 Blountstown Hwy
T200300140	34 01N	02W	Former Suwannee Swifty		MO	C	12	12			2	8021 Blountstown Hwy
T200300139	34 01N	02W	Former Suwannee Swifty		MO	C	12	12			2	8021 Blountstown Hwy
T200101057	34 01N	02W	Solomon Construction		MO	C	20	35	10		4	Solomons Pit Hwy 20
T199902009	34 01N	02W	Solomon Construction Inc		MO	A	90	90			4	Solomons Pit Hwy 20
T199901807	34 01N	02W	Solomon Construction Inc		MO	C	137	157	75		4	Solomons Pit Hwy 20
T199901806	34 01N	02W	Solomon Construction Inc		MO	C	137	162	90		4	Solomons Pit Hwy 20
T199901846	34 01N	02W	Solomon Construction Inc		MO	C	23	43	15		4	Solomons Pit Hwy 20
T200301182	34 01N	02W	Suwannee Swifty		MO	C	12	20			2	8021 Blountstown Hwy
T200301181	34 01N	02W	Suwannee Swifty		MO	C	12	20			2	8021 Blountstown Hwy
T200301180	34 01N	02W	Suwannee Swifty		MO	C	28	30			2	8021 Blountstown Hwy
T200300146	34 01N	02W	Former Suwannee Swifty		MO	C	12	12			2	8021 Blountstown Hwy
T200300145	34 01N	02W	Former Suwannee Swifty		MO	C	12	12			2	8021 Blountstown Hwy
T200300144	34 01N	02W	Former Suwannee Swifty		MO	C	12	12			2	8021 Blountstown Hwy
T200300143	34 01N	02W	Former Suwannee Swifty		MO	C	12	12			2	8021 Blountstown Hwy
T199801441	34 01N	02W	Solomon Construction		MO	C	25	35	22		2	Hwy 20 W. of Silver Lake Rd.
T199801439	34 01N	02W	Solomon Construction		MO	C	20	30	16		2	Hwy 20 W. of Silver Lake Rd.
M199005873	34 01N	02W	Roberts Grocery		MO	C	10	10	5		2	Hwy. 20
M199005870	34 01N	02W	Roberts Grocery		MO	C	10	10	5		2	Hwy. 20
M199005869	34 01N	02W	Roberts Grocery		MO	C	10	10	5		2	Hwy. 20
T198806269	34 01N	02W	Jake Walters Bidders.		LP	C	154	200	90	20	4	Hwy. 20 & Silver Lake Rd.
T200000867	34 01N	02W	US Cellular		LA	C	20	70	20	10	4	Campground Pond Rd.
T197800019	34 01N	02W	William Bradwell		DO	C					4	5680-2D Blountstown
T197700825	34 01N	02W	Larry Richards		DO	C	150	175	10		4	Hwy. 20
T197600330	34 01N	02W	J. T. Barineau		DO	C	89	171		15	4	Hwy. 20 W.
T197800611	34 01N	02W	Donald Sheppard		DO	C	148	168	57		4	Nature Trail Way
T197600885	34 01N	02W	George F. Kirby		DO	C		160	6		4	Rt. 10 Box 149-H
T197900819	34 01N	02W	E. C. Dean		DO	C	120	150		10	4	Rt. 10 Box 975
T197700082	34 01N	02W	Lee DeLair		DO	C	92	176	92		4	Hwy. 20 W.
T197600162	34 01N	02W	Christine Waters		DO	C	70	85		15	4	Rt 15 Box 738
T197600608	34 01N	02W	Hurst		DO	C				30	4	Crowder Road
T199407249	34 01N	02W	Lex Thompson Contractor		DO	C	105	200	85	10	4	Silver Lake Rd. Lot 5
T199407248	34 01N	02W	Lex Thompson Contractor		DO	C	105	230	80	10	4	Silver Lake Rd. Lot 6
T199407146	34 01N	02W	Lex Thompson Contractor		DO	C	105	225	100	10	4	Silver Lake Rd.
T199407058	34 01N	02W	Lex Thompson Contractor		DO	C	100	245	100	18	4	Silver Lake Rd.
T199404225	34 01N	02W	Lex Thompson Contractor		DO	C	88	162	50	18	4	Silver Lake Road Sub. Baby Farms Rd.
T199300545	34 01N	02W	Janice Daugherty		DO	C	105	205	100	20	4	Off Hwy. 20
T199300334	34 01N	02W	Ray Norman		DO	C	210	230	170	18	4	128 Nature Trail
T199105580	34 01N	02W	Gary Bishop		DO	C	95	223	85	12	4	HWY 20 & Silver Lake Rd
T199101747	34 01N	02W	Wesley Hamilton		DO	C	90	185	80	20	4	Hwy. 20, Wade Road

T200501245	34 01N	02W	Thompson	James	DO	C	140	150	80	12	4	Silver Lake Rd
T200103130	34 01N	02W	Bozeman	John	DO	C	145	195	80	18	4	8015 Earthway
T200101714	34 01N	02W	Mitchell	Kathy	DO	C	201	280	58	18	4	Off Nature Trail Way
T200100508	34 01N	02W	Thompson	James	DO	C	120	160	70	12	4	Baby Farms Rd.
T200001911	34 01N	02W	Thompson	James	DO	C	130	150	85	12	4	Baby Farms Rd.
T200001903	34 01N	02W	Phinazde	Tony	DO	C	120	200	80	18	4	8039 Earthway
T199901656	34 01N	02W	Barnett	Terry	DO	C	90	120		12	4	Wade Rd
T199801470	34 01N	02W	Singletary	Vincent	DO	C	84	150	50	120	4	8032 Baby Farm Rd.
T199800487	34 01N	02W	Jones	William D.	DO	C	126	190		120	4	Baby Farm Rd.
M199800028	34 01N	02W	Nelson	Kim	DO	C	165	260	90	10	4	165 Nature's Trail Way
T199800385	34 01N	02W	Rotruck	Graig B.	DO	A		80			4	103 Nature Trailway
T199800339	34 01N	02W	Lawhead	Todd	DO	C	161	180	90	20	5	2008 Silver Lake Rd.
T199800338	34 01N	02W	McDowell	Robert	DO	C	120	200	75	20	4	off Silver Lake Rd.
T199800362	34 01N	02W	Rotruck	Craig B.	DO	C	135	135	40	12	4	103 Nature Trail Way
T199601620	34 01N	02W	Thompson	Lex	DO	C	105	130	60	20	4	Off Silver Lake Road
T199602230	34 01N	02W	Rutland	Don	DO	C	100	200	90		5	RT. 1, Box 151-E
T199700753	34 01N	02W	Wade	Ernie	DO	C	180	260	60		4	Hwy. 20
T199407307	34 01N	02W	Lex Thompson Contractor		DO	C	105	235	80	10	4	Silver Lake Rd. Lot 3
T199407306	34 01N	02W	Lex Thompson Contractor		DO	C	105	200	80	10	4	Silver Lake Rd. Lot 4
T197800667	34 01N	02W	Allison McCardell		DO	C	80	100	6		4	Rt. 10
T198100160	34 01N	02W	James Dawsey		DO	C	125	135	100		4	123 Nature Mist Way
T198100081	34 01N	02W	Ruth Vinzant		DO	C	68	145	55		4	Star Route 74-O
T198300094	34 01N	02W	Larry Dunsford		DO	C	121	140	105	10	4	Rt 10 Box 151-A
T198100569	34 01N	02W	George Stevenson		DO	C	84	125	85		4	Hwy. 20 W.
T198401918	34 01N	02W	Trive Rudd		DO	C	60	85	40	20	4	Route 5, Box 2784
T198503755	34 01N	02W	Larry Miller		DO	C	123	140	90	12	4	3991 Woodville Highway
T198600016	34 01N	02W	Wilton Runkle		DO	C	130	155	90	20	4	Route 10, Box 152
T198604236	34 01N	02W	Bobby Johnson		DO	C	154	178	98	10	4	Hwy. 20 W., Camp Pond Road
T198606751	34 01N	02W	Carl Shirah		DO	R	100	190	115	20	4	Route 10, Box 149-SA
T198702701	34 01N	02W	Jimmy Harrell		DO	R	100	190	110	18	4	Route 10, Box 149-SC
T198701841	34 01N	02W	Frances Annis		DO	C	112	200	80	20	4	Off Silverlake Rd
T199701696	35 01N	02W	Westview Trailer Park		PS	A	190	347			6	Southern Country Lane
T198707970	35 01N	02W	Dale M. Barstow		MO	C	10	15			2	State Road 20, Westview Mobile
T198707971	35 01N	02W	Dale M. Barstow		MO	C	10	15			2	State Road 20, Westview Mobile
T198901628	35 01N	02W	South Georgia Grocery Co.		MO	C	12	12			2	Hwy 20 & Silver Lake Rd.
T198707972	35 01N	02W	Dale M. Barstow		MO	C	10	15			2	State Road 20, Westview Mobile
T198901631	35 01N	02W	South Georgia Grocery Co.		MO	C	12	12			2	Hwy 20 & Silver Lake Rd.
T199101849	35 01N	02W	City of Tallahassee		MO	C	3	13			2	AB Hopkins Station, Geddie Road
T199200803	35 01N	02W	Mike Roberts		MO	C	10	15			2	Roberts Sand Mine
T199200878	35 01N	02W	Mike Roberts		MO	C	10	15			1	Robert Sand Mine
T199402564	35 01N	02W	EDI Properties Inc.		MO	C	45	55	45		2	1080 W. Tennessee St.
T200201630	35 01N	02W	Johnson	Robert	MO	C	2	12			1	7256 Hwy 20
T200201629	35 01N	02W	Johnson	Robert	MO	C	2	12			1	7256 Hwy 20
T200201628	35 01N	02W	Johnson	Robert	MO	C	2	12			1	7256 Hwy 20
T200201641	35 01N	02W	Johnson	Robert	MO	C	2	12			1	7256 Hwy 20
P200103425	35 01N	02W	Texaco Seminole		MO	C	25	40			2	1610 Tennessee Street
P199405686	35 01N	02W	ESCM & Assoc.		MO	C	40	45			2	Hwy. 20 & Frankie Lane Dr.
T199402567	35 01N	02W	EDI Properties Inc.		MO	C	45	55	45		2	1080 W. Tennessee St.
T199402566	35 01N	02W	EDI Properties Inc.		MO	C	45	55	45		2	1080 W. Tennessee St.
T199402565	35 01N	02W	EDI Properties Inc.		MO	C	45	55	45		2	1080 W. Tennessee St.
T200201639	35 01N	02W	Johnson	Robert	MO	C	2	12			1	7256 Hwy 20
T200201638	35 01N	02W	Johnson	Robert	MO	C	2	12			1	7256 Hwy 20
T200201637	35 01N	02W	Johnson	Robert	MO	C	2	12			1	7256 Hwy 20
T200201636	35 01N	02W	Johnson	Robert	MO	C	2	12			1	7256 Hwy 20
T200201635	35 01N	02W	Johnson	Robert	MO	C	2	12			1	7256 Hwy 20
T200201634	35 01N	02W	Johnson	Robert	MO	C	12	12			1	7256 Hwy 20
T200201633	35 01N	02W	Johnson	Robert	MO	C	2	12			1	7256 Hwy 20

T200201632	35 01N	02W	Johnson	Robert	MO	C	2	12			1	7256 Hwy 20
T200201631	35 01N	02W	Johnson	Robert	MO	C	2	12			1	7256 Hwy 20
T200501633	35 01N	02W	Johnson	Eddy	MO	A	0	12			0.75	Rt 10 Box 615
T200501631	35 01N	02W	Johnson	Eddy	MO	A	0	12			0.75	Rt 10 Box 615
T200400962	35 01N	02W	Johnson	Robert	MO	C	20	22			1	7498 Blountstown Highway
T200400961	35 01N	02W	Johnson	Robert	MO	C	20	22			1	7498 Blountstown Highway
T200203689	35 01N	02W	Johnson	Robert	MO	C	2	12			1	7256 Hwy 20 E
T200203691	35 01N	02W	Johnson	Robert	MO	C	2	12			1	7256 Hwy 20 E
T200203690	35 01N	02W	Johnson	Robert	MO	C	2	12			1	7256 Hwy 20 E
T200202384	35 01N	02W	Johnson	Eddie	MO	C	43	48			2	7526 Hwy 20 East
T200201640	35 01N	02W	Johnson	Robert	MO	C	2	12			1	7256 Hwy 20
T200502108	35 01N	02W	Johnson	Eddy	MO	C	12	22			1	Roberts Grocery RT. 10 Box 615
T200502107	35 01N	02W	Johnson	Eddy	MO	C	12	22			1	Roberts Grocery RT. 10 Box 615
T200502106	35 01N	02W	Johnson	Eddy	MO	C	12	22			1	Roberts Grocery RT. 10 Box 615
T200502105	35 01N	02W	Johnson	Eddy	MO	C	12	22			1	Roberts Grocery RT. 10 Box 615
T200502104	35 01N	02W	Johnson	Eddy	MO	C	12	22			1	Roberts Grocery RT. 10 Box 615
T200502103	35 01N	02W	Johnson	Eddy	MO	C	12	22			1	Roberts Grocery RT. 10 Box 615
T200502102	35 01N	02W	Johnson	Eddy	MO	C	12	22			1	Roberts Grocery RT. 10 Box 615
T200502101	35 01N	02W	Johnson	Eddy	MO	C	12	22			1	Roberts Grocery RT. 10 Box 615
T200502100	35 01N	02W	Johnson	Eddy	MO	C	12	22			1	Roberts Grocery RT. 10 Box 615
T200502096	35 01N	02W	Johnson	Eddy	MO	C	2	12			2	Roberts Grocery Rt 10 Box 615
T200502095	35 01N	02W	Johnson	Eddy	MO	C	2	12			2	Roberts Grocery Rt 10 Box 615
T200502093	35 01N	02W	Johnson	Eddy	MO	C	2	12			2	Roberts Grocery Rt 10 Box 615
T200502092	35 01N	02W	Johnson	Eddy	MO	C	2	12			2	Roberts Grocery Rt 10 Box 615
T200502110	35 01N	02W	Johnson	Eddy	MO	C	12	22			1	Roberts Grocery RT. 10 Box 615
T200502115	35 01N	02W	Johnson	Eddy	MO	C	8	18			1	Roberts Grocery RT. 10 Box 615
T200502114	35 01N	02W	Johnson	Eddy	MO	C	8	18			1	Roberts Grocery RT. 10 Box 615
T200502112	35 01N	02W	Johnson	Eddy	MO	C	10	20			1	Roberts Grocery RT. 10 Box 615
T200502111	35 01N	02W	Johnson	Eddy	MO	C	10	20			1	Roberts Grocery RT. 10 Box 615
T200502109	35 01N	02W	Johnson	Eddy	MO	C	12	22			1	Roberts Grocery RT. 10 Box 615
T200502099	35 01N	02W	Johnson	Eddy	MO	C	12	22			1	Roberts Grocery RT. 10 Box 615
T200502098	35 01N	02W	Johnson	Eddy	MO	C	12	22			1	Roberts Grocery RT. 10 Box 615
T200502097	35 01N	02W	Johnson	Eddy	MO	C	25	43			2	Roberts Grocerty Rt. 10 Box 615
T200502094	35 01N	02W	Johnson	Eddy	MO	C	2	12			2	Roberts Grocery Rt 10 Box 615
T200501630	35 01N	02W	Johnson	Eddy	MO	A	0	45			0.75	Rt. 1 Box 615
T200501632	35 01N	02W	Johnson	Eddy	MO	A	0	12			0.75	Rt 10 Box 615
T200501635	35 01N	02W	Johnson	Eddy	MO	A	0	12			0.75	Rt 10 Box 615
T200501634	35 01N	02W	Johnson	Eddy	MO	A	0	12			0.75	Rt 10 Box 615
T199402563	35 01N	02W	EDI Properties Inc.		MO	C	45	55	45		2	1080 W. Tennessee St.
T199200804	35 01N	02W	Mike Roberts		MO	C	10	15			2	Roberts Sand Mine
T199101850	35 01N	02W	City of Tallahassee		MO	C	3	13			2	AB Hopkins Station, Geddie Road
M199005871	35 01N	02W	Roberts Grocery		MO	C	10	10	5		2	Hwy. 20
T198901630	35 01N	02W	South Georgia Grocery Co.		MO	C	12	12			2	Hwy 20 & Silver Lake Rd.
T198901629	35 01N	02W	South Georgia Grocery Co.		MO	C	12	12			2	Hwy 20 & Silver Lake Rd.
T197900174	35 01N	02W	Roberts Sand Company		LP	C	114	190	90		4	Hwy. 20
T198100142	35 01N	02W	Roberts Sand Co.		LP	C	85	236			4	Silver Lake Rd.
T198707468	35 01N	02W	Dan Kalicki		LP	C	110	177	42	30	4	Hwy. 20 & Geddie Rd.
T198906736	35 01N	02W	Jimmie Crowder Ex. & Land Clearin		LA	C	177	310	103	75	6	Geddie Rd. & Highway 20
T197800078	35 01N	02W	John Strickland		DO	C	57	106	55		4	324 Campground Road
T198001104	35 01N	02W	Randall McClendon		DO	C	140	185	120		4	Rt. 4 Box 54111
T198101450	35 01N	02W	Albert Soloman		DO	C					4	Rt. 10 Silver Lake Rd.
T198101603	35 01N	02W	Sam Crowder		DO	C	100	175		20	4	Aneon Church Rd.
T198400264	35 01N	02W	Rhonda Wisenbaker		DO	C	190	200	145	15	4	Hwy 20-Ponderosa TrailerPk
T198505028	35 01N	02W	Charles B. Christie		DO	C	80	180	105	20	4	Off Barineau Road
T198605558	35 01N	02W	Earnest McCallie		DO	C	122	150	8	8	4	Near Silver Lake Road
T199800535	35 01N	02W	Redd	H.O.	DO	A		140			4	7115 Blountstown Hwy
M199403560	35 01N	02W	Virgil Pennington		DO	C	75	140	100	10	4	Image Rd.

T199005287	35	01N	02W	Edsel D. Dozier		DO	C	105	180	40	20	4 Joe Thomas RD.
T199000151	35	01N	02W	Vernon A. Geddie		DO	C	126	165	100	18	4 Rt. 10 Box 845
T198906894	35	01N	02W	Edsel D. Dozier		DO	C	147	200	65	20	4 Joe Thomas Road
T198806270	35	01N	02W	Joe Perry		DO	C	120	200	105	20	4 Off Barinea Road
T198602378	35	01N	02W	Betty Nelms		DO	C	101	177	76	15	4 7508 Wren Drive
T198501854	35	01N	02W	William R. Collins		DO	C	140	155		8	4 Off Hwy. 20 near Sand Co.
T198100862	35	01N	02W	Charles Cook		DO	C	140	175	120		4 Rt. 14 Box 368
T198101563	35	01N	02W	Robert J. Angerer		DO	C	96	115	47		4 Hwy 20
T198200840	35	01N	02W	Larry Barrentine		DO	C	180	200	120	10	4 Lot 3, Sand Stone Ridge
T197800118	35	01N	02W	Willie Oder		DO	C	115	153	105		4 Blountstown Hwy.
T197600286	35	01N	02W	Randell Hochstedler		DO	C	83	189	85	8	4 State Road 20
M199104328	36	01N	02W	Talquin Electric Co.		MO	C	25	25	12		2 Hwy. 20 W.
M199104329	36	01N	02W	Talquin Electric Co.		MO	C	25	25	12		2 Hwy. 20 W.
M199104330	36	01N	02W	Talquin Electric Co.		MO	C	25	25	12		2 Hwy. 20 W.
M199104025	36	01N	02W	Harken Marketing Co.		MO	C	15	25			2 Hwy. 20 & Frankie Lane Dr.
P199301617	36	01N	02W	E. P. Z. Serve		MO	C	15	25			2 Hwy 20 W.
M199104024	36	01N	02W	Harken Marketing Co.		MO	C	15	30			2 Hwy. 20 & Frankie Lane Dr.
M199104023	36	01N	02W	Harken Marketing Co.		MO	C	18	28			2 Hwy. 20 & Frankie Lane Dr.
T199301263	36	01N	02W	E. Z. Serve		MO	C	7	22	15		2 Hwy 20 W.
T199401866	36	01N	02W	EZ Serve		MO	C	10	20	17		2 Hwy 20 West
T200503445	36	01N	02W	Wayside Farms #2 Inc.		MO	C	15	30			1 6310 Blountstown Hwy.
T200501199	36	01N	02W	McCord	Patti	MO	C	40	45			2 6310 Blounstown HWY
P200500993	36	01N	02W	McCord	Patti	MO	C	15	30			2 6310 Blountstown Highway
P200500992	36	01N	02W	McCord	Patti	MO	C	15	30			2 6310 Blountstown Highway
P200500991	36	01N	02W	McCord	Patti	MO	C	15	30			2 6310 Blountstown Highway
P200500990	36	01N	02W	McCord	Patti	MO	C	15	30			2 6310 Blountstown Highway
T200402008	36	01N	02W	Wayside Farms General Store #2 In		MO	C	15	30			2 6310 Blountstown HWY
T200402007	36	01N	02W	Wayside Farms General Store #2 In		MO	C	15	30			2 6310 Blountstown HWY
T200402006	36	01N	02W	Wayside Farms General Store #2 In		MO	C	15	30			2 6310 Blountstown
T200503631	36	01N	02W	Wayside Farms #2 Inc./Emergency		MO	C	40	45			2 6310 Blountstown Hwy
T200503453	36	01N	02W	Wayside Farms #2 Inc.		MO	C	15	30			2 6310 Blountstown Hwy.
T200503452	36	01N	02W	Wayside Farms #2 Inc.		MO	C	15	30			2 6310 Blountstown Hwy.
T200503451	36	01N	02W	Wayside Farms #2 Inc.		MO	C	15	30			2 6310 Blountstown Hwy.
T200503450	36	01N	02W	Wayside Farms #2 Inc.		MO	C	15	30			2 6310 Blountstown Hwy.
T200503449	36	01N	02W	Wayside Farms #2 Inc.		MO	C	40	45			2 6310 Blountstown Hwy
T200503448	36	01N	02W	Wayside Farms #2 Inc.		MO	C	15	30			1 6310 Blountstown Hwy.
T200503447	36	01N	02W	Wayside Farms #2 Inc.		MO	C	15	30			1 6310 Blountstown Hwy.
T200503446	36	01N	02W	Wayside Farms #2 Inc.		MO	C	15	30			1 6310 Blountstown Hwy.
T200402005	36	01N	02W	Wayside Farms General Store #2 In		MO	C	15	30			2 6310 Blounstown HWY
T199800506	36	01N	02W	Petro South		MO	A		14			2 6310 Blountstown Hwy
T199800505	36	01N	02W	Petro South		MO	A		14			2 6310 Blountstown Hwy
T199800504	36	01N	02W	Petro South		MO	A		14			2 6310 Blountstown Hwy
T199800503	36	01N	02W	Petro South		MO	A		14			2 6310 Blountstown Hwy
T199401867	36	01N	02W	EZ Serve		MO	C	10	20	17		2 Hwy 20 West
T199304675	36	01N	02W	E-Z Serve Corp.		MO	C	25	25	22		2 Hwy 20W.
T199700268	36	01N	02W	Fish	Preston	LP	R	168	270	112	12	4 1150 Vera Lane
T199700340	36	01N	02W	Calvary Tabernacle		LP	R	75	185			4 Hwy 20 near Aenon Church Rd.
T197901091	36	01N	02W	Thomas E. Grisham		DO	C	141	170	102	15	4 475 Malge Road
T198001257	36	01N	02W	Johnny Franklin		DO	C	110	130	90		4 320 Malge Rd.
T198000685	36	01N	02W	Vermon Geddie		DO	C	151	195	78		4 Rt. 10 Box 845
T198300446	36	01N	02W	John Nissley		DO	C	153	225	125	20	4 Rt 10 Box 1140
T198300447	36	01N	02W	John Nissley		DO	C	133	200	125	20	4 Rt 10 Box 1140
T198301304	36	01N	02W	Jimmy Crowder		DO	C	133	233	94		4 Barineau Road
T198400870	36	01N	02W	Jr. Botteford		DO	C	100	180	100	12	4 Hwy. 20 West
T200500849	36	01N	02W	Gaines	Uganda	DO	C	62	100	46	16	4 455 Birwood
T200301749	36	01N	02W	Meredith	Gwendolyr	DO	C	105	140	39	20	4 509 Birwood Rd
T200102764	36	01N	02W	Gibson	Kym	DO	C	130	250	110	12	4 6584 Damon Circle

T199900243	36 01N	02W	Blatzer	Elizabeth	DO	C	84	125	40	120	4	Off Hwy 20 near Holley's
T198200332	36 01N	02W	Will Holley		DO	C	82	176	109	20	4	Holleys Minnow Pool
T199601297	36 01N	02W	Dunlap	Sally	DO	C	122	165	90	120	4	Rt. 4, Box 477-B
M199405417	36 01N	02W	Marvis Juwel		DO	C	90	140	80	19	4	Maige Road
T199305591	36 01N	02W	Jane Mundy		DO	C	83	135	61	15	4	Rt 10 Box 111
T199206610	36 01N	02W	Richard M. Hartsfield		DO	C	118	214	90	20	4	Barineau Rd.
T199104165	36 01N	02W	Sallie Dunlap		DO	C	84	195	70	12	4	Hwy. 20 & Barineau Road
T198500365	36 01N	02W	Roy Phillips		DO	C	140	200	125	12	4	Rt 10, Box 135
T198600603	36 01N	02W	R. S. Hamrick		DO	C	105	180	83	15	4	Route 10, Box 875
T198707307	36 01N	02W	Melinda Gaynor		DO	C	135	140	60	20	4	Route 4, Box 476-D
T198707536	36 01N	02W	Melinda Gaymon		DO	C	135	145	105	20	4	Off Old Bainbridge Road
T198907055	36 01N	02W	Alton Brown		DO	C	124	220	105	20	4	Route 4, Box 476
T199002981	36 01N	02W	Joe A. Goff		DO	C	162	205	66	25	4	340 Maige Road
T199002262	36 01N	02W	Johnnie M. Gramling		DO	C	140	200	100	20	4	Highway 20 West

Permit #	SEC	TWN	RNG	Last Name	First Name	Use	Type	Casing	Depth	H2O Level	Pump Rate	Diam	Well Street
T198600453		3 01S	01W	FSU-State University of FL		MO	C	15	25				2 North of FSU golf course
T198504642		3 01S	01W	FSU & FAMU Engineering Facility		MO	C	20	20				1 Orange and Innovational Park
T198702987		3 01S	01W	Leon County		MO	C	3	13				4 Plant Street
T198504643		3 01S	01W	FSU & FAMU Engineering Facility		MO	C	20	20				1 Orange and Innovational Park
T198702988		3 01S	01W	Leon County		MO	C	3	13				4 Plant Street
T198703613		3 01S	01W	Leon County Maintenance Shop		MO	C	3	13				4 Plant Street
T198800181		3 01S	01W	State Of Florida	FSU	MO	C	6	11				2 Pottsdamer Road
T198800183		3 01S	01W	State Of Florida	FSU	MO	C	6	11				2 Pottsdamer Road
T198800185		3 01S	01W	State Of Florida	FSU	MO	C	5	10				2 Pottsdamer Road
T198800194		3 01S	01W	State Of Florida	FSU	MO	C	5	10				2 Pottsdamer Road
T198800193		3 01S	01W	State Of Florida	FSU	MO	C	5	10				2 Pottsdamer Road
T198800192		3 01S	01W	State Of Florida	FSU	MO	C	5	10				2 Pottsdamer Road
T198800191		3 01S	01W	State Of Florida	FSU	MO	C	5	10				2 Pottsdamer Road
T198800190		3 01S	01W	State Of Florida	FSU	MO	C	5	10				2 Pottsdamer Road
T198800189		3 01S	01W	State Of Florida	FSU	MO	C	5	10				2 Pottsdamer Road
T198800188		3 01S	01W	State Of Florida	FSU	MO	C	5	10				2 Pottsdamer Road
T198800187		3 01S	01W	State Of Florida	FSU	MO	C	5	10				2 Pottsdamer Road
T198800186		3 01S	01W	State Of Florida	FSU	MO	C	5	10				2 Pottsdamer Road
T199901187		3 01S	01W	Florida A&M University		MO	A	15	15				4 2525 Pottsdamer St
T199901186		3 01S	01W	Florida A&M University		MO	A	15	15				4 2525 Pottsdamer St
T199106576		3 01S	01W	Marvin Beard		MO	A	15	25				1 W. Diral Drive, Innovation Parl
T199106575		3 01S	01W	Marvin Beard		MO	A	15	25				1 W. Diral Drive, Innovation Parl
T199106574		3 01S	01W	Marvin Beard		MO	A	15	25				1 W. Diral Drive, Innovation Parl
T199105766		3 01S	01W	Marvin Beard		MO	C	15	25				1 Paul Dirric Dr.
T199105765		3 01S	01W	Marvin Beard		MO	C	15	25				1 Paul Dirric Dr.
T199105764		3 01S	01W	Marvin Beard		MO	C	15	25				1 Paul Dirric Dr.
P199003369		3 01S	01W	Georgia Pacific Corp.		MO	C	12	12				2 889 Mabry Street
T200601487		3 01S	01W	Sopchoppy Development Inc		MO	A						1 #9/ 2415 Jackson Bluff Rd
T200601486		3 01S	01W	Sopchoppy Development Inc		MO	A						1 #9/ 2415 Jackson Bluff RD
T200601485		3 01S	01W	Sopchoppy Development Inc		MO	A						1 #9/ 2415 Jackson Bluff RD
T200601484		3 01S	01W	Sopchoppy Development Inc		MO	A						1 #9/ 2415 Jackson Bluff RD
T200601483		3 01S	01W	Sopchoppy Development Inc		MO	A						1 #9/ 2415 Jackson Bluff RD
T200601482		3 01S	01W	Sopchoppy Development Inc		MO	A						1 #9/ 2415 Jackson Bluff RD
T200601481		3 01S	01W	Sopchoppy Development Inc		MO	A						2 #9/ 2414 Jackson Bluff Rd
T200601480		3 01S	01W	Sopchoppy Development Inc		MO	A						2 #9/ 2414 Jackson Bluff Rd
T199901189		3 01S	01W	Florida A&M University		MO	A	25	25				4 2525 Pottsdamer St
T199901188		3 01S	01W	Florida A&M University		MO	A	25	25				4 2525 Pottsdamer St
P199003368		3 01S	01W	Georgia Pacific Corp.		MO	C	12	12				2 889 Mabry Street
P199003367		3 01S	01W	Georgia Pacific Corp.		MO	C	12	12				2 889 Mabry Street
P199003366		3 01S	01W	Georgia Pacific Corp.		MO	C	12	12				2 889 Mabry Street
T198707832		3 01S	01W	Suwanne Swifty		MO	C	12	12				2 2415 Jackson Bluff Rd.
T198707831		3 01S	01W	Suwanne Swifty		MO	C	12	12				2 2415 Jackson Bluff Rd.
T198707830		3 01S	01W	Suwanne Swifty		MO	C	12	12				2 2415 Jackson Bluff Rd.
T198707829		3 01S	01W	Suwanne Swifty		MO	C	12	12				2 2415 Jackson Bluff Rd.
T198800195		3 01S	01W	State Of Florida	FSU	MO	C	5	10				2 Pottsdamer Road
T198800184		3 01S	01W	State Of Florida	FSU	MO	C	5	10				2 Pottsdamer Road
T198800182		3 01S	01W	State Of Florida	FSU	MO	C	6	11				2 Pottsdamer Road
T198800180		3 01S	01W	State Of Florida	FSU	MO	C	20	25				2 Pottsdamer Road
T198702989		3 01S	01W	Leon County		MO	C	3	13				4 Plant Street
T197900429		3 01S	01W	Rose Printing Co.		IN	C	218	270			350	8 2503 Jackson Bluff
T199301064		3 01S	01W	FSU Nat. High Magnetic Field Lab		HS	C	80	168			500	12 1800 E. Paul Dirac Dr.
T199301065		3 01S	01W	FSU Nat. High Magnetic Field Lab		HS	C	84	168		58	500	12 1800 E. Paul Dirac Dr.
T197800220		3 01S	01W	David F. Wood		DO	C						4 608 Kyle
T199800349		3 01S	01W	Payne	Jean	DO	C	90	90		40	18	4 355 Silver Lake Road
T199005699		3 01S	01W	James H. Smith		DO	C	105	106		30	20	4 1/2 mile down Glover Rd.
T198000218		3 01S	01W	V. D. Jones		DO	C	59	78		17		4 5110 Isabella Drive

T199401796	4 01S	01W	Leon County School Board/Recovery		RW	C	10	20		2	24	2600 Plant Street
T198905756	4 01S	01W	City of Tallahassee		PS	A	156	232			12	Ridgeway & Patton St.
T198905757	4 01S	01W	City of Tallahassee		PS	A	148	235			12	Ridgeway & Arnold St.
T199207143	4 01S	01W	Leon Cty. School Board		OO	C	11	21	13		2	2600 Plant St.
T199207145	4 01S	01W	Leon Cty. School Board		OO	C	14	29	8		2	2600 Plant St.
T199207144	4 01S	01W	Leon Cty. School Board		OO	C	12	22	12		2	2600 Plant St.
T198704685	4 01S	01W	Alterman Transport Lines		MO	C	2	9			2	3035 Jackson Bluff Road
T198704686	4 01S	01W	Alterman Transport Lines		MO	C	2	9			2	3035 Jackson Bluff Road
T199102391	4 01S	01W	Leon County School Board		MO	C	13	23	14		2	Plant Street
T199202676	4 01S	01W	Leon County School Board		MO	C	8	18			4	2600 Plant Street
T199202682	4 01S	01W	Leon County School Board		MO	A	2	12			2	2600 Plant Street
T199202684	4 01S	01W	Leon County School Board		MO	A	2	12			2	2600 Plant Street
T199303043	4 01S	01W	Unijax		MO	C	14	29	20		2	2834 Roberts Ave.
T199301120	4 01S	01W	Leon County School Board		MO	C	12	22	13		2	2600 Plant St.
T199301119	4 01S	01W	Leon County School Board		MO	C	10	25	13		2	2600 Plant St.
T199301118	4 01S	01W	Leon County School Board		MO	C	12	22	13		2	2600 Plant St.
T199301117	4 01S	01W	Leon County School Board		MO	C	13	23	14		2	2600 Plant St.
T199301116	4 01S	01W	Leon County School Board		MO	C	7	17	7		2	2600 Plant St.
T199301115	4 01S	01W	Leon County School Board		MO	C	7	22	8		2	2600 Plant St.
T199301114	4 01S	01W	Leon County School Board		MO	C	6	21	8		2	2600 Plant St.
T199301113	4 01S	01W	Leon County School Board		MO	C	14	24	15		2	2600 Plant St.
P199803269	4 01S	01W	Dean Foods Co.		MO	C	15	25	18		2	941 Chipley Street
T199601958	4 01S	01W	Rose Printing Co.		MO	C	12	22	12		2	Jackson Bluff Rd.
T199601957	4 01S	01W	Rose Printing Co.		MO	C	12	22	12		2	Jackson Bluff Rd.
T199404420	4 01S	01W	Leon County School Board		MO	A	15	25	14		2	2600 Plant St.
T199402522	4 01S	01W	Leon County School Board		MO	C	18	23	16		2	2600 Plant Street
T199402521	4 01S	01W	Leon County School Board		MO	C	19	24	7		2	2600 Plant Street
T199402520	4 01S	01W	Leon County School Board		MO	C	16	26	17		2	2600 Plant Street
T199402519	4 01S	01W	Leon County School Board		MO	C	54	59	30		2	2600 Plant Street
T199402518	4 01S	01W	Leon County School Board		MO	C	4	19	5		2	2600 Plant Street
T200203064	4 01S	01W	GC-GW / Gail Warren		MO	C	10	25	7.5		2	2830 Plant Street
T200203063	4 01S	01W	GC-GW / Gail Warren		MO	C	10	20	8.03		2	2830 Plant Street
T200203151	4 01S	01W	GC-GW Inc.	Gail Warren	MO	C	10	25			2	2830 Plant St.
T200001866	4 01S	01W	Wholesale	Strictly	MO	A	30	30			2	889 Mabry Street
T200001865	4 01S	01W	Wholesale	Strictly	MO	A	30	30			2	889 Mabry Street
T200001864	4 01S	01W	Wholesale	Strictly	MO	A	30	30			2	889 Mabry Street
T200001863	4 01S	01W	Wholesale	Strictly	MO	A	30	30			2	889 Mabry Street
T200001862	4 01S	01W	Wholesale	Strictly	MO	A	30	30			2	889 Mabry Street
T200001861	4 01S	01W	Wholesale	Strictly	MO	A	30	30			2	889 Mabry Street
T200401824	4 01S	01W	Rowe	Ruben	MO	C		25			2	914 Chiphy St
T200401875	4 01S	01W	Rowe III	Ruben	MO	A					2	914 Chipley St.
T200301405	4 01S	01W	MACTEC		MO	C	32	32			1.5	3035 Jackson Bluff Road
T200203065	4 01S	01W	GC-GW / Gail Warren		MO	C	10	25	7.3		2	2830 Plant Street
T200001860	4 01S	01W	Wholesale	Strictly	MO	A	30	30			2	889 Mabry Street
T200001859	4 01S	01W	Wholesale	Strictly	MO	A	30	30			2	889 Mabry Street
T200000085	4 01S	01W	Strickly Wholesale		MO	C	22	22			2	889 Mabry St.
T200000065	4 01S	01W	Strictly Wholesale		MO	C	22	22			2	889 Mabry Street
T200000064	4 01S	01W	Strictly Wholesale		MO	C	22	22			2	889 Mabry Street
T200000063	4 01S	01W	Strictly Wholesale		MO	C	22	22			2	889 Mabry Street
T199900990	4 01S	01W	Unisource/TCC		MO	A		25			2	2834 Roberts Ave.
T199900989	4 01S	01W	Unisource/TCC		MO	A	30	30			2	2834 Roberts Ave.
T199402517	4 01S	01W	Leon County School Board		MO	C	14	24	15		2	2600 Plant Street
T199402516	4 01S	01W	Leon County School Board		MO	C	14	24	15		2	2600 Plant Street
T199402515	4 01S	01W	Leon County School Board		MO	C	16	26	17		2	2600 Plant Street
T199402514	4 01S	01W	Leon County School Board		MO	C	15	25	16		2	2600 Plant Street
T199402513	4 01S	01W	Leon County School Board		MO	C	15	25	17		2	2600 Plant Street
T199402512	4 01S	01W	Leon County School Board		MO	C	19	29	19		2	2600 Plant Street

T199401209	4 01S	01W	Leon County School Board		MO	A	12	22	16		2 2600 Plant Street
T199303044	4 01S	01W	Unijax		MO	C	14	24	20		2 2834 Roberts Ave.
T199206284	4 01S	01W	Unijax		MO	C	24	34	20		2 2834 Roberts Ave.
T199202683	4 01S	01W	Leon County School Board		MO	A	2	12			2 2600 Plant Street
T199202681	4 01S	01W	Leon County School Board		MO	A	2	12			2 2600 Plant Street
T199200507	4 01S	01W	UniJax		MO	C	20	30			2 2834 Roberts Rd.
T199003737	4 01S	01W	Leon Co. (Tony Parks)		MO	C	20	30	20		2 Jackson Bluff Rd. & Clely St.
T198704687	4 01S	01W	Alterman Transport Lines		MO	C	2	9			2 3035 Jackson Bluff Road
T198704688	4 01S	01W	Alterman Transport Lines		MO	C	2	9			2 3035 Jackson Bluff Road
T199700921	4 01S	01W	Consty	Palmer	DO	A		320			4 Off Old St. Augustine
T198600670	5 01S	01W	Cascade Water Systems, Inc.		PS	A		42			4 Cascade Drive off Capital Circ
T198404166	5 01S	01W	Jim Stidham Associates		MO	C	25	25			2 Inland Hwy 20
T198404167	5 01S	01W	Jim Stidham Associates		MO	C	25	25			2 Inland Sta. Hwy. 20
T198404168	5 01S	01W	Jim Stidham Associates		MO	C	25	25			2 Inland on Hwy 20
T198600258	5 01S	01W	JR. Food Store		MO	C	12	12			4 Hwy. 20 and Hwy 263
T198600257	5 01S	01W	Jr. Food Store		MO	C	12	12			4 Hwy. 20 and Hwy 263
T198600256	5 01S	01W	Jr. Food Store		MO	C	12	12			4 Hwy. 20 and Hwy 263
T198600259	5 01S	01W	JR. Food Store		MO	C	12	12			4 Hwy. 20 and Hwy 263
T198801987	5 01S	01W	Raceway Petroleum		MO	C	16	16	16		4 Hwy. 20 & Cap. Circle
T199500483	5 01S	01W	Municipal Code Corp.		MO	C	5	20		0	2 1720 Capital Circle S.W.
T199500482	5 01S	01W	Municipal Code Corp.		MO	C	18	20		0	2 1720 Capital Circle S.W.
T199307929	5 01S	01W	Alamo Car Rental		MO	C	43	48			2 3300 Capital Circle SW
T199307928	5 01S	01W	Alamo Car Rental		MO	C	42	48			2 3300 Capital Circle SW
T199307036	5 01S	01W	Alamo Car Rental		MO	C	48	48			2 3300 Capital Cir. S.W.
T199307035	5 01S	01W	Alamo Car Rental		MO	C	48	48			2 3300 Capital Cir. S.W.
T199307034	5 01S	01W	Alamo Car Rental		MO	C	55	70			2 3300 Capital Cir. S.W.
T199307033	5 01S	01W	Alamo Car Rental		MO	C	55	70			2 3300 Capital Cir. S.W.
P199304432	5 01S	01W	Autry Petroleum Co.		MO	C	13	23	15		2 2720 Blairstone Rd.
P200101377	5 01S	01W	FDEP		MO	C	20	30			1 2195 Lake Bradford Road
P200101376	5 01S	01W	FDEP		MO	C	20	30			1 2195 Lake Bradford Road
T200002316	5 01S	01W	URS/Dames & Moore		MO	C	25	35			2 Capital Circle S.W.
T200002315	5 01S	01W	URS/Dames & Moore		MO	C	27	37			2 Capital Circle S.W.
T200002314	5 01S	01W	URS/Dames & Moore		MO	C	30	40			2 Capital Circle S.W.
T200002313	5 01S	01W	URS/Dames & Moore		MO	C	25	35			2 Capital Circle S.W.
T199501542	5 01S	01W	City of Tallahassee		MO	C	25	40		0	2 3300 S.W. Capital Circle
T199501541	5 01S	01W	City of Tallahassee		MO	C	5	20		0	2 1 mi. North of Orange Ave. we
T199500484	5 01S	01W	Municipal Code Corp.		MO	C	50	55		0	2 1720 Capital Circle S.W.
T200601470	5 01S	01W	City of Tallahassee		MO	C					2 Cascade & Capital Circle SW
T200601469	5 01S	01W	City of Tallahassee		MO	C					2 Cascade & Capital Circle SW
T200601468	5 01S	01W	City of Tallahassee		MO	C					2 Cascade & Capital Circle SW
T200601467	5 01S	01W	City of Tallahassee		MO	C					2 Cascade & Capital Circle SW
T200601466	5 01S	01W	City of Tallahassee		MO	C					2 Cascade & Capital Circle SW
T200501868	5 01S	01W	Marvin Hewatt Enterprises Inc.		MO	C	85	95	61		2 Texaco 400 NW Capital Circle
T200501867	5 01S	01W	Marvin Hewatt Enterprises Inc.		MO	C	85	95	61		2 Texaco 400 NW Capital Circle
T200501866	5 01S	01W	Marvin Hewatt Enterprises Inc.		MO	C	85	95	61		2 Texaco 400 NW Capital Circle
T200501865	5 01S	01W	Marvin Hewatt Enterprises Inc.		MO	C	85	95	61		2 Texaco 400 NW Capital Circle
T200501864	5 01S	01W	Marvin Hewatt Enterprises Inc.		MO	C	85	95	61		2 Texaco 400 NW Capital Circle
T200501862	5 01S	01W	Marvin Hewatt Enterprises Inc.		MO	C	116	126	61		2 Texaco 400 NW Capital Circle
T200103200	5 01S	01W	Alamo Rent a Car		MO	C	10	20			2 1720 Capital Circle SW
T200103199	5 01S	01W	Alamo Rent a Car		MO	C	40	50			4 1720 Capital Circle SW
T200103198	5 01S	01W	Alamo Rent a Car		MO	C	40	50			2 1720 Capital Circle SW
P200101380	5 01S	01W	FDEP		MO	C	20	30			1 2195 Lake Bradford Road
P200101379	5 01S	01W	FDEP		MO	C	20	30			1 2195 Lake Bradford Road
P200101378	5 01S	01W	FDEP		MO	C	20	30			1 2195 Lake Bradford Road
P199304431	5 01S	01W	Autry Petroleum Co.		MO	C	13	23	15		2 2720 Blairstone Rd.
T199003607	5 01S	01W	Westinghouse Electric Corp.		MO	C	15	25			1 Capital Circle S.W.
T199003606	5 01S	01W	Westinghouse Electric Corp.		MO	C	15	25			1 Capital Circle S.W.

T199003805	5 01S	01W	Westinghouse Electric Corp.		MO	C	15	25			1 Capital Circle S.W.
T198801989	5 01S	01W	Raceway Petroleum		MO	C	16	16	16		4 Hwy. 20 & Cap. Circle
T198801988	5 01S	01W	Raceway Petroleum		MO	C	16	16	16		4 Hwy. 20 & Cap. Circle
T198801986	5 01S	01W	Raceway Petroleum		MO	C	16	16	16		4 Hwy. 20 & Cap. Circle
T198200954	5 01S	01W	James Burk		DO	C	70	100	30	15	4 Route 22, Box 975
T199601950	5 01S	01W	Campbell	Rose Marie	DO	C	90	140	90	20	5 Richerson
T198500346	5 01S	01W	Edward J. Lilly, Jr.		DO	A	200	200			4 Sullivan Road
T199001611	5 01S	01W	Rex Whitfield		DO	C	82	120	48	10	4 Off Hwy 20
T198805961	5 01S	01W	Gloria Wood		DO	C	84	120	60	15	4 4096-B Jackson Bluff
T198500297	5 01S	01W	Edward J. Lilly, Jr.		DO	C	63	70	30	10	4 Off Hwy. 20, Aenon Ch. Rd.
T198604610	5 01S	01W	Eddie B. Isom		DO	C	21	45	25	10	4 Route 5, Box 226-D
T198402283	5 01S	01W	J. E. Steinmeyer		DO	C	63	100	30	20	4 Collins Landing Rd.
T198501781	5 01S	01W	Jimmy Fasthoff		DO	C	70	150	30	10	4 Sullivan Road
T198600762	6 01S	01W	Tom McKenzie		SN	C	83	166	48	10	4 Blountstown Highway
T197600189	6 01S	01W	Pineridge Estates Sub	Cloverleaf Cons	PS	C	158	302	130	150	6 5500 Westview Lane
T198000264	6 01S	01W	Tallahassee Water Resources, Inc.		PS	C	153	304	125		6 Pineridge Estates No. 2
T198901546	6 01S	01W	NWFWMD		MO	C	42	52			4 Off Aenon Chruch Road
T198901547	6 01S	01W	NWFWMD		MO	C	133	140			4 Off Aenon Chruch Road
M199200899	6 01S	01W	Coca-Cola Bottling Co.		MO	C	15	25			2 1320 S. Monroe Street
T199801221	6 01S	01W	Jimmie Crowder Excavating		MO	C	41	56	35.64		2 C & D Landfill Aenon Church
T199801220	6 01S	01W	Jimmie Crowder Excavating		MO	C	46	67	49.07		2 C & D Landfill Aenon Church
T199801223	6 01S	01W	Jimmie Crowder Excavating		MO	C	36	72	31.68		2 C & D Landfill Aenon Church
P200103312	6 01S	01W	FDEP		MO	C	15	30			2 311 Jennings St. & S. Monroe
P200101223	6 01S	01W	FDEP		MO	C	60	65			2 115 W. Jennings Street
T199900733	6 01S	01W	Jimmy Crowder Excavating		MO	C	80	95			2 Aenon Church Rd.
T199900732	6 01S	01W	Jimmy Crowder Excavating		MO	C	60	75			2 Aenon Church Rd.
T199900731	6 01S	01W	Jimmy Crowder Excavating		MO	C	65	80			2 Aenon Church Rd.
T199801227	6 01S	01W	Jimmie Crowder Excavating		MO	C	17	34	10.28		2 C & D Landfill Aenon Church
T199801226	6 01S	01W	Jimmie Crowder Excavating		MO	C	35	50	34.64		2 C & D Landfill Aenon Church
T199801225	6 01S	01W	Jimmie Crowder Excavating		MO	C	45	67	26.95		2 C & D Landfill Aenon Church
T199801224	6 01S	01W	Jimmie Crowder Excavating		MO	C	26	42	32.52		2 C & D Landfill Aenon Church
T200401219	6 01S	01W	Crowder Construction		MO	A		90	60		2 2320 Aenon Church Rd.
T200401218	6 01S	01W	Crowder Construction		MO	C	115	125	57		2 2320 Aenon Church Rd.
T200401176	6 01S	01W	Sutter Family Trust		MO	C	60	65			1 Aenon Church Rd.
T200401175	6 01S	01W	Sutter Family Trust		MO	C	45	65			1 Aenon Church Rd.
P200103317	6 01S	01W	FDEP		MO	C	40	40			2 311 Jennings St. & S. Monroe
P200103316	6 01S	01W	FDEP		MO	C	15	30			2 311 Jennings St. & S. Monroe
P200103315	6 01S	01W	FDEP		MO	C	15	30			2 311 Jennings St. & S. Monroe
P200103314	6 01S	01W	FDEP		MO	C	15	30			2 311 Jennings St. & S. Monroe
P200103313	6 01S	01W	FDEP		MO	C	15	30			2 311 Jennings St. & S. Monroe
T200600605	6 01S	01W	Crowder Excavation	C&D Facility	MO	C	110	125	95		2 Aenon Church Road
T200600604	6 01S	01W	Crowder Excavation	C&D Facility	MO	C	30	45			2 Aenon Church Road
T200600603	6 01S	01W	Crowder Excavation	C&D Landfill	MO	C	40	55	50		2 Aenon Church Road
T200600602	6 01S	01W	Crowder Excavation	Aenon Church C	MO	A	0	110			2 Aenon Church Road
T200501344	6 01S	01W	Crowder Construction		MO	C	95	110			2 Aenon Church Landfill
T200501531	6 01S	01W	Crowder Construction		MO	A	60	75			2 Aenon Church Road Landfill
T200401177	6 01S	01W	Sutter Family Trust		MO	C	55	65			1 Aenon Church Rd.
T199801222	6 01S	01W	Jimmie Crowder Excavating		MO	C	27	40	19.12		2 C & D Landfill Aenon Church
T199801219	6 01S	01W	Jimmie Crowder Excavating		MO	C	41	61	52.5		2 C & D Landfill Aenon Church
T198101122	6 01S	01W	Lex C. Thompson/Mitchell Bros		LA	R					8 Off Capital Circle
T197700062	6 01S	01W	Florida Rock Industrial		IN	C	64	170	30		6 1005 Kissimmee
T197800292	6 01S	01W	Johnny Mayo		DO	C					4 Rt. 4 543E
T198200934	6 01S	01W	David A. Harvey		DO	C	160			12	4 Route 22, Box 970
T198400623	6 01S	01W	Charles Kight		DO	C	82	90	40	14	4 Hwy. 27 S,Windward Hills
T198707092	6 01S	01W	Robin Wallace		DO	C	84	150	80	20	4 5379 Sullivan Road
T200001895	6 01S	01W	Fox	William	DO	C	82	200	80	20	4 1973 Jackson Bluff Rd
T200001256	6 01S	01W	Mash	C.L.	DO	C	190	266	105	12	4 1443 Van Delia Rd

T199701019	6 01S	01W	Aderhoid	Virginia	DO	C	80	140	60	20	5 Five Oak's Lane
T199503481	6 01S	01W	Walter Watson		DO	C	63	90	40	2	4 Hwy 20 to Aenon Church Rd
T199503530	6 01S	01W	Roy Talley		DO	C	84	184	45	12	4 Aenon Church Rd. & Hwy 20
T199500415	6 01S	01W	Joann Ivester		DO	C	85	100	30	10	4 off Sullivan Rd.
T199203859	6 01S	01W	Wayne D. Colvin		DO	C	70	120	50	12	4 Sand Rd.
T198805600	6 01S	01W	M. H. Mayo		DO	C	70	100	50	12	4 Off Sand Road
T198801253	6 01S	01W	Mrs. J. D. Robertson		DO	R	78	98	28	20	4 Sand Road
T198705746	6 01S	01W	J.D. Robertson		DO	C	57	96	20	20	4 Sand Road off U.S. 90 W
T200601495	6 01S	01W	Crowder	Jimmy	DO	A					4 2300 Aenon Church Rd
M200501245	6 01S	01W	Stout	Bob	DO	C	110	140	23	20	4 5285 Sullivan Rd
T200500559	6 01S	01W	Gray	James	DO	C	122	210	104	18	4 Jackson Bluff #5396
T198701819	6 01S	01W	Joe I. Eubanks		DO	C	110	150	80	18	4 Off Jackson Bluff, Sand Road
T198401805	6 01S	01W	Ken Dickey		DO	C	75	100	35	20	4 Sullivan Road
T198101695	6 01S	01W	Pennyworth Homes, Olbry		DO	C	75	130	76	15	4 Jackson Bluff Rd.
T198000923	6 01S	01W	Johnny H. Blackman		DO	C	96	143	48		4 Rt 10, Box 615
T198100282	6 01S	01W	Frank B. Sullivan		DO	C	145	175	100		4 Rt. 4 Box 536-H
T198200622	6 01S	01W	Robert Scott		DO	C	130	165	120	10	4 Route 22, Box 20
T198200623	6 01S	01W	M. H. Mayo		DO	C	71	90	50	10	4 Sand Rd.
T197901088	7 01S	01W	USGS		MO	C	127	130			4 Near Airport
T197901089	7 01S	01W	USGS		MO	C	45	47			4 Near Airport
T197901090	7 01S	01W	U S G S		MO	C	52	65			4 Near airport
T197901001	7 01S	01W	USGS		MO	C	54	70			4 Near Airport
T197900978	7 01S	01W	U S G S		MO	C	65	75			4 Off Truck Route
P199303998	7 01S	01W	City of Tallahassee,Waste Water Div.		MO	C	23	38	26		2 Tall. Munic. Airport,Capital Cir
P199304119	7 01S	01W	City of Tallahassee		MO	A	23	38	26		2 Tallahassee Airport, off HWy 2
P199306341	7 01S	01W	City of Tallahassee		MO	C	25	35	27		2 Off Hwy. 263 Tall. Airport
P199306343	7 01S	01W	City of Tallahassee		MO	C	25	35	27		2 Off Hwy. 263 Tall. Airport
T199307313	7 01S	01W	BP # 24482		MO	C	3	25			2 1225 S. Monroe St.
T199307312	7 01S	01W	BP # 24482		MO	C	44	47			2 1225 S. Monroe St.
P199307205	7 01S	01W	City of Tallahassee		MO	C	20	35			2 Tallahassee Airport, off Hwy 2
P199307186	7 01S	01W	City of Tallahassee		MO	C	20	35			2 Tallahassee Airport off Hwy 2(
P199307185	7 01S	01W	City of Tallahassee		MO	C	20	35			2 Tallahassee Airport off Hwy 2(
P199307184	7 01S	01W	City of Tallahassee		MO	C	45	50			2 Tallahassee Airport off Hwy 2(
P199306346	7 01S	01W	City of Tallahassee		MO	C	25	35	27		2 Off Hwy. 263 Tall. Airport
P199306345	7 01S	01W	City of Tallahassee		MO	C	25	35	27		2 Off Hwy. 263 Tall. Airport
P199306344	7 01S	01W	City of Tallahassee		MO	C	25	35	27		2 Off Hwy. 263 Tall. Airport
P199401813	7 01S	01W	City of Tallahassee		MO	C	22	32	28		2 263 Tallahassee Airport
P199401812	7 01S	01W	City of Tallahassee		MO	C	25	35	28		2 263 Tallahassee Airport
P199401811	7 01S	01W	City of Tallahassee		MO	C	25	35	28		2 263 Tallahassee Airport
P199401810	7 01S	01W	City of Tallahassee		MO	C	25	35	28		2 263 Tallahassee Airport
P199401809	7 01S	01W	City of Tallahassee		MO	C	25	35	28		2 263 Tallahassee Airport
T199307314	7 01S	01W	BP # 24482		MO	C	3	25			2 1225 S. Monroe St.
P199306342	7 01S	01W	City of Tallahassee		MO	C	25	35	27		2 Off Hwy. 263 Tall. Airport
P199304120	7 01S	01W	City of Tallahassee		MO	C	23	38	26		2 Tallahassee Airport, off HWy 2
P199303999	7 01S	01W	City of Tallahassee,Waste Water Div.		MO	C	23	38	26		2 Tall. Munic. Airport,Capital Cir
P199303997	7 01S	01W	City of Tallahassee,Waste Water Div.		MO	C	25	40	26		2 Tall. Munic. Airport,Capital Cir
T197600377	7 01S	01W	Lester Tully		DO	C				20	4 Woodville Rd.
T198100761	7 01S	01W	Charlene Hall		DO	C	56	80	25		4 Oakridge Rd.
T197800839	7 01S	01W	K. Atkinson		DO	C	120	190			4 Hwy. 263
T198900660	8 01S	01W	S.W. Ga. Oil Co.		MO	C	13	13			2 2621 Springhill Rd.
T198900661	8 01S	01W	S.W. Ga. Oil Co.		MO	C	13	13			2 2621 Springhill Rd.
T198900662	8 01S	01W	S. W. Ga. Oil Co.		MO	C	13	13			2 2621 Springhill Rd.
T198900663	8 01S	01W	S.W. Ga. Oil Co.		MO	C	13	13			2 2621 Springhill Rd.
T198901550	8 01S	01W	NWFWMD		MO	C	98	102			4 Off of Truck Route
T200200475	8 01S	01W	Dickerson Landscaping		LA	C	87	110	53	20	4 3227 Capital Cir SW
T199306598	8 01S	01W	Milton Cox		HS	C	48	90	20	20	4 2324 Cypress Cove
T197600002	8 01S	01W	Wilma Sullivan		DO	C				10	4 Blountstown Hwy

T198201196	8 01S	01W	John P. Stephens		DO	C	90	135	70	10	4	Collins Road, Off Hwy 20
T198605428	9 01S	01W	Barber Equipment Co.		MO	C	25	25	25		2	2118 Lake Bradford Rd.
T198605429	9 01S	01W	Barber Equipment Co.		MO	C	25	25	25		2	2118 Lake Bradford Rd.
T198605431	9 01S	01W	Barber Equipment Co.		MO	C	15	15	15		2	2118 Lake Bradford Rd.
T198605430	9 01S	01W	Barber Equipment Co.		MO	C	25	25	25		2	2118 Lake Bradford Rd.
T198903006	9 01S	01W	NWFWMD		MO	C	60	80			4	Orange Avenue
T198901553	9 01S	01W	NWFWMD		MO	C	101	105			4	Inside Tallahassee Jr. Museur
T200101284	9 01S	01W	Leon County Bd. of Commission		MO	A	50	50			2	Tyson Rd. & Eisenhower Rd.
T200101286	9 01S	01W	Leon County Bd. of Commission		MO	A	50	50			2	Tyson Rd. & Eisenhower Rd.
P200204260	9 01S	01W	Collateral Mortgage		MO	C	30	40			0.75	2775 Cathedral Drive
T200500161	9 01S	01W	FSU		MO	C	96	106			2	Eisenhower & Tyson Rd
P200402223	9 01S	01W	FDEP		MO	A					2	2775 Cathedral Avenue
P200400329	9 01S	01W	FDEP		MO	C	25	45			2	2775 Cathedral Drive
P200400328	9 01S	01W	FDEP		MO	C	25	45			2	2775 Cathedral Drive
P200204264	9 01S	01W	Collateral Mortgage		MO	C	10	20			0.75	2775 Cathedral Drive
P200204263	9 01S	01W	Collateral Mortgage		MO	C	10	20			0.75	2775 Cathedral Drive
P200204262	9 01S	01W	Collateral Mortgage		MO	C	30	40			0.75	2775 Cathedral Drive
P200204261	9 01S	01W	Collateral Mortgage		MO	C	30	40			0.75	2775 Cathedral Drive
P200204259	9 01S	01W	Collateral Mortgage		MO	C	30	40			0.75	2775 Cathedral Drive
T200500166	9 01S	01W	FSU		MO	C	96	106			2	Eisenhower & Tyson Rd
T200500165	9 01S	01W	FSU		MO	C	96	106			2	Eisenhower & Tyson Rd
T200500164	9 01S	01W	FSU		MO	C	96	106			2	Eisenhower & Tyson Rd
T200500163	9 01S	01W	FSU		MO	C	96	106			2	Eisenhower & Tyson Rd
T200500162	9 01S	01W	FSU		MO	C	96	106			2	Eisenhower & Tyson Rd
T200500160	9 01S	01W	FSU		MO	C	96	106			2	Eisenhower & Tyson Rd
T200101285	9 01S	01W	Leon County Bd. of Commission		MO	A	50	50			2	Tyson Rd. & Eisenhower Rd.
T200100078	9 01S	01W	I.W.C		MO	A	48	48	17		4	3190 Lakeview DR.
T200301427	9 01S	01W	Leon County Mosquito Control		LP	C	70	100	46	50	5	3969 Tyson Rd.
T199902240	9 01S	01W	Tallahassee Museum of History & Nat. Sci		LI	A	90	90			4	3945 Musuem Drive
T199902241	9 01S	01W	Tallahassee Museum of History & Nat. Sci		LI	C	47	80	26	16	4	3945 Museum Drive
T197600407	9 01S	01W	Loyd Kimbro		DO	C				12	4	Poinsetta Drive
T197900960	9 01S	01W	Billy Ketcham		DO	C	114	130	25	10	4	Lake Bradford
T197900980	9 01S	01W	Butch R. Callahan		DO	C	39	55	20	10	4	Seminole Park, Hwy. 90 West
T199900715	9 01S	01W	Paul	Patricia	DO	A					4	3818 Lakeview Drive
T198704362	9 01S	01W	Besty Fuchs		DO	C	63	100	40	20	4	2735 Gerald Rd.
T198200134	9 01S	01W	George Grose		DO	C	130	160	38	10	4	2920 Cathedral Drive
T198300251	9 01S	01W	Paul Williams		DO	C	108	115	20	10	4	3519 Lakeview
T198301047	9 01S	01W	Tommy Ruis		DO	C	30	45	15	6	4	2888 Gerald Drive
T198300418	9 01S	01W	R. C. Cain		DO	C	103	110	45	8	4	2870 Gerald Dr.
T197900316	9 01S	01W	James Johnson		DO	C					4	2801 Lake Bradford
T198200590	9 01S	01W	Tallahassee Jr. Museum		AI	C	90	105	30	10	4	3945 Museum Dr.
T199407414	10 01S	01W	Lake Bradford Estates		OO	C	15	20		0	2	2775 Jewell Rd
T198703560	10 01S	01W	Chevron USA		MO	C	30	63	4		4	905 Pensacola Street
T198703561	10 01S	01W	Chevron USA		MO	C	32	40	38		4	905 Pensacola Street
T198703562	10 01S	01W	Chevron USA		MO	C	33	41	39		4	905 Pensacola Street
T198703563	10 01S	01W	Chevron USA		MO	C	31	39	37		4	905 Pensacola Street
M199105861	10 01S	01W	Suwanne Swifty -301		MO	C	14	14			2	1720 lake Bradford Rd.
T199406139	10 01S	01W	Lake Bradford Estates		MO	C	10	15			2	2775 Jewel Rd.
T199601913	10 01S	01W	City of Tallahassee		MO	C	5	20	8		2	2311 Lake Bradford Road
T199902116	10 01S	01W	Florida State University		MO	C	36	47	32		2	2565 Pottsdamer Road
T200500509	10 01S	01W	Florida State University		MO	C	25	30	19		1	FSU Nursery, Hwy 371
T200500508	10 01S	01W	Florida State University		MO	C	25	30	19		1	FSU Nursery, Hwy 371
T200500507	10 01S	01W	Florida State University		MO	C	25	30	19		1	FSU Nursery, Hwy 371
T200500506	10 01S	01W	Florida State University		MO	C	25	30	19		1	FSU Nursery, Hwy 371
T200302855	10 01S	01W	Florida State University		MO	C	5	15			0.75	2550 Pottsdamer St
T200000083	10 01S	01W	City of Tallahassee		MO	C	8	18			1	1901 Lake Bradford Road
T200000082	10 01S	01W	City of Tallahassee		MO	C	8	18			1	1901 Lake Bradford Road

T199601914	10 01S	01W	City of Tallahassee		MO	C	5	20	8		2	2311 Lake Bradford Road
T199601912	10 01S	01W	City of Tallahassee		MO	C	5	20	8		2	2311 Lake Bradford Road
T199406138	10 01S	01W	Lake Bradford Estates		MO	C	10	15			2	2775 Jewel Rd.
M199105860	10 01S	01W	Suwanne Swifty -301		MO	C	14	14			2	1720 lake Bradford Rd.
T198902999	10 01S	01W	NWFWMD		MO	C	60	80			4	Orange Avenue
T199500304	10 01S	01W	Florida State University		GI	A		153		0	4	FSU Golf Course off Lake Bra
T200000651	10 01S	01W	Seminole Golf Course		GI	C	100	200	80	50	4	3000 Lake Bradford Road
T197600796	10 01S	01W	Elisa Brundye		DO	C	55	75	52	15	4	2710 Silver Lake Dr.
T197600770	10 01S	01W	N Dixon		DO	C	77	82	30	15	4	2724 Silverlake Dr.
T200203303	10 01S	01W	University Homes		DO	C	123	160	42	18	4	Off Jewell Dr.
T197600771	10 01S	01W	Graham	Ernie May	DO	C					4	Hwy 371 S.
T199801154	10 01S	01W	Alcorn	Gwen	DO	C	85	125	60	18	4	2600 Gerold Dr.
T197600785	10 01S	01W	E Brown		DO	C	48	68		15	4	2712 Lake Henrietta St.
T198603323	10 01S	01W	Marie Sawyer		DO	C	279	300	90	15	4	2857 Jewell Drive
T198000884	10 01S	01W	J. L. Brown		DO	C	49	90	47		4	3711 Gerald Dr.
T198300868	10 01S	01W	Steve Pogge		DO	C	52	70	30		4	Rt. 3, Box 708
T198300707	10 01S	01W	Donna Arden		DO	C	30	60	18	20	4	Rt 12 Box 941
T198500666	10 01S	01W	Faye Tyre		DO	C	100	120	60	10	4	2014 Season Lane
T198705118	10 01S	01W	Woldo E. Thomas		DO	C	42	58	28	20	4	Dilmore Drive
T198502979	16 01S	01W	Florida State University		PS	A	68	100			6	FSU Seminole Reservation
T198601716	16 01S	01W	Florida DER		MO	C	35	80			4	Capital Circle near Airport
T198601718	16 01S	01W	Florida DER		MO	C	56	66			2	Capital Circle near Airport
T198601721	16 01S	01W	Florida DER		MO	C	36	36			2	Capital Circle near Airport
T198806403	16 01S	01W	FSU Dept. of Geology		MO	C	15	15	12		2	Flastacowa Road
T198602199	16 01S	01W	Florida D.E.R.		MO	C	25	40			4	Capital Circle, Airport
T198602197	16 01S	01W	Florida D.E.R.		MO	C	40	65			4	Capital Circle, Airport
T198601719	16 01S	01W	Florida DER		MO	C	30	40			4	Capital Circle near Airport
T198806404	16 01S	01W	FSU Dept. of Geology		MO	C	13	13	10		2	Flastacowa Road
T199501559	16 01S	01W	Tallahassee Sewer & Water Dept		MO	C	5	20	10	0	2	2311 Lake Bradford Road
T199501558	16 01S	01W	Tallahassee Sewer & Water Dept		MO	C	5	20	10	0	2	2311 Lake Bradford Road
T199501557	16 01S	01W	Tallahassee Sewer & Water Dept		MO	C	5	20	10	0	2	2311 Lake Bradford Road
T199303671	16 01S	01W	City of Tallahassee		MO	C	12	17			2	SR 373 & SR 263
M199106127	16 01S	01W	Eli Roberts Oil Co.		MO	C	13	13	8		2	2195 Lake Bradford
M199106126	16 01S	01W	Eli Roberts Oil Co.		MO	C	13	13	8		2	2195 Lake Bradford
M199106125	16 01S	01W	Eli Roberts Oil Co.		MO	C	13	13	8		2	2195 Lake Bradford
M199106124	16 01S	01W	Eli Roberts Oil Co.		MO	C	13	13	8		2	2195 Lake Bradford
T199103947	16 01S	01W	City of Tallahassee		MO	C	65	80			4	Capital Circle, Cemetary
T200200808	16 01S	01W	Avis		MO	C	70	75	40		2	3300 SW Capital Circle
T199503480	16 01S	01W	Tallahassee Sewer & Water Dept.		MO	C	3	18	10	0	2	2311 Lake Bradford Rd.
T199103946	16 01S	01W	City of Tallahassee		MO	C	40	55			4	Capital Circle, Cemetary
T199105418	16 01S	01W	Jerry L. Sealy		MO	C	5	15			2	3300 Capital Circle SW
T198902995	16 01S	01W	USGS		MO	C	52	56			2	Springhill Road, Airport
T198806407	16 01S	01W	FSU Dept. of Geology		MO	C	25	25	20		2	Flastacowa Road
T198806406	16 01S	01W	FSU Dept. of Geology		MO	C	43	43	40		2	Flastacowa Road
T198806405	16 01S	01W	FSU Dept. of Geology		MO	C	35	35	30		2	Flastacowa Road
T198400208	16 01S	01W	Paul Tuveson		LP	C	48	85	43	15	4	Airport Industrial Park
T197800052	16 01S	01W	Gene Brown		DO	C	106	160	50		4	3274 Longleaf
T199901257	16 01S	01W	Womble	Terry	DO	C	63	75	30	12	4	Captial Circle to Lake Bradfor
T199401276	16 01S	01W	Don Filkins		DO	C	60	70	30	12	4	Lake Bradford & Jewell Dr.
T199303425	16 01S	01W	Bill Price		DO	C	63	65	30	12	4	Capital Cir. S.W. & Lake Brad
T199102839	16 01S	01W	Fred Fletcher		DO	C	60	90	30	10	4	2969 Gerald Drive
T198901450	16 01S	01W	Bob Hines		DO	C	69	70	40	12	4	3039 Echo Point Lane
T197700113	16 01S	01W	W. Rowan		DO	C		100			4	Gerald Drive
T197600760	16 01S	01W	Elmer Sheffield		DO	C				15	4	2980 Lake Bradford
T198402016	16 01S	01W	Gary Sapp		DO	C	70	100	40	10	4	Tom Roberts Rd.
T198000359	16 01S	01W	Frank Gomez		DO	C	130	165			4	1510 Capital Cir.
T198000261	16 01S	01W	H & S Construction		DO	C					4	Capital Circle

T198605725	17 01S	01W	Greimer Engineering		MO	C	25	30	30		1 SR 263, Airport
T198605726	17 01S	01W	Greimer Engineering		MO	C	40	50			1 SR 263, Airport
T198708623	17 01S	01W	Bay Coast Petroleum		MO	C	6	16	11		2 Budget Rent-A-Car Capital Ci
T198708624	17 01S	01W	Bay Coast Petroleum		MO	C	6	16	11		2 Budget Rent-A-Car Capital Ci
T198708625	17 01S	01W	Bay Coast Petroleum		MO	C	6	16	11		2 Budget Rent-A-Car Capital Ci
T198708626	17 01S	01W	Bay Coast Petroleum		MO	C	6	16	11		2 Budget Rent-A-Car Capital Ci
T198901505	17 01S	01W	City of Tallahassee		MO	C	12	12			2 3240 Capital Circle S.W.
T198901506	17 01S	01W	City of Tallahassee		MO	C	12	12			2 3240 Capital Circle S.W.
T198901507	17 01S	01W	City of Tallahassee		MO	C	12	12			2 3240 Capital Circle S.W.
T198901508	17 01S	01W	City of Tallahassee		MO	C	12	12			2 3240 Capital Circle S.W.
T198901509	17 01S	01W	City of Tallahassee		MO	C	12	12			2 3240 Capital Circle S.W.
T198901510	17 01S	01W	City of Tallahassee		MO	C	12	12			2 3240 Capital Circle S.W.
T198901511	17 01S	01W	City of Tallahassee		MO	C	12	12			2 3240 Capital Circle S.W.
T198901488	17 01S	01W	City of Tallahassee		MO	C	12	12			2 3240 Capital Circle S.W.
T198903001	17 01S	01W	NWFWMD		MO	C	90	130			4 Lake Bradford Road
T199002980	17 01S	01W	USGS		MO	C	80	100	10		4 Off Springhill Road, Airport
P198906810	17 01S	01W	City of Tallahassee		MO	C	20	100	15	10	4 Tallahassee Airport
P198906811	17 01S	01W	City of Tallahassee		MO	C	20	65	15	10	4 Tallahassee Airport
P198906812	17 01S	01W	City of Tallahassee		MO	C	20	39	15		4 Tallahassee Airport
T199105419	17 01S	01W	Jerry L. Sealy		MO	C	5	15			2 3300 Capital Circle SW
T199105421	17 01S	01W	Jerry L. Sealy		MO	C	5	15			2 3300 Capital Circle SW
T199205672	17 01S	01W	Mr. Jerry L. Sealy		MO	C	35	40			2 Tall Municipal Airport
T199205673	17 01S	01W	Mr. Jerry L. Sealy		MO	C	25	30			2 Tall Municipal Airport
T199205945	17 01S	01W	Mr. Jerry L. Sealy		MO	A	25	30			2 Tallahassee Municipal Airport
T199205946	17 01S	01W	Mr. Jerry L. Sealy		MO	A	35	40			2 Tallahassee Municipal Airport
T199404433	17 01S	01W	City of Tallahassee Aviation		MO	C	50	55	30		2 3300 Capital Circle
T199404434	17 01S	01W	City of Tallahassee Aviation		MO	C	21	36	30		2 3300 Capital Circle
T199404435	17 01S	01W	City of Tallahassee Aviation		MO	C	36	36	30		2 3300 Capital Circle
T199404436	17 01S	01W	City of Tallahassee Aviation		MO	C	36	36	30		2 3300 Capital Circle
T200102526	17 01S	01W	Avis Rent-A-Car Systems, Inc.		MO	C	29	44	42		2 3300 SW Capital Circle
T200102088	17 01S	01W	Avis Rent A Car Systems		MO	C	28	48	38.5		2 3300 SW Capital Circle
T200102089	17 01S	01W	Avis Rent A Car Systems		MO	C	28	48	38.5		2 3300 SW Capital Circle
T200102090	17 01S	01W	Avis Rent A Car Systems		MO	C	28	48	38.5		2 3300 SW Capital Circle
T200102091	17 01S	01W	Avis Rent A Car Systems		MO	C	28	48	38.5		2 3300 SW Capital Circle
T200102092	17 01S	01W	Avis Rent A Car Systems		MO	C	28	48	38.5		2 3300 SW Capital Circle
T200301128	17 01S	01W	Airclaims, Inc.		MO	C	8	18			2 Tallahassee Airport
T200502652	17 01S	01W	Air Claims Inc		MO	A	3	18			2 West Runway, Tall. Regional
T197600958	18 01S	01W	Leon County/Dept. of Pollution		MO	C	23	28	21		4 2965 Appleyard
T197600959	18 01S	01W	Leon County/Dept. of Pollution		MO	C	31	36	27		4 2965 Appleyard
T197600960	18 01S	01W	Leon County/Dept. of Pollution		MO	C	29	34	22		4 2965 Appleyard
T197600961	18 01S	01W	Leon County/Dept. of Pollution		MO	C	33	38	18		4 2965 Appleyard
T200601071	18 01S	01W	Muller	Ardan	DO	A	0	84	84		4 613 Alpha Ave.
T198502520	19 01S	01W	City of Tall. Water Quality Lab		MO	C	50	60		5	4 Thomas Smith Waste Water F
T199601758	19 01S	01W	Syn-Tech Systems, Inc.		MO	C	25	30			2 100 Four Points Way
T199701784	19 01S	01W	Sing Oil Co.		MO	C	35	50			2 6706 Thomasville Rd.
T200200107	19 01S	01W	Chevron		MO	C	5	25			2 814 Lake Bradford
T200200109	19 01S	01W	Chevron		MO	C	5	25			2 814 Lake Bradford
T200200111	19 01S	01W	Chevron		MO	C	5	25			2 814 Lake Bradford
T200200113	19 01S	01W	Chevron		MO	C	5	25			2 814 Lake Bradford
T200200114	19 01S	01W	Chevron		MO	C	5	25			2 814 Lake Bradford
T200200112	19 01S	01W	Chevron		MO	C	5	25			2 814 Lake Bradford
T200200110	19 01S	01W	Chevron		MO	C	5	25			2 814 Lake Bradford
T200200108	19 01S	01W	Chevron		MO	C	5	25			2 814 Lake Bradford
T199701785	19 01S	01W	Sing Oil Co.		MO	C	35	50			2 6706 Thomasville Rd.
T197800271	19 01S	01W	Moore Concrete Company		DO	C	66	83	35		4 Woodville Hwy.
T198704492	20 01S	01W	Leon County School Bus Service		MO	C	2	12			4 3395 W. Tharpe Street
T198704493	20 01S	01W	Leon County School Bus Service		MO	C	2	12			4 3395 W. Tharpe Street

T198704495	20 01S	01W	Leon County School Bus Service		MO	C	2	12			4	3395 W. Tharpe Street
T198704494	20 01S	01W	Leon County School Bus Service		MO	C	2	12			4	3395 W. Tharpe Street
T197700953	20 01S	01W	M. Carroll		DO	C					4	Rt. 12, Box 9025
T197800944	20 01S	01W	Dennis Gray		DO	C	43	80	20		4	1947 Treeline Dr.
T197901103	20 01S	01W	Oscar Franklin		DO	C				30	4	Springhill Rd.
T198100768	20 01S	01W	M. Norwood		DO	C	60	80	40		4	Springhill Rd.
T198903409	20 01S	01W	Richard H. Taylor		DO	C	35	50	30	18	4	Rt. 16 Box 9017
T200501322	20 01S	01W	Gray	Cole	DO	C	146	150	50	18	4	4238 Lonnie Gray Road
T200402525	20 01S	01W	Lake Jackson Hm Center		DO	C	45	95	40	12	4	5709 Mays Gray Rd
T200103035	20 01S	01W	Register	Rick	DO	C	42	65	10	10	4	5550 Springhill Road
T199901517	20 01S	01W	Golden	Thomas	DO	C	60	90	45	120	4	Spring Hill Rd
T199701743	20 01S	01W	Register	Rick	DO	C	42	85	15	120	4	Lonnie Gray Rd.
T199701737	20 01S	01W	Reeves	Asa	DO	C	43	73	20	20	4	Lonnie Gray Rd.
T199502294	20 01S	01W	Rick Register		DO	C	40	70	20	10	4	Springhill Rd
T199407065	20 01S	01W	Lacy Sanders		DO	C	84	90	25	18	4	555 Lonnie Grey Rd
T198100472	20 01S	01W	Rick Register		DO	C	46	100	30		4	Rt. 12 Springhill Rd.
T198302146	20 01S	01W	Bill Jones		DO	C	62	90	25	20	4	Lonnie Gray Road
T198301643	20 01S	01W	Ronald Gray		DO	C	45	60	30	20	4	Rt. 16, Box 8068
T198301644	20 01S	01W	Randolph Register		DO	C	35	80	24	20	4	Rt. 16, Box 8072
T198504483	20 01S	01W	Cole Gray		DO	C	150	150	30	20	4	Lonnie Gray Road
T198504891	20 01S	01W	Cole Gray		DO	A	170	170			4	Lonnie Gray Road
T198504892	20 01S	01W	Cole Gray		DO	A	150	150			4	Lonnie Gray Road

Permit #	SEC	TWN	RNG	Last Name	First Name	Use	Type	Casing	Depth	H2O Level	Pump Rate	Diam	Well Street
T198702122		1 01S	02W	Otis Sapp		DO	C	100	170	80	20	4	Rt. 16 Box 5630
T198707101		1 01S	02W	R.W. Rooks		DO	C	136	165	90	15	4	U.S. Forrest Road
T199204434		1 01S	02W	Walter Watson		DO	C	70	150	30	12	4	Ageon Church Rd. & Hwy 20
T198200267		2 01S	02W	Oscar Lisenby		DO	C	90	130	73	10	4	Silver Lake Road
T198101606		2 01S	02W	Ed Revell		DO	C	60	114	45	8	4	Silver Lake Road
T199002809		2 01S	02W	Marion Spence		DO	C	80	140	75	20	4	Spring Hill Rd. & Tom Roberts Rd.
T200601190		3 01S	02W	Charter South Inc		PS	C	55	70	18	18	4	9612 Apalachee Parkway
T198700250		3 01S	02W	Johnson's Sand Company		IN	C	140	302	60	400	8	Off Silver Lake Road
T198703993		3 01S	02W	Johnson Sand Co.		IN	R	140	322	60	400	8	Off Silver Lake Road
T197800723		3 01S	02W	Phil McCrellis		DO	C					4	Silver Lake Road
T197800846		3 01S	02W	Mary Johnson		DO	C	65	85			4	112 Camp Ground Rd.
T198000760		3 01S	02W	Douglas Keller		DO	C	67	100	84		4	7535 West Tenn
T198805252		3 01S	02W	Fred Allen		DO	C	140	185	65	10	4	Silver Lake Road
T198905343		3 01S	02W	Christopher Johns		DO	C	75	150	65	10	4	Silver Lake Road
T199404264		3 01S	02W	Kitty Bozeman		DO	C	63	115	30	12	4	Hwy 20 and Silver Lake Rd.
T199701160		3 01S	02W	Revell	Ed	DO	C	85	90	45	120	4	Barfield Rd.
T200601234		3 01S	02W	Charter South Inc		DO	A		58	18		4	9512 Appalachee Parkway
T200401104		3 01S	02W	Houck	James	DO	C	136	200	80	12	4	8401 Cross Bow Trail
M200001951		3 01S	02W	Hernands	Eddie	DO	C	100	130	85	10	4	8037 Baby Farm Road
M200000013		3 01S	02W	Oakwood Homes		DO	C	110	120	66	42	4	Silver Lake Road
T199900566		3 01S	02W	Walda	Mike	DO	C	90	135	45	12	4	Hwy 20 to Silverlake Road on left
M199701632		3 01S	02W	Davis	Ed	DO	C	140	220	50	10	4	Hwy 260 & Silver Lake Road
M199600822		3 01S	02W	Fitcher	Ross	DO	C	120	200	70	10	4	Silver Lake Road
T199003265		3 01S	02W	Hansel Scarborough		DO	C	80	153	75	12	4	Hwy. 20 to Silver Lake Road
T198905441		3 01S	02W	Geneva F. Abell		DO	C	100	165	80	12	4	Silver Lake Road
T198201103		3 01S	02W	Tallahassee Properties		DO	C	93	165	40	35	4	Off Silver Lake Dr.
T198300482		3 01S	02W	Donald Miller		DO	C	120	200	100	10	4	Silver Lake Rd.
T198500593		3 01S	02W	J. M. Johnson		DO	C	125	145	80	12	4	Rt 10, Box 402
T198503043		3 01S	02W	Charles Eabell		DO	C	78	95		5	4	1 Mile off 20 Silver Lake Rd.
T199003639		4 01S	02W	Mark Evans		DO	C	130	175	65	12	4	Hwy. 20 to Joe Thomas Road
T198301201		5 01S	02W	Joe Helms		DO	R	215	260	120		4	115 Nature Trail Way
T200100820		6 01S	02W	Lee	Tracy	DO	C	120	190	50	12	4	Hwy 20 West to Clydes Ln
T197901369		7 01S	02W	Mike Lingle		DO	C				8	4	Off Capital Circle West
T198300893		7 01S	02W	Joe Helmes		DO	C	176	176	140		4	Rt. 10, Box 7202
T199106775		8 01S	02W	J. P. Stephens		DO	C	100	150	50	15	4	Collins Road
T198403307		9 01S	02W	Sheila Hutto		DO	C	190	230	60	10	4	Off Hwy. 20, Silver Lake Road
T200202906		10 01S	02W	Barker	Robert	DO	C	60	110	70	12	4	Silver Lake Road
T199300982		11 01S	02W	Dept. of Natural Resources		MO	C	17	27	12		4	Silver Lake Campground, Hwy. 20
T199300991		11 01S	02W	Dept. of Natural Resources		MO	A	50	65			4	Silver Lake Camp Ground
T198000708		12 01S	02W	Mr. Elkins		DO	C	90	143	60		4	Rt.4 Box 532
T198100693		12 01S	02W	Gerry Wood		DO	C	26	40	15		4	Blountstown Hwy
T198100751		12 01S	02W	Walter Finley		DO	C	50	85	45		4	818 Ridge Rd.
T198502897		12 01S	02W	Thomas Stoutamire		DO	C	105	155	52	10	4	Route 22, Aenon Church Rd
T199003285		12 01S	02W	Wayne Cordell		DO	C	72	150	50	30	4	Off Aenon Road
T200601271		12 01S	02W	Watson	Doris C.	DO	C					4	4110 Aenon Church Road
T198605384		13 01S	02W	Lonnie Jacobs		DO	C	161	180	35	15	4	off Bloxam Cutoff near 342
T198100013		14 01S	02W	Talmadge Rushing		DO	C	60	100			4	117 Hamnon Rd.
T198602450		14 01S	02W	Jim Willis		DO	C	86	120	50	15	4	Ben Stoutamire Rd., Hwy. 20

10.5.4 Stormwater Calculations

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ARVAH B. HOPKINS REPOWERING PROJECT UNITS 2A AND 2B STORMWATER MANAGEMENT PLAN

1. PURPOSE AND SCOPE

The purpose of this calculation is to present the design for the stormwater management system for the Repowering Project at Tallahassee Electric Utility's Arvah B. Hopkins Generating Station and associated electrical switchyard improvements (see Attachment 1). The calculation covers the stormwater underdrain conveyance system, infiltration/detention basin, and run-on bypass pipe.

In addition, this plan presents erosion and sediment control best management practices (BMPs) to be implemented during construction activities (Refer to Section 7 and the attached drawings).

The underdrain conveyance system is designed to handle the surface runoff from the critical duration storm up to and including the 25-year, 24-hour storm event and discharge the runoff into the infiltration/detention basin to satisfy submittal requirements of Ref. 1 Section 312 (b)(2) c.

The infiltration/detention basin peak storage/discharge and the infiltration gallery are designed only for the Repowering and switchyard improvements Area. The calculation is designed to:

1) demonstrate that the infiltration/detention basin has adequate storage volume to provide necessary peak flow reduction, meeting Leon County Code of Laws, Chapter 10 (Reference 1).

2) determine the 2-year, 24-hour storm event predevelopment discharge from runoff due to the critical storm event and limit the post development peak discharge up to the 25-year, 24-hour storm event to the pre-development values;

3) limit the erosion potential through use of erosion control structures for storm events up to and in excess of the 100-year, 24-hour rainfall; and,

4) to establish design low and high water levels in the infiltration/detention basin including outlet and inlet control structure elevations.

5) provide infiltration for 0.5 inches runoff from all areas draining to the infiltration/detention basin.

6) protect equipment from stormwater runoff events up to and including the 100-year, 24-hour storm event.

7) provide a bypass pipe designed to handle run-on areas up to the 25-yr, 24-hr storm event.

Please note that as the specific design details of the facility are developed, minor changes in the underdrain handling systems may be required. If any substantive revisions are required, this document will be resubmitted for approval.

A pre-permit submittal meeting was held on Jan. 6, 2006, at the Arvah B. Hopkins Station. Attendees included Catherine Breland (FDEP), Bing Xu (Leon County), Philip A. Bucci and

Hazem Tamimi (City of Tallahassee) and Douglas Dahlberg (Sargent & Lundy). Conclusions of the meeting are as follows:

1) The general calculation approach utilized for the repowering units at this facility in 2004 should be the overall format for the Repowering Project Stormwater Plan.

2) Draining the Repowering Area to the infiltration/detention basin on the south side of the overall site is not practical due to the distance, lack of slope, and numerous potential underground interferences.

3) The overall site surface water flow divide is situated at the south central portion of the Repowering Area. Therefore, draining stormwater to the north is the only practical alternative.

4) Discharge piping should terminate well upstream of any wetlands or drainage paths.

5) Based on the existing terrain, the discharge piping from the filtration system might have to be routed along the overhead electrical transmission line easement, further west to a dry run.

6) Ponded water along the railroad tracks should drain out of the northern ditch; regrading the ditch may be required.

Subsequent to the meeting, additional correspondence and conversations with FDEP and Leon County representatives resulted in the following:

1) Based on the distance from the site to the discharge to the dry run drainage path that eventually becomes Three Pole Creek, which discharges to the Ochlockonee River will not be considered direct discharge to an "Outstanding Florida Waters".

The City of Tallahassee point of contact for the administration of the stormwater management plan is as follows:

City of Tallahassee
Hopkins Generating Station
Triveni Singh, Plant Manager

1125 Geddie Road
Tallahassee, FL 32304
Phone (850) 891-5807

2. DESIGN INPUT

A. Design Criteria

1) Infiltration/ detention shall be provided in accordance with Reference 1, Section 191 (b). Impoundment depth for the infiltration-retention level is to be 24-inch maximum per Reference 1, Section 208 (12). (Infiltration-retention depth is 0.55 ft. from elev. 129.45 ft. to elev. 130.0 ft.)

2) Infiltration/detention basin detained flow must drain down within 90 hours of the selected storm event per Reference 1 Section 208 (15) b. (Refer to Attachment 9, 25-yr, 8-hr storm event – net-effective draw down time to retention elevation of 130.0 is 90 hours with the remaining 0.6 ft. passing through the filtration system.)

3) Allow retained water treatment infiltration volume in infiltration/detention basin bottom. The first half shall infiltrate in a maximum of 7 days. The remainder shall infiltrate within a maximum of 30 days per Reference 1, Section 208 (16). Per discussion with Leon County Staff, because all the areas draining to the infiltration/detention basin will be surfaced with either asphalt, buildings, aggregate, or seeded, once final surfacing is established, there will be a nominal amount of sediment erosion. Therefore 0.5 feet of sediment trap/infiltration volume is accommodated in the infiltration/detention basin bottom below the outlet structure elevation. (Refer to drawings)

4) Corrugated High Density Polyethylene Pipe will be used for stormwater conveyance.

5) Manholes will be constructed of reinforced concrete complying with ASTM C479 Standards.

6) Design Life: 50 years minimum per Reference 2, Section 6.2.1.

7) Energy dissipation features are to be included at infiltration/detention basin inlets and outlets per Reference 1. Refer to drawings.

8) Infiltration/detention basin inside side slopes at 3H: 1V; outside side slopes at 3H: 1V per Reference 1. Ditches: 3H: 1V side slopes and maximum 2.5 fps for seeded slopes per Reference 1, Section 208 (13). The City of Tallahassee has provided perimeter fencing around the property. (Refer to drawing C-4001P)

9) Outlet pipe to be minimum of 12-in. diameter for maintenance purposes (Refer to detail C-4008-2).

10) High Point of Finished Surface (HPFS) is at approximately elevation EL. 135.50 ft. Road Crown EL. 135.75 ft. (Refer to drawing C-4005P)

11)Top of the infiltration/detention basin dike varies from EL. 138.0 to 139.0 ft. (Refer to drawing C-4001P)

12) Catch Basin Rim El. 135.0 ft. All catch basins and manholes will be provided with a 1-ft. sediment trap per Reference 1 requirements. (Refer to drawings C-4006P and C-4007P).

13) Pipe slope minimum to maintain flowing full 2.5-fps scour velocity per Reference 2, Section 3.6.1. (Refer to Attachment 10)

14) Discharge location of the Repowering Area remains unchanged for pre and post development runoff. (Refer to drawing C-4001P)

15) Foundation grades to be designed minimum 6 inches above maximum water elevation. High

point of finished grade at elevation is 135.5 ft. and foundation surface is at elevation 136.0 ft.

16) The infiltration/detention basin containment dike lowest point is a minimum of one foot above the detained water elevation to minimize saturation per Reference 3, Section 3.1.1. Top of the dike lowpoint is at elevation 138.0 ft., normal high water is at elevation 134.77 ft.

17) Interior infiltration/detention basin corners will have a radius of 30 feet or larger per Reference 3, Section 3.1.1. (Refer to drawing C-4001P)

18) Outlet may be valved for maintenance purposes. (Refer to detail C-4008P-02)

19) Stormwater management facilities will have erosion control measures including sodding on the inside slopes per Reference 1, Section 208 (10). (Refer to drawing C-4001P)

20) Stormwater conveyance channels and pipes will be designed using Manning's Equation, using "n" values from Table 2.1 of Reference 2.

21) Minimum time of concentration is 10 minutes per Section 3.5.1 of Reference 2. (See Section 5)

22) One-foot minimum of freeboard above the maximum design stage will be provided per Reference 2, Section 5.3.4.2. (Refer to detail C-4008-02).

23) The maximum allowable velocity for sod is 4 fps and for riprap is 6 fps per Reference 2, Table 2.4.

B. Drainage Area

Repowering facility redevelopment area draining to the infiltration/detention basin, not including basin area = 6.7 Acres.

Impervious Area = 1.9 acres Pond Area = 1 acre
Pervious Area = 4.8 acres

C. Precipitation Data

All data used is from the Reference 2, Appendix B for Zone 2. Pages B-3, Rainfall Intensity Duration Frequency Curves; B-13, Precipitation Data; B-18, Rainfall Distribution Curves-1-Hour Duration; B-20, Rainfall Distribution Curves-4-Hour Duration; B-21, Rainfall Distribution Curves-8-Hour Duration; and, B-22, Rainfall Distribution Curves-24-Hour Duration.

Data from Reference 2 is summarized as follows:

TABLE 1

Rainfall Amount at Plant

Storm Return Frequency (Yrs.)	Rainfall Duration (Hrs.)				
	1	2	4	8	24
2	2.3"	3.0"	3.5"	4.2"	4.7"
5	2.8"	3.6"	4.4"	5.5"	6.4"
10	3.2"	4.1"	5.0"	6.2"	7.5"
25	3.7"	4.7"	5.9"	7.4"	8.5"

D. Time of Concentration

Under the FDOT Drainage Manual Methodology, the minimum Time of Concentration (Tc) typically used is 10 minutes (Reference 2, Section 3.5.1). The data figures only go down to 8.0 minutes. Although actual values will be calculated for the predevelopment and post development situations, a default of 10-minute Tc will be used as advised by FDOT.

E. Soil Conditions

U.S. Department of Agriculture, Soil Conservation Soils Maps indicate the facility is on Albany and Blanton soils, Category "C" (Reference 4 and Attachment 4).

3. ASSUMPTIONS

1) Seasonal high groundwater elevations will not impact the functioning of the infiltration/detention basin. Refer to discussion in Section 5.B.5.

2) The surface of finished grade surrounding the equipment in the powerblock will be aggregate, and the exterior perimeter side slopes will be seeded.

3) All on-site access roads will be paved. The surface runoff coefficient for pavement will be CN = 98. The surface runoff coefficient for buildings and other structures will be CN = 98. The surface runoff coefficient for pervious areas will be conservatively estimated as CN = 89 since a majority of surfacing will be gravel. The infiltration/detention basin surface area will not use a CN but will assume all rainfall for detention.

4) Regional flood elevations will not create a backwater effect at the infiltration/detention basin outlet structure, based on Leon County online GIS maps per Reference 1, Section 312 (b) b.

5) CHDPE pipe will have a Manning's "n" value of 0.011.

6) The pre-development runoff curve number is assumed to be 45 per Reference 2.

4. METHODOLOGY

A. Underdrain Conveyance Pipes

The underdrain conveyance system is modeled in a software package "StormCad" for analysis during the 25-yr, 24-hr storm event. The hydraulic grade lines of the underdrain pipes are determined to ensure that manhole and catch basin rim elevations are not surcharged for a 25-year storm period. The design will be such that the plant roads and facilities will not be flooded during the 25-year storm in both the power block and switchyard areas. The design assumes the entire repowering are is developed.

B. Infiltration/ Detention Basin

The infiltration/ detention basin is designed to satisfy the following requirements.

1) To design a infiltration/ detention basin to reduce the post-redevelopment peak outflow downstream of the infiltration/detention basin for all storm events up to and including the 25-year storm event to the pre-development conditions from the 2-year critical duration storm event. (Refer to Sections 5.B)

2) The low water level in the infiltration/detention basin is established based on the elevation of the outlet ditch.

3) All surface runoff from the developed areas will be directed through surface ditches and through underdrain pipes to the infiltration/ detention basin.

4) Florida Department of Transportation Critical Storm Event Methodology is used to determine the storm event that is critical and size the infiltration/detention basin and inlet/outlet structures (Reference 1).

5) Provide retention treatment considering an effective area equal to the total area draining to the infiltration/detention basin capturing 0.5 inches of rainfall for infiltration. (Refer to Sections 5.B)

C. Bypass Pipe

The bypass pipe is designed by the following methods.

1) The Rational Method is used for peak runoff determination.

2) Manning's Equation is used to size the pipes.

3) The bypass pipe from upstream on and offsite areas will continue to discharge at the current location. (Refer to drawing C-4001P)

5. CALCULATIONS

A. UNDERDRAIN CONVEYANCE PIPE

Considering the longest underdrain pipe reach of 1,085 ft. with a minimum scour velocity of 2.5 fps, the time of concentration would be approximately 7 minutes. However, per Reference 2, a minimum of 10 minutes shall be used. This time of concentration will be used for calculating peak runoff that each underdrain pipe must handle. Refer to Attachment 10 for detailed calculations.

The hydraulic grade lines for each pipe system were calculated by working upstream towards the inlet(s) of the pipe system accounting for friction losses in the pipes and minor losses at inlets, manholes, pipe connections, and exits assuming full flow conditions. Calculations for the hydraulic grade lines were performed in StormCad.

The plant equipment area is drained into the infiltration/detention basin via an underdrain system. The pipe system is designed to fully discharge the peak runoff due to the critical storm event up to the 25-year, 24-hour rainfall without ponding. The perimeter road for the Repowering Area is set at EL. 135.75 and all foundations are set at EL. 136.00. If a storm exceeding the system capacity occurs, stormwater runoff will flow over the perimeter road, thus protecting the equipment.

Due to the limited elevation change between the repowering area and the basin outlet, several of the downstream underdrain pipes will be installed with zero slope. To maintain differential head flow in those pipes, the diameter is increased to reduce the net effective friction head.

The stormcad model run (Attachment 10) considers the instantaneous peak flows during the design storm. This occurs during the 4th hour of the event when the pond level is at elevation 133.63. Therefore the model was run for peak flows at the corresponding time pond elevation.

B. INFILTRATION/ DETENTION BASIN

An infiltration / detention basin will be provided on the north side of the Repowering Area (see Design Drawings). The outflow from the basin will be routed into the existing dry drainage ditch draining via Three-Pole Creek to the Ochlockonee River north of the site. The low point bottom elevation of the infiltration/detention basin is set at EL. 130.0 ft., with additional 0.5 . for sediment and infiltration storage and the top elevation of the perimeter berm ranges from EL 137.0 . to 139.0 ft. Table 2 presents a summary of input data and analytical results in a concise form comparing pre-development and post-development conditions. An analytical narrative follows.

Table 2
Input Data and Results Summary

Issue	Description	Notation	Units	Pre-Development	Post-Development
Impervious Areas	Road/Buildings	Curve No.	Coefficient(1)	NA(2)	98
			Acres	--	1.9
Pervious Areas	Grass	Curve No.	Coefficient	45	NA(3)
			Acres	6.7	--
	Aggregate	Curve No.	Coefficient	NA	89
			Acres	--	4.8
	Pond	Curve No.	Coefficient	--	100
			Acres	--	1.0
Total Area with Pond			Acres	--	7.7
Total Area without Pond			Acres	--	6.7
Composite Curve No. without Pond			Coefficient	45	91
Time of Concentrations (Method from Ref. 4)					
	Sheet Flow	"n" value	Coefficient	NA	0.011
		Slope	ft./ft.	--	0.005
		Length	ft.	--	80
		Tc	minutes	--	1.5
	Ditch or Pipe	"n" value	Coefficient	0.035	NA(4)
		Slope	ft./ft	0.005	0.005 (min)
		Length	ft.	570	1085
		Tc	minutes	7.7	7.0
Total Time of Concentration			minutes	7.7	8.1(use 10)(5)
Peak Discharge			CFS	1.05	30.59

(1) Coefficient based on TR-55 methodology
(2) Not applicable for given situation
(3) Exterior side slopes are to be the only grassed areas and do not drain to the storm system
(4) Tc based on required minimum velocity of 2.5 fps
(5) Minimum Tc based on FDOT recommendation
(6) Peak discharge without detention

1) Maximum Allowable Outflow Rate-Predevelopment

The maximum allowed rate of discharge is equal to the discharge from the peak 2-year storm flow from the Repowering Area. The pre-development area is primarily grassy. The time of concentration for the pre-developed area is calculated from Reference 4 based on the longest flow line across the area to be developed. In the repowering area the longest flow is in the existing ditch that first flows south along the switchyard, west along an access road, and then north along the rail spur until the ditch leaves the area to be developed. The distance along this area is approximately 570 feet. Along this route contours indicate the drop is about 3 feet, yielding a slope of 0.005 ft./ft.

Channel Flow

In the ditch along the rail line to the proposed basin discharge point using the Manning Equation $V = 1.49*(R)^{.67}*(S)^{.5}/n$, where:

- V is the velocity in fps
- R is the hydraulic radius (cross sectional area/ wetted perimeter) assuming 0.5 ft. depth, 4 ft. wide existing ditch bottom average equals 0.4
- S is the slope in feet per feet equals 0.005
- n is the friction coefficient equal to 0.035 for weedy straight stream

The velocity result is 1.63 fps. Distributed over a 570 foot reach the time of concentration equals 5.8 minutes = 0.097 hours.

The maximum discharge rate for the 25-year, 24-hour storm allowed is calculated as follows.

$T_c = 0.097$ hrs.
$A_m = 0.0105$ mi^2.
$I_a = 2.444$ for CN = 45 (Table 4-1, Ref. 4).
$I_a/P = 2.444/4.7 = 0.287$.
Q = 0.356 in. (Table 2-1, Ref 4.).
$q_u = 280$ csm/in. (Ref. 4, Exhibit 4-III)
$F_p = 1.0$

$q_p = q_u*A_m*Q*F_p$ (eq 4-1, Ref 4

$q_p = 1.05$ cfs

2. Detention Basin Stage vs. Time

Calculations are provided on Figure 1 showing the infiltration/detention basin storage capacity vs. elevation and outflow from the basin. The outlet flow will be determined considering a discharge orifice 4.25-in. diameter. To determine the outflow rates for the outlet structure, an equation must be developed that will calculate the outflow rate, based on the water surface elevation in the infiltration/detention basin. The water elevations will be estimated based on the

storage requirement (inflow less outflow) using the Elevation-Capacity Curve (Figure 1). The following equation is used to calculate discharge through the orifice.

$$Q = CVA$$
$$V = (2gH)^{0.5}$$

Where Q is the outflow of the pipe in CFS
C is the orifice coefficient of discharge (0.6)
V is the theoretical velocity through the orifice
A is the area of the orifice in square feet
g is the gravitational constant 32.2 feet per second squared
H is the head above the center of outlet orifice

The maximum discharge during each test storm event is shown in the calculations included in Attachment 9.

The critical storm is the 25-year, 8-hour event with the maximum peak discharge and highest infiltration/detention basin stage. The 25-year, 8-hour event has the longest detention time of effectively 90 hours, which meets the 90-hour maximum. A hydrograph showing the peak 2-year pre-development discharge peak along with the post-development discharge with and without detention is shown on Figure 2.

The discharge orifice will consist of the stated size opening in a 1-in. thick, HDPE, 24-in. by 24-in. plate, (or equivalent) bolted on the discharge control manhole interior weir that has a 12 in. by 12 in. opening (refer to detail drawings). The center elevation of the orifice will be set at elevation 130.00 ft. holding the required volume for infiltration between elevation 130.00 ft. and 129.45 ft. Refer to Section 5.B.6.

Riprap will be provided at the infiltration/detention basin inlet pipe, the outlet weir, and the discharge end of the outlet pipe.

The maximum discharge through the outlet structure orifice is 1.036 cfs. This flow will be discharged via a 12-in. diameter outlet pipe. The discharge velocity is approximately 1.9 fps. A 9-in. thick riprap layer, D_{50} = 6 inches will be provided at the infiltration/detention basin inlet and outlet pipes and at the emergency overflow weir (Reference 9).

3) Emergency Spillway

The outlet/discharge structures are designed with redundant safety features. First, the entire storm water discharge up to the 24-hour, 25-year event, including the critical storm, can be handled by discharge through the orifice.

Second, should the orifice become clogged or blocked with debris, a concrete weir within the outlet manhole will pass the 100-year, 24-hour storm event as shown in Attachment 10.

Third, if the outlet structure becomes completely blocked, a 10-foot wide emergency flow weir will be installed at the outlet structure to handle flows in excess of the 100-year, 24-hour storm. To be conservative, the spillway is designed to pass the peak instantaneous discharge of this

event, without considering reduced flow from routing the flows through the pond. The maximum elevation the water will reach during the critical storm event is 134.77 feet. The spillway crest will be set at this elevation. The spillway broad crested weir and sharp crested weir in the manhole, flow is calculated as follows:

$Q = CLH^{3/2}$

Where C = weir coefficient (3.0 for the spillway and 3.33 for the outfall structure).
L = the length of the weir (10 feet for the spillway and 6 feet for the outfall structure).
H = the height of the water above the weir

The calculations in Attachment 9 show the routing of the 100-year, 24-hour storm through the infiltration/detention basin. The peak flow from the orifice, and the outfall structure weir is 5.17 cfs. The maximum water level reached in the infiltration/detention basin during the 100-year storm is El. 135.18 with 2.82 feet of freeboard minimum to the lowest point of the dike top.

The spillway is also designed to pass the peak flow from the 100-year, 24-hour storm in the event that the outfall structure becomes completely clogged. The instantaneous peak flow from the 100-year, 24-hour storm is calculated as follows.

$q_p = q_u * A_m * Q * F_p$

$CN_{avg.}$ = (1.9 impervious acres*(98) + 4.8 aggregate acres*(89) + 1.0 pond acres*(98)) / 7.77 =
Composite CN Value = 91
$I_a = 0.198$ in.
P = 11.00 in. for 100-yr., 24-hr. storm (Ref. 2)
$I_a / P = 0.018$
$q_u = 560$ csm/in.
$A_m = 0.0105$ mi^2.
Q = 9.83 in.
$F_p = 1.0$

$q_p = 58$ cfs

The height of flow is calculated by the weir equation above.

$H = (Q / CL)^{2/3}$

$H = (58 / 3.0*10)^{2/3}$

H = 1.55 ft.

Height of Flow = 134.77 ft. + 1.55 ft. = 136.32 ft.

Freeboard in the infiltration/detention basin is calculated as follows.

Freeboard = Infiltration/Detention Basin Berm El. - Peak Water Level during 100-year storm.

Freeboard = 138.00 – 136.32 = 1.68 ft.

This complies with the minimum 12-in. requirement by Reference 3, Section 3.1.1.

4) Infiltration Rate and Volume Control

In accordance with State of Florida DEP and Leon County requirements, 0.5-in. runoff from the effective area shall be retained. Using the required volume 0.5 inches from the entire area draining to the infiltration/detention basin. The effective area for this is 6.7 acres or 291,852 sf, as shown on the Design Drawings.

Effective Volume Needed = 291,852 sf * 0.5 in./12 = 12,160 ft^3.

The average area available for retention between El. 129.45 and El. 130.00 is 23,882 sf. Therefore the total volume available is:

V_{Total} = 23,882 sf * 0.55 ft. = 13,135 ft^3.

Therefore the average elevation of the basin bottom will be set at 129.45 ft.

5) Geologic Conditions for Infiltration

Between March 15, 2006 and April 6, 2006, 24 soil borings were performed for the repowering project. Three of the borings (numbers 16, 17, and 18) were completed in the vicinity of the storm water detention/infiltration basin, to a depth of approximately 25 feet below ground surface. Groundwater depths ranged from a depth of 10 to 15 feet with a localized flow direction to the southeast. This would place the bottom of the basin (elevation 130 ft.) above the measured ground water table. The soils encountered consisted of primarily of clayey and silty sands with 5 to 7-foot thick lenses of silt and clay occurring at depths from 10 to 20 feet.

The clayey and silty sands across the horizon of the pond side slopes contained a range of 13 to 49 percent fines (passing the 200 sieve). With fines in this range the in-situ soils will not have a sufficient permeability to be used as a natural infiltration system. Therefore a constructed filtration system is proposed. Refer to Attachment 7.

Also, due to the fines content in the sand layers, water storage in the upper layers following a rainfall should not be significant and therefore is not anticipated to create a side slope weeping condition that could erode the sides of the basin once vegetation is established.

With this type of soils, any potential seasonal fluctuation of the water table would be controlled by the basin excavation having the effect of dewatering the soil surrounding the basin to base elevation. However, due to the quantity of fines in the adjacent soils, the affect on temporary elevated ground water elevations is expected to be localized and very minor, likely limited to a few feet surrounding the basin.

6) Side Bank Infiltration Gallery

The infiltration rate from the retained storm water was analyzed assuming the mounding infiltration through the base on the basin is zero because of the previously discussed results of the geotechnical investigation.

S&L calculated the theoretical total average potential infiltration rate of the gallery is 87.5 cubic feet per day per foot of trench with a minimum 2.5-inch head over the pond bottom (just less than the 0.55 retained depth). With a potential maximum trench length of 620 feet (length of toe of slope less access ramp), the total infiltration rate is 54,250 cubic feet per day.

During development of the permit submittal for the Peaking Project in 2004, Ardaman & Associates, Inc. estimated a more conservative value ranging from 1 to 30 cubic feet per day per foot of trench. This conservative approach takes into consideration siltation on the sand drain surface, vegetation growth, and variations in the quality of the imported sand to construct the filter.

To drain the first half of 12,160 cubic feet (6080 cf) of required water using the 87.5 value, half in the first 7 days and the balance in 30 days, the required rates would be 868 cubic feet per day, and 203 cubic feet per day, respectively.

Using the estimated values provided by Ardaman of 1 to 30 cubic feet per day per foot of trench, the range of infiltration capacity is from 620 to 18,600 cubic feet per day. Using an average of the conservative range of 15 cubic feet value, the 6080 cubic feet will drain away from the stored water in the pond in 0.65 days. Exceeding the 7-day requirement.

<u>Available Capacity</u>

The infiltration gallery outlet pipe is 6-in. diameter. The flow velocity through this pipe was estimated using the orifice equation because the entire pipe would be surcharged up to the point of discharge with an infiltration restricted by the available inflow of water. The resulting capacity is as follows:

$Q = C_d * A_o * (2*g*h)^{1/2}$

Where:
Q = Flow Capacity (cfs)
C_d = Orifice Discharge Factor (0.6 used)
A_o = Area of Pipe Opening (0.1963 ft.^{2} for 6-in. dia. pipe)
h = Head above the Centerline of Pipe Opening

The bottom of the infiltration/detention basin is at El. 129.45 ft. The centerline of the infiltration gallery outlet pipe 2.75 ft. below the infiltration/detention basin bottom at El. 126.7 ft. If the water level is at the infiltration/detention basin bottom (El. 129.45 ft.), "h" is the difference in elevation from the infiltration/detention basin bottom to the outlet pipe centerline. "h" minimum = 2.75 ft.

$Q = 0.6 * 0.1963 * (2*32.2*2.75)^{1/2} = 1.57$ cfs = 135,648 cubic feet per day.

The capacity of the outlet pipe is greater than the capacity of the sand filter, with the average head of 2.5 inches (discussed in previous section). Therefore the outlet pipe is adequate for drainage of the sand filter.

Because the invert of the infiltration system discharge pipe will be below the surrounding ground surface in the vicinity of the normal basin outlet, the outlet pipe will be constructed to the west, terminating on a riprap pad 20 ft. east of the dry run flow line, where the pipe slope "daylights" at the ground surface. (Refer to drawing C-4001P)

Due to the friction head of the infiltration system outlet pipe (approximately 600 ft.) the actual flow through the pipe will be less than the theoretical capacity. Using the manning equation, an 'n' value of 0.012 (typical ADS corrugated drain pipe), 6-in. diameter pipe and 4.75 ft. drop over the pipe length, yield an outfall velocity of 2.8 fps and a discharge of 0.56 cfs, or 48,384 cf/day. The discharge velocity is accommodated with a riprap pad and the discharge potential still exceeds the required values.

Using this design where the detention pond occupies the infiltration detention location, the standing water head will allow more than the first 0.5 in. water to infiltrate the filter system.

7) Bypass Pipe

Required Capacity

The area north and east of the Repowering Area tributary to the bypass pipe is approximately 5.3 acres. The peak discharge runoff is calculated as follows:

Event: 25-yr, 24-hr

Required Capacity : Q = CIA

where

Q = peak discharge (cfs)
C = runoff coefficient (0.17 for grass, flat-heavy soil)
I = average rainfall intensity (in./hr. – 6.8 in. – 25-year event, Ref. 2)
A = drainage area (5.3 acres)
T_c = 0.31 hrs (using channel flow, 1,100 ft. ditch, 0.7% slope, velocity at 1.0 fps = 18.3 minutes)

Q = 0.17*6.8*5.3. = 6.13 cfs

Pipe Capacity
24-in. pipe
Manning Equation

$Q = (1.49/n)\ A * R^{2/3} * S^{1/2}$

n = 0.011 for CHDPE pipe
A = π/4 (24 in./12 in.)^2 = 3.14 ft.^{2}
R = (24 in./12 in.)/4 = 0.50
S = 0.005

$Q = (1.486/0.011) * 3.14 * 0.50^{2/3} * 0.005^{1/2}$

Q = 18.89 cfs

The pipe has sufficient capacity and the riprap outlet can accommodate 3-fps flow.

During storms in excess of the 25-year, 24-hour event, the ditch would overflow and water would flow around the basin's perimeter berm and discharge into the wooded area.

7. EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES

Planned Erosion and Sedimentation Control Practices

The following section summarizes general descriptions of the proposed erosion control features. All disturbed areas will be stabilized with vegetation or physical controls as soon as practical.

Tracking

During construction activities all on/off site traffic will be restricted to using available entrances via gravel or paved access roads. Use of the gravel or paved access roads will minimize the potential for tracking. However, the minimum weekly inspection of the site during construction includes identification of sediment/soil tracking onto surrounding roads. If sediment is identified on Geddie Road, the soil will be physically removed from the highway pavement and shoulder. Use of water for sediment removal will not be allowed.

Dust

During construction activities, if dust is observed to be a problem, disturbed areas will be wetted using a watering truck, to minimize potential generation of dust.

Temporary Construction Staging and Access

During construction, parking and equipment staging will occur in the designated areas of the site. The area will be graded to drain consistent with current patterns and then be covered with gravel if needed. Once construction is complete and erosion control structural and vegetative features are established, the areas will be seeded, fertilized and mulched. Access from Geddie Road to this temporary area will be via the site's northern gated entrance. Due to the elevations of the staging area, runoff to the Highway will not occur.

Inlet Protection

Catch basins within the site will be placed in gravel areas. During construction, however, the inlets will be protected from sediment accumulation by using filter fabric and stone as shown in details. Once construction is complete, and erosion control structural and vegetative features are established, the gravel and filter fabric will be removed from the inlet structures.

Rip-Rap Lined Channels

The diversion ditches along the railroad tracks, and the sedimentation/detention pond outfall will be constructed as riprap lined channels.

Grading

Cut and fill grading will be required on approximately 6.5 acres of the site improvement area. The detention basin areas will have cuts from 4 to 9 feet deep and fill zones of 2 to 3 feet. The slope of the site improvement area will be generally flat with grading only to divert surface water to the storm water collection system. Side slopes of the fill area will be sloped at 3H:1V and will be seeded to control erosion. Cut slopes in the detention pond area will be sodded once initial construction activities are complete. Filling activities will have specification requirements for lift thickness and compaction rates. During site grading, surface water will be directed to the silt fence barriers at the perimeter of the construction area or to ditches with sediment traps.

Temporary Sediment Traps

Temporary sediment traps will be placed in the ditches along the railroad tracks and along the northwest perimeter ditch. The sediment traps will consist of placing straw bales or rip rap in the drainage ditches as shown on the drawings. The sediment traps will be removed once all structural and vegetative improvements have been established.

Silt/Sediment Fencing

Silt fences will be installed as shown the drawings. The silt fences will be inspected as indicated in the inspection forms. Accumulated sediment that prevents the silt fence from performing the intended task, will be removed and placed in the topsoil stockpile areas. Breaks in the silt fence will be repaired. In addition, silt fencing will be placed immediately downstream of the topsoil stockpiles to be placed south of the construction parking area, and north of the primary access road. The silt fence will remain in place until all erosion control features, including structural and vegetative, have been established. At that time, the silt fencing will be removed and the disturbed area will be seeded, fertilized and mulched.

Rip Rap Outfall Aprons

Riprap outfall aprons will serve as the outlet for the bypass pipe outlet and the discharge from the detention ponds. The areas below the aprons consist of grass and woodlands that currently accommodate the same general flow. The receiving area is very flat and has a mild slope at approximately 2 percent. The rip rap aprons will remain in place during facility operation.

Surface Roughing

Areas to receive topsoil and vegetation will be lightly roughened prior to topsoil placement.

8. CONCLUSIONS

A. Underdrain Conveyance Pipes

The Hydraulic Grade Line (HGL) was calculated along each reach and sub-reach of the underdrain system for the 25-yr, 24-hr storm event. The Hydraulic Grade Line at the uppermost portion of each basin was compared with the high point finished surface (HPFS) elevation to determine any ponding conditions during the critical duration storm event. The conclusions for each reach are given below.

Maximum water level at the upstream end of CB 11 = 133.99 ft.
Maximum water level at the upstream end of CB 15 = 133.68 ft.
Maximum water level at the upstream end of CB 16 = 133.64 ft.

Compared with a HPFS = 135.50 ft., these maximum water levels indicate no ponding conditions.

B. Infiltration/ Detention Basin

Detention
Using the Design Inputs & following the stated methodology, the following results and conclusions were developed from the design calculations:

- Outlet: Orifice – 4.25-inch diameter @ elevation 130.00 ft.
  Emergency Spillway – 10 foot wide overflow weir
  @ elevation = 134.77 ft.

- Design maximum water level during the critical storm event = 134.77 ft.

- Outflow rate from the infiltration/detention basin during the critical storm event – allowable outflow = 1.05 cfs

- Peak flow discharge from the infiltration/detention basin during the critical storm event = 1.036 cfs

- Required freeboard above design events = 1.0 ft.
- Freeboard above 100-year high water level = 1.68 ft.

Infiltration

The infiltration system has adequate capacity to store and filter the required 0.5 inches of runoff from the subject areas within the regulatory required time frames.

- Total required infiltration quantity = 12,160 cf
- Storage capacity below the outlet orifice = 13,135 cf
- 7-day, ½ volume infiltration requirement = 6080 cf
- Estimated time of infiltration for required volume = 0.65 days

C. Bypass Pipe

The bypass pipe is adequate to handle the peak run-on from the area north and east of the Repowering Area for the 25-year, 24-hour storm event. This will divert the run-on flow around the infiltration/detention basin and will discharge to the same location as the infiltration/detention basin.

- Bypass pipe peak flow = 6.13 cfs
- Bypass pipe capacity = 18.89 cfs

9. REFERENCES

1. Code of Laws of Leon County Florida, Stormwater Management Facilities, Systems and Treatment, Chapter 10, August 26, 2003.

2. FDOT Drainage Manual, January 2006.

3. FDOT Drainage Handbook, Stormwater Management Facility, January 2004.

4. Urban Hydrology for Small Watersheds, Second Edition, Technical Release No. 55, Soil Conservation Service (SCS), June 1986.

5. Subsurface Soil Explorations and Foundation Recommendations for Proposed Hopkins Generating Station, Ardaman & Associates, Inc. May 2004.

6. FDOT Drainage Handbook, Hydrology.

7. Leon County Soils Maps and Legend.

8. FDOT Drainage Handbook, Erosion and Sediment Control, February 2002.

9. Sargent & Lundy Design Standard, SDS W 6.0, Plant Site Drainage and Erosion Control.

10. Sargent & Lundy Design Standard, SDS W 11.0, Erosion Protection at Hydraulic Structures.

12. Culvertmaster Program, Haested Methods, Version 2.0 -- (A duplication of U.S.Department of Transportation, Federal Highway Administration methods).

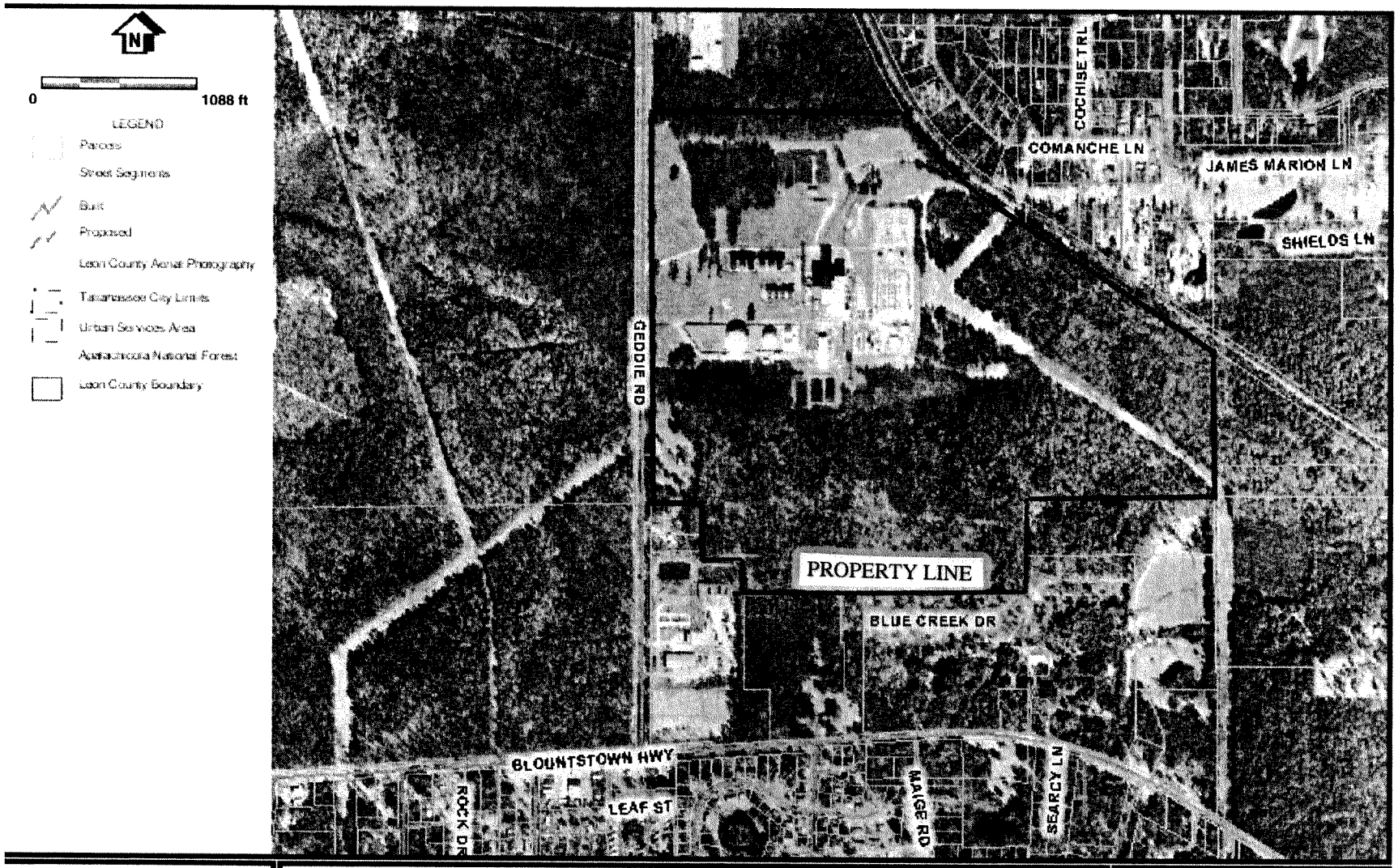
13. Ardaman & Associates, Inc. (May 2004) "Subsurface Soil Exploration and Foundation Recommendations for Proposed Hopkins Generating Station Reciprocating Engines and Combustion Turbine Generator (CTG), Geddie Road, Tallahassee, Florida".

14. USEPA (1998) "Estimation of Infiltration Rate in the Vadose Zone: Compilation of Simple Mathematical Models - Volume I", EPA/600R-97/128a, National Risk Management Research Laboratory, Ada, Oklahoma.

15. USEPA (1998) "Estimation of Infiltration Rate in the Vadose Zone: Application of Selected Mathematical Models - Volume II", EPA/600R-97/128b, National Risk Management Research Laboratory, Ada, Oklahoma.

ATTACHMENT 1

FACILITY LOCATION MAP



Tallahassee-Leon County GIS
WWW.TLCGIS.ORG

ATTACHMENT 1 - FACILITY LOCATION MAP

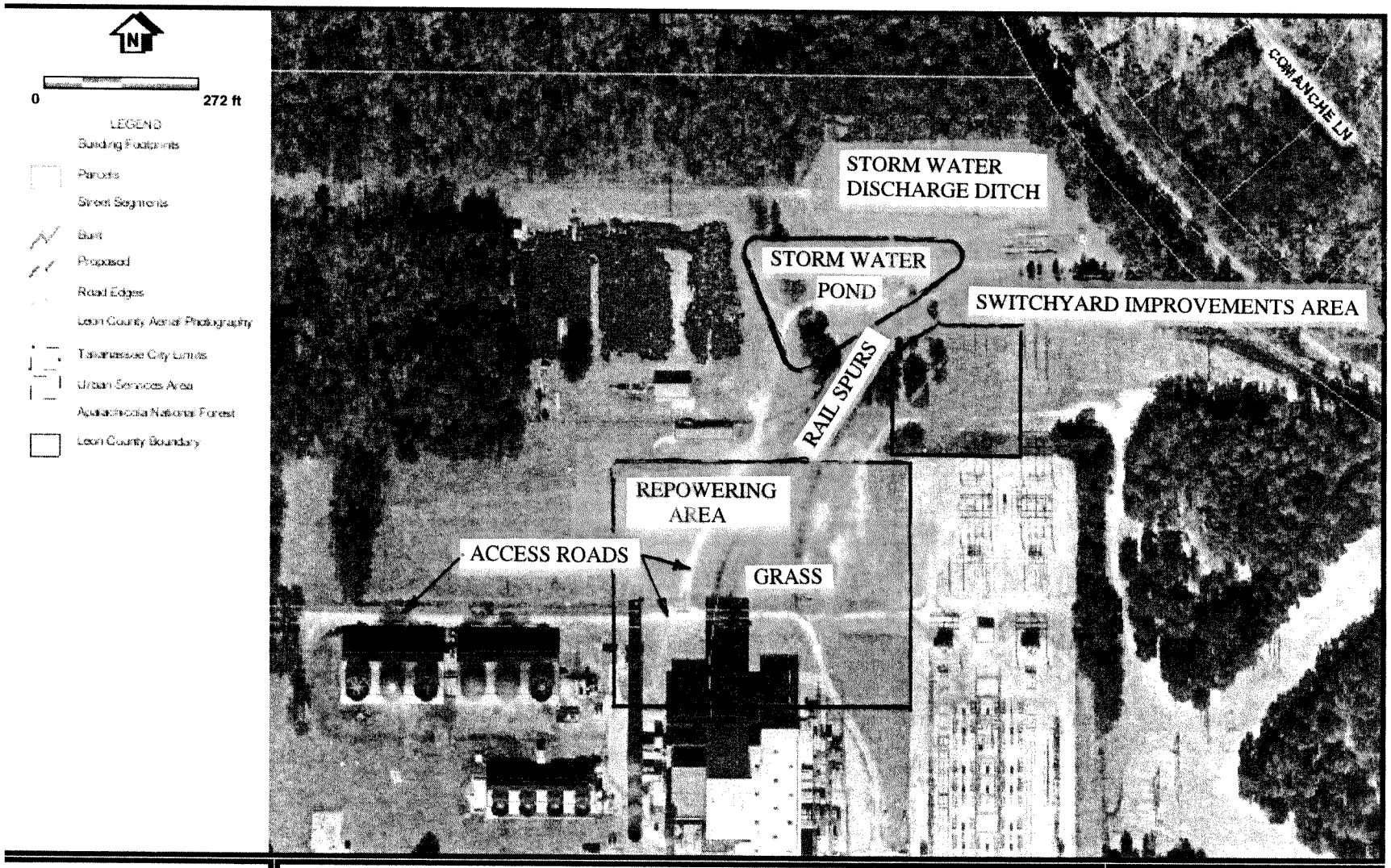
ARVAH B. HOPKINS GENERATING STATION

TLCGIS Map Disclaimer: This product has been compiled from the most accurate source data from Leon County, the City of Tallahassee, and the Leon County Property Appraiser. However, this product is for reference purposes only and is not to be construed as a legal document or survey instrument. Any reliance on the information contained herein is at the user's own risk. Leon County, the City of Tallahassee, and the Leon County Property Appraiser assume no responsibility for any use of the information contained herein or any loss resulting therefrom.

TLCGIS
Leon County Courthouse
301 S. Monroe St. P3 Level
Tallahassee, FL 32301
850/606-5504

Date Created: 5/31/2006

ATTACHMENT 2
PRE-DEVELOPMENT PLAN



Tallahassee-Leon County GIS
WWW.TLCGIS.ORG

ATTACHMENT 2 - PREDEVELOPMENT PLAN

ARVAH B. HOPKINS GENERATING STATION

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Leon County Courthouse
301 S. Monroe St. P3 Level
Tallahassee, FL 32301
850/606-5504

Date Created: 5/31/2006

ATTACHMENT 3
SOIL BORING LOGS

LEGEND

GROUNDWATER AT TIME OF DRILLING

SHELBY TUBE

LABORATORY RESULTS

WATER CONTENT — Wc=
-200 MESH — -200=
LIQUID LIMIT — LL=
PLASTICITY INDEX — PI=

- SM/A-2-4 SILTY FINE SAND
- SM/A-4 SILTY SAND
- SC/A-2-6 CLAYEY FINE SAND
- SC/A-6 CLAYEY SAND
- HIGHLY WEATHERED WEATHERED LIMESTONE
- SM/A-7-5 PLASTIC SILTY SAND
- SC/A-7-6 PLASTIC CLAYEY SAND
- MH/A-7-5 HIGHLY PLASTIC SILT
- CH/A-7-6 HIGHLY PLASTIC CLAY
- LIMESTONE

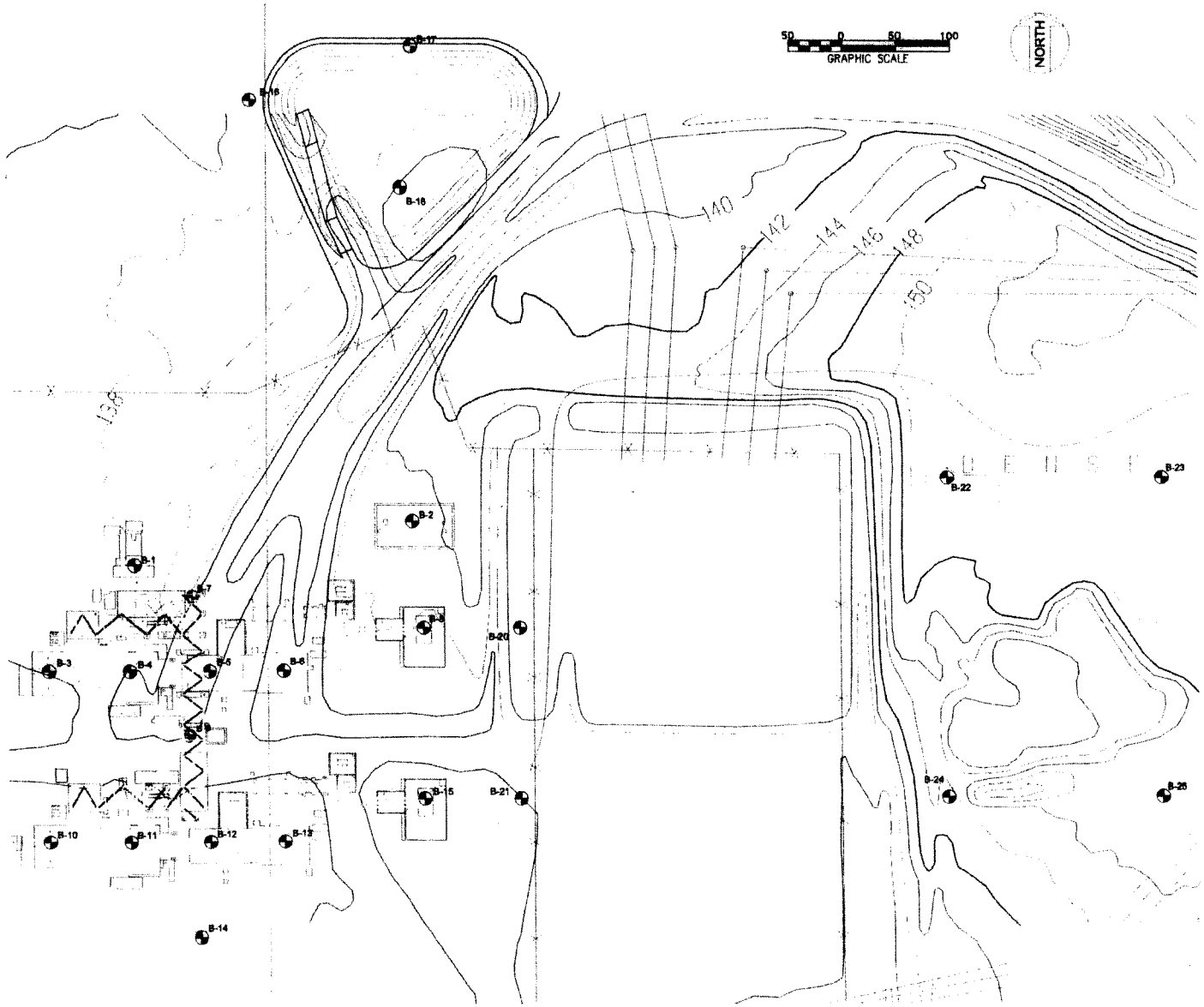
NOTES

1. Numbers left of borings indicate standard penetration test (SPT) N-values for 12 in. penetration (Unless otherwise noted)
2. Water elevations shown represent the water elevations encountered, fluctuations in the elevations of the water should be expected.
3. Soil descriptions, test data, and standard penetration values shown are for the soil boring only and may not apply to any other locations except at the location of the soil boring. Extrapolation of the soil boring data to other locations is the sole responsibility of the person performing the extrapolation.

Granular Materials Relative Density	SPT (blows/12 in.)	Silts and Clays Consistency	SPT (blows/12 in.)
Very Loose	Less than 4	Very Soft	Less than 2
Loose	4 - 10	Soft	2 - 4
Medium or Compact	10 - 30	Firm	4 - 8
Dense	30 - 50	Stiff	8 - 15
Very Dense	Greater than 50	Very Stiff	15 - 30
		Hard	Greater than 30

DRILLING

Type of Drilling Rig: CME
Type of Hammer: Safety
Driller: Matthew McConnell



REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

SEAL

MYRON L. HAYDEN, P.E.

P.E. NO.: 34087

Environmental & Geotechnical Specialists, Inc.
EGS
3154 Eliza Road
Tallahassee, Florida 32308
Office : (850) 386-1253
Fax : (850) 385-8050
Cert. of Auth.: 6222

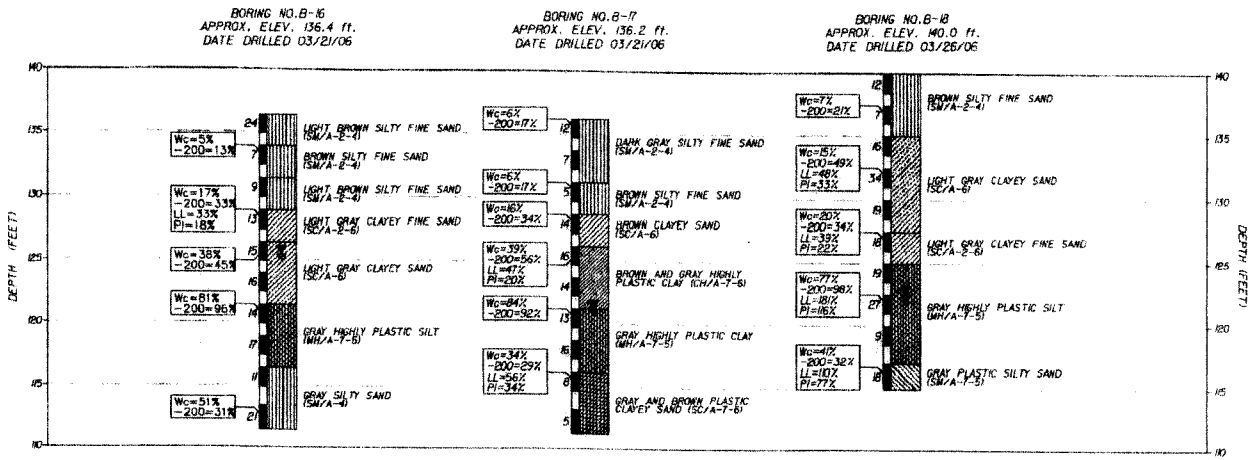
CITY OF TALLAHASSEE

PROJECT TITLE

HOPKINS POWER PLANT

GEOTECHNICAL NOTES

SHEET NO.



REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

SEAL:

MYRON L. HAYDEN, P.E.

P.E. NO.: 34067

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Cert. of Auth.: 6222

CITY OF TALLAHASSEE

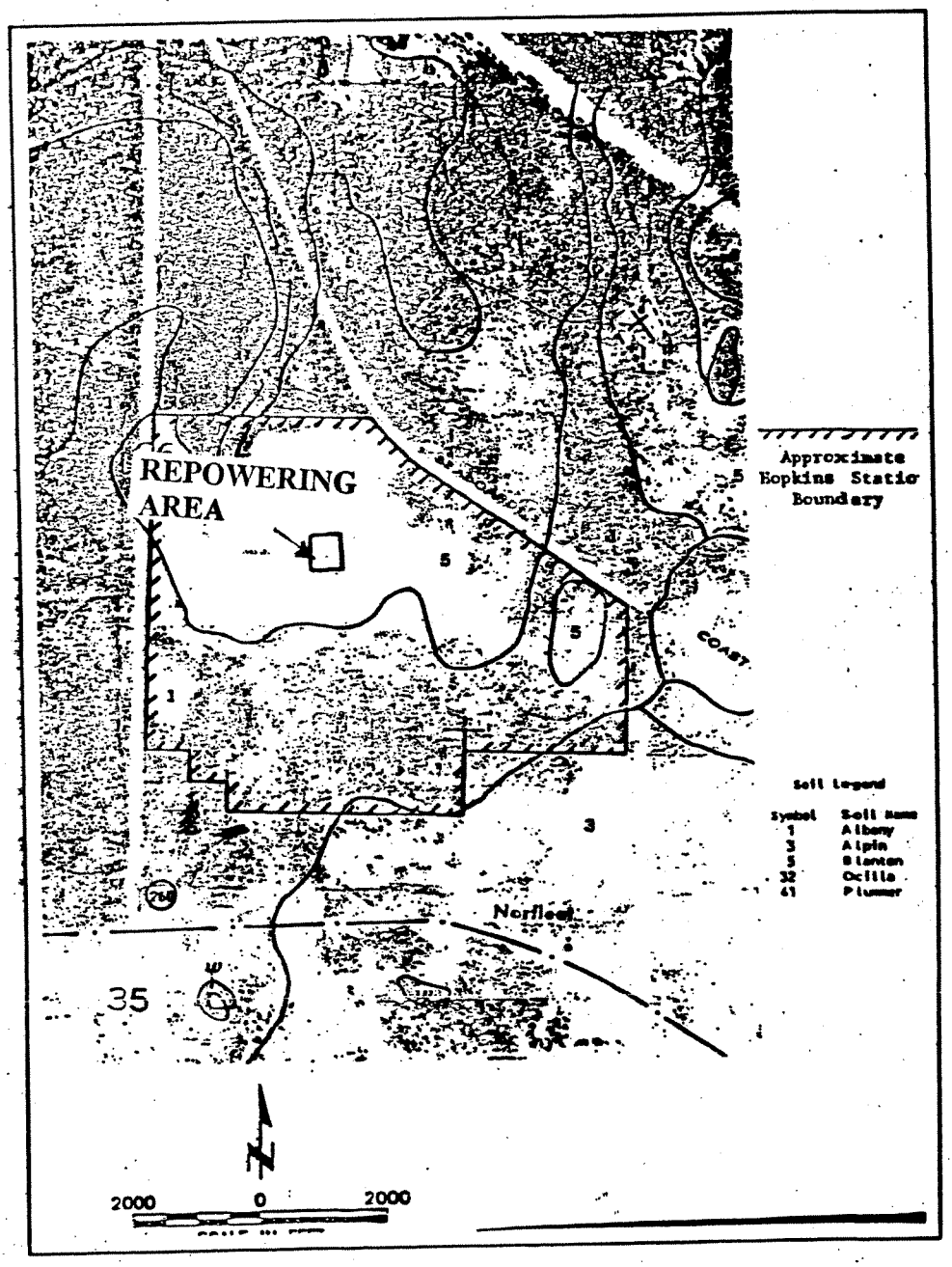
PROJECT TITLE

HOPKINS POWER PLANT

REPORT OF POND BORINGS

SHEET NO.

ATTACHMENT 4
SCS SOILS MAP AND LEGEND



DISTRIBUTION OF SOIL TYPES AT THE HOPKINS STATION

ARVAH B. HOPKINS UNIT 2 REPOWERING PROJECT TALLAHASSEE, FL

FIGURE NUMBER

Attachment 4
Stormwater Calculation

SOURCE:

SANDERS, 1981

ATTACHMENT 5
INSPECTION FORM 1 –
EXAMPLE, DURING CONSTRUCTION

Inspection Form -Example (Per Leon County Code of Laws Section 10-208 (4) and Section 10-331)

Erosion and Sedimentation Controls – During Construction

Visually inspect disturbed areas of the construction site that have not been finally stabilized. Inspections to be completed weekly, or after each precipitation event exceeding 0.5 inches. Maintenance recommendations to be completed within 24 hours of inspection.

Location	**Observation** **Dust, Erosion, Sediment Accumulation**	**Action and Deadline**	**Reinspection Date and Action performed**
Silt Fencing			
Hay Bales			
Perimeter Drainage			
Pond Inlet			
Pond Outlet			
Pond Dike			
Chemical Storage			
Waste Storage			
Sediment Tracking			
Other as observed			

Inspection Performed By: _____

Date: _____ Time: _____ Construction Phase: _____

Precipitation Event Date and Amount: _____

ATTACHMENT 6
INSPECTION FORM 2 –
EXAMPLE, DURING OPERATION

Inspection Form - Example

Storm Water Pollution Prevention Plan –During Operation

Location	Observation Color, Turbidity, Odor, Solids, Foam, Sheen, Debris, Flow, Potential Source, Operational Changes	Action and Deadline	Reinspection Date Action Taken, and Result
Material Handling Area			
Material Storage Area			
Culvert Inlets/Outlets			
Interior Ditches			
Exterior Ditches			
Pond Inlet			
Pond Outlet			
Pond Dikes			
Catch Basins			
Discharge			

Notes:

1. Silt shall be cleaned from the bottom of the pond when it accumulates to a depth = 4".
2. Mowing of the pond dikes shall be performed on a quarterly basis.

Suggested Revisions to the SWPPP: _____

Inspection Performed By: _____

Date: _____ Time: _____ Telephone No.: _____

Facility Name: _____

Facility Address: _____

Time of last Rainfall Event: _____ Rainfall Amount: _____

ATTACHMENT 7
INFILTRATION MODELING
CORRESPONDENCE
(PENDING)

ATTACHMENT 8
MODELING WORKSHEETS
(PENDING)

ATTACHMENT 9
INFILTRATION/DETENTION BASIN
CALCULATIONS

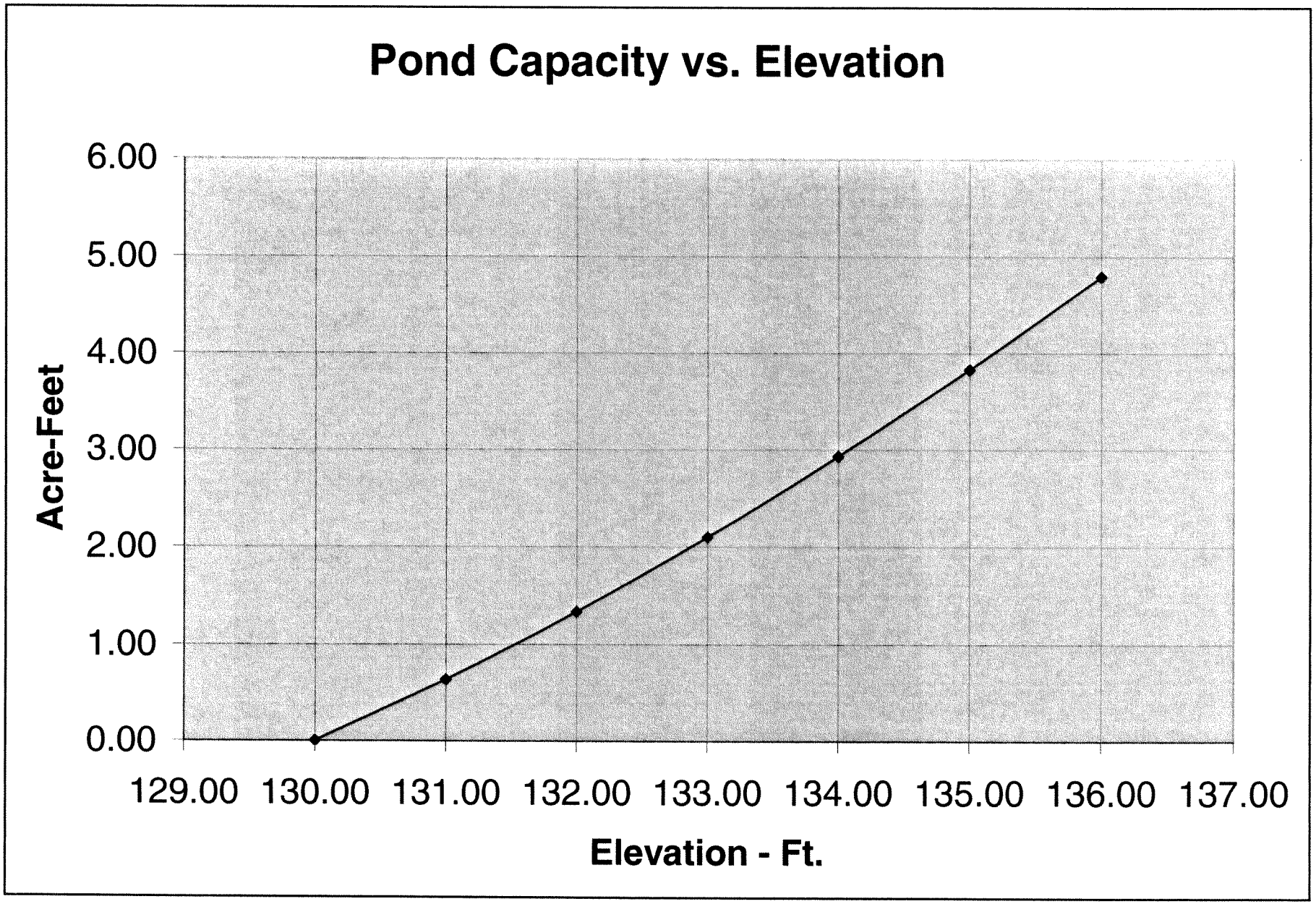
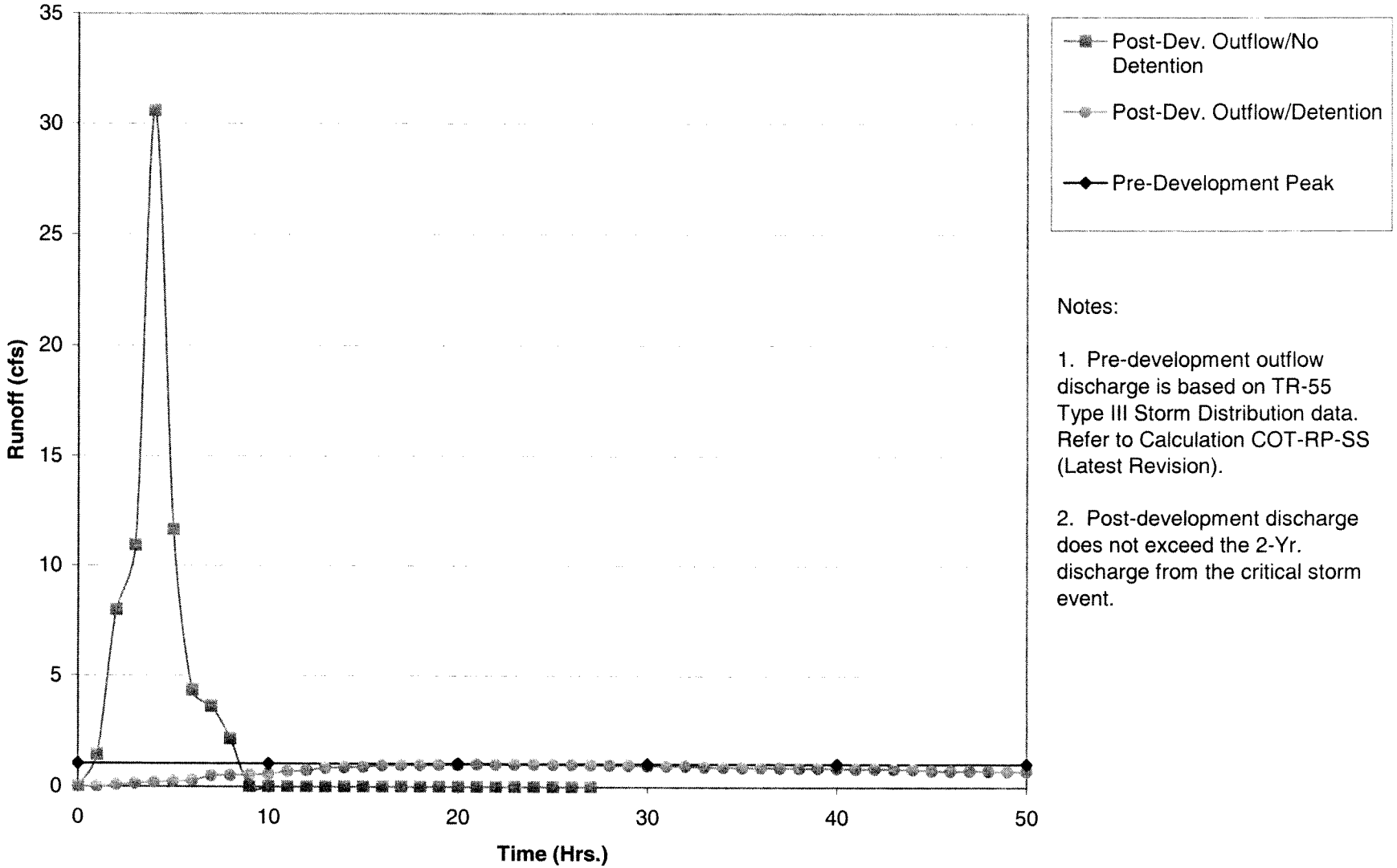

Pond Capacity vs. Elevation
6.00
5.00
4.00
3.00
2.00
1.00
0.00
Acre-Feet
129.00
130.00
131.00
132.00
133.00
134.00
135.00
136.00
137.00
Elevation - Ft.

FIGURE 2 -- PRE-DEVELOPMENT VS. POST-DEVELOPMENT STORMWATER DISCHARGE HYDROGRAPH



Notes:

1. Pre-development outflow discharge is based on TR-55 Type III Storm Distribution data. Refer to Calculation COT-RP-SS (Latest Revision).

2. Post-development discharge does not exceed the 2-Yr. discharge from the critical storm event.

2 Yr., 1 Hr. Storm Event

Rainfall 2.3 inches (See Note 1)

Drainage Areas

Surface	Curve No.	Runoff (in.)	Area (ac.)
Impervious	98	2.07	1.9
Pervious	89	1.28	4.8
Pond	100	2.30	1.00

Minimum Pond Level	130.00
Orifice Dia (inches)	4.25
Orfice Invert (ft)	130.00
Orfifice Operated El	130.00
Area of Orfice Sq.ft	0.10
Discharge Co-efficient	0.60
Length of Weir (ft)	6.00
Crest Level of Weir (ft)	134.77
Discharge Co-efficient	3.33

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Storm Time, in Hours	Incremental Time, Delta T, Hours	Precipitation Ratio (See Note 2)	Incremental Precipitation Ratio	Cumulative Precipitation Amount, (in.) (See Note 3)	Incremental Precipitation Amount (in.)	Inflow to Pond, (Ac.-Ft.) from Impervious Areas (See Note 4)	Inflow to Pond, (Ac.-Ft.) from Pervious Areas (See Note 4)	Inflow to Pond, (Ac.-Ft.) from Pond Area (See Note 4)	Cumulative Incremental Inflow to Pond in Acre-Ft.	Discharge through 4.25 Orifice (cfs)	Discharge Over Outlet Structure Sharp-Crested Weir (cfs)	Total Discharge Through Outlet Structure and Emergency Outflow Structure (cfs)	Outflow from Pond, (Ac.-Ft.)	Incremental Storage, Acre-Feet	Total Volume Stored in Pond, (Ac.-Ft.)	Water Level in the Pond, Ft.
0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	130.00
0.1	0.1	0.020	0.020	0.046	0.046	0.007	0.010	0.004	0.021	0.000	0.000	0.000	0.000	0.021	0.021	130.01
0.2	0.1	0.080	0.060	0.184	0.138	0.020	0.031	0.012	0.062	0.054	0.000	0.054	0.000	0.061	0.082	130.05
0.3	0.1	0.200	0.120	0.460	0.276	0.039	0.062	0.023	0.124	0.108	0.000	0.108	0.001	0.123	0.205	130.13
0.4	0.1	0.410	0.210	0.943	0.483	0.069	0.108	0.040	0.217	0.171	0.000	0.171	0.001	0.215	0.420	130.27
0.5	0.1	0.625	0.215	1.438	0.495	0.071	0.110	0.041	0.222	0.245	0.000	0.245	0.002	0.220	0.640	131.00
0.6	0.1	0.805	0.180	1.852	0.414	0.059	0.092	0.035	0.186	0.475	0.000	0.475	0.004	0.182	0.822	131.13
0.7	0.1	0.915	0.110	2.105	0.253	0.036	0.056	0.021	0.114	0.504	0.000	0.504	0.004	0.109	0.932	131.21
0.8	0.1	0.985	0.070	2.266	0.161	0.023	0.036	0.013	0.072	0.521	0.000	0.521	0.004	0.068	1.000	131.25
0.9	0.1	0.995	0.010	2.289	0.023	0.003	0.005	0.002	0.010	0.531	0.000	0.531	0.004	0.006	1.006	131.26
1	0.1	1.000	0.005	2.300	0.011	0.002	0.003	0.001	0.005	0.532	0.000	0.532	0.004	0.001	1.006	131.26
2	1	1.000	0.000	2.300	0.000	0.000	0.000	0.000	0.000	0.532	0.000	0.532	0.044	-0.044	0.962	131.23
3	1	1.000	0.000	2.300	0.000	0.000	0.000	0.000	0.000	0.526	0.000	0.526	0.043	-0.043	0.919	131.20
4	1	1.000	0.000	2.300	0.000	0.000	0.000	0.000	0.000	0.519	0.000	0.519	0.043	-0.043	0.876	131.17
5	1	1.000	0.000	2.300	0.000	0.000	0.000	0.000	0.000	0.513	0.000	0.513	0.042	-0.042	0.834	131.14
6	1	1.000	0.000	2.300	0.000	0.000	0.000	0.000	0.000	0.506	0.000	0.506	0.042	-0.042	0.792	131.11
7	1	1.000	0.000	2.300	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.500	0.041	-0.041	0.750	131.08
8	1	1.000	0.000	2.300	0.000	0.000	0.000	0.000	0.000	0.493	0.000	0.493	0.041	-0.041	0.710	131.05
9	1	1.000	0.000	2.300	0.000	0.000	0.000	0.000	0.000	0.487	0.000	0.487	0.040	-0.040	0.669	131.02
10	1	1.000	0.000	2.300	0.000	0.000	0.000	0.000	0.000	0.480	0.000	0.480	0.040	-0.040	0.630	130.40
11	1	1.000	0.000	2.300	0.000	0.000	0.000	0.000	0.000	0.300	0.000	0.300	0.025	-0.025	0.605	130.38
12	1	1.000	0.000	2.300	0.000	0.000	0.000	0.000	0.000	0.294	0.000	0.294	0.024	-0.024	0.581	130.37
13	1	1.000	0.000	2.300	0.000	0.000	0.000	0.000	0.000	0.288	0.000	0.288	0.024	-0.024	0.557	130.35
14	1	1.000	0.000	2.300	0.000	0.000	0.000	0.000	0.000	0.282	0.000	0.282	0.023	-0.023	0.534	130.34
15	1	1.000	0.000	2.300	0.000	0.000	0.000	0.000	0.000	0.276	0.000	0.276	0.023	-0.023	0.511	130.32
16	1	1.000	0.000	2.300	0.000	0.000	0.000	0.000	0.000	0.270	0.000	0.270	0.022	-0.022	0.488	130.31
17	1	1.000	0.000	2.300	0.000	0.000	0.000	0.000	0.000	0.264	0.000	0.264	0.022	-0.022	0.467	130.30
18	1	1.000	0.000	2.300	0.000	0.000	0.000	0.000	0.000	0.258	0.000	0.258	0.021	-0.021	0.445	130.28
19	1	1.000	0.000	2.300	0.000	0.000	0.000	0.000	0.000	0.252	0.000	0.252	0.021	-0.021	0.424	130.27
20	1	1.000	0.000	2.300	0.000	0.000	0.000	0.000	0.000	0.246	0.000	0.246	0.020	-0.020	0.404	130.26
21	1	1.000	0.000	2.300	0.000	0.000	0.000	0.000	0.000	0.240	0.000	0.240	0.020	-0.020	0.384	130.24

Peak Discharge(Orifice) 0.532 Peak Discharge(Weir) 0.000 Peak Discharge= 0.532 CFS

Max. Pond Level= 131.26 Ft. El.

Notes:
1. Rainfall amount provided by Leon County.
2. Precipitation ratio is obtained from the FDOT Drainage Manual Appendix B for Zone 2.
3. Cumulative Precipitation amount for each time period is obtained by multiplying the Precipitation Ratio (Column 3) by the total rainfall.
4. Inflow to the pond from each area is obtained by multiplying the Incremental Precipitation amount (Column 6) by the Drainage Area and the ratio of Runoff/Rainfall.

2 Yr., 2 Hr. Storm Event

Rainfall 3 inches (See Note 1)

Drainage Areas

Surface	Curve No.	Runoff (in.)	Area (ac.)
Impervious	98	2.77	1.9
Pervious	89	1.90	4.8
Pond	100	3.00	1.00

Minimum Pond Level	130.00
Orifice Dia (inches)	4.25
Orfice Invert (ft)	130.00
Orfifice Operated El	130.00
Area of Orifice Sq.ft	0.10
Discharge Co-efficient	0.60
Length of Weir (ft)	6.00
Crest Level of Weir (ft)	134.77
Discharge Co-efficient	3.33

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Storm Time, in Hours	Incremental Time, Delta T, Hours	Precipitation Ratio (See Note 2)	Incremental Precipitation Ratio	Cumulative Precipitation Amount, (in.) (See Note 3)	Incremental Precipitation Amount (in.)	Inflow to Pond, (Ac.-Ft.) from Impervious Areas (See Note 4)	Inflow to Pond, (Ac.-Ft.) from Pervious Areas (See Note 4)	Inflow to Pond, (Ac.-Ft.) from Pond Area (See Note 4)	Cumulative Incremental Inflow to Pond in Acre-Ft.	Discharge through 4.25 Orifice (cfs)	Discharge Over Outlet Structure Sharp-Crested Weir (cfs)	Total Discharge Through Outlet Structure and Emergency Outflow Structure (cfs)	Outflow from Pond, (Ac.-Ft.)	Incremental Storage, Acre-Feet	Total Volume Stored in Pond, (Ac.-Ft.)	Water Level in the Pond, Ft.
0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	130.00
0.2	0.2	0.010	0.010	0.030	0.030	0.004	0.008	0.003	0.014	0.000	0.000	0.000	0.000	0.014	0.014	130.01
0.4	0.2	0.250	0.240	0.750	0.720	0.105	0.182	0.060	0.348	0.045	0.000	0.045	0.001	0.347	0.361	130.23
0.6	0.2	0.450	0.200	1.350	0.600	0.088	0.152	0.050	0.290	0.227	0.000	0.227	0.004	0.286	0.647	131.01
0.8	0.2	0.700	0.250	2.100	0.750	0.110	0.190	0.063	0.362	0.476	0.000	0.476	0.008	0.354	1.001	131.26
1	0.2	0.800	0.100	2.400	0.300	0.044	0.076	0.025	0.145	0.532	0.000	0.532	0.009	0.136	1.137	131.35
1.2	0.2	0.860	0.060	2.580	0.180	0.026	0.046	0.015	0.087	0.551	0.000	0.551	0.009	0.078	1.215	131.41
1.4	0.2	0.910	0.050	2.730	0.150	0.022	0.038	0.013	0.072	0.562	0.000	0.562	0.009	0.063	1.278	131.45
1.6	0.2	0.950	0.040	2.850	0.120	0.018	0.030	0.010	0.058	0.571	0.000	0.571	0.009	0.048	1.327	131.48
1.8	0.2	0.980	0.030	2.940	0.090	0.013	0.023	0.008	0.043	0.578	0.000	0.578	0.010	0.034	1.361	132.02
2	0.2	1.000	0.020	3.000	0.060	0.009	0.015	0.005	0.029	0.674	0.000	0.674	0.011	0.018	1.379	132.03
3	1	1.000	0.000	3.000	0.000	0.000	0.000	0.000	0.000	0.677	0.000	0.677	0.056	-0.056	1.323	131.48
4	1	1.000	0.000	3.000	0.000	0.000	0.000	0.000	0.000	0.577	0.000	0.577	0.048	-0.048	1.275	131.45
5	1	1.000	0.000	3.000	0.000	0.000	0.000	0.000	0.000	0.571	0.000	0.571	0.047	-0.047	1.228	131.41
6	1	1.000	0.000	3.000	0.000	0.000	0.000	0.000	0.000	0.564	0.000	0.564	0.047	-0.047	1.181	131.38
7	1	1.000	0.000	3.000	0.000	0.000	0.000	0.000	0.000	0.558	0.000	0.558	0.046	-0.046	1.135	131.35
8	1	1.000	0.000	3.000	0.000	0.000	0.000	0.000	0.000	0.551	0.000	0.551	0.046	-0.046	1.090	131.32
9	1	1.000	0.000	3.000	0.000	0.000	0.000	0.000	0.000	0.544	0.000	0.544	0.045	-0.045	1.045	131.29
10	1	1.000	0.000	3.000	0.000	0.000	0.000	0.000	0.000	0.538	0.000	0.538	0.044	-0.044	1.000	131.26
11	1	1.000	0.000	3.000	0.000	0.000	0.000	0.000	0.000	0.531	0.000	0.531	0.044	-0.044	0.956	131.22
12	1	1.000	0.000	3.000	0.000	0.000	0.000	0.000	0.000	0.525	0.000	0.525	0.043	-0.043	0.913	131.19
13	1	1.000	0.000	3.000	0.000	0.000	0.000	0.000	0.000	0.518	0.000	0.518	0.043	-0.043	0.870	131.16
14	1	1.000	0.000	3.000	0.000	0.000	0.000	0.000	0.000	0.512	0.000	0.512	0.042	-0.042	0.828	131.13
15	1	1.000	0.000	3.000	0.000	0.000	0.000	0.000	0.000	0.505	0.000	0.505	0.042	-0.042	0.786	131.11
16	1	1.000	0.000	3.000	0.000	0.000	0.000	0.000	0.000	0.499	0.000	0.499	0.041	-0.041	0.745	131.08
17	1	1.000	0.000	3.000	0.000	0.000	0.000	0.000	0.000	0.492	0.000	0.492	0.041	-0.041	0.704	131.05
18	1	1.000	0.000	3.000	0.000	0.000	0.000	0.000	0.000	0.486	0.000	0.486	0.040	-0.040	0.664	131.02
19	1	1.000	0.000	3.000	0.000	0.000	0.000	0.000	0.000	0.479	0.000	0.479	0.040	-0.040	0.624	130.40
20	1	1.000	0.000	3.000	0.000	0.000	0.000	0.000	0.000	0.299	0.000	0.299	0.025	-0.025	0.600	130.38
21	1	1.000	0.000	3.000	0.000	0.000	0.000	0.000	0.000	0.293	0.000	0.293	0.024	-0.024	0.575	130.37
22	1	1.000	0.000	3.000	0.000	0.000	0.000	0.000	0.000	0.287	0.000	0.287	0.024	-0.024	0.552	130.35
23	1	1.000	0.000	3.000	0.000	0.000	0.000	0.000	0.000	0.281	0.000	0.281	0.023	-0.023	0.528	130.34
24	1	1.000	0.000	3.000	0.000	0.000	0.000	0.000	0.000	0.275	0.000	0.275	0.023	-0.023	0.506	130.32

Peak Discharge(Orifice) 0.677 Peak Discharge(Weir) 0.000 Peak Discharge= 0.677 CFS

Max. Pond Level= 132.03 Ft. El.

Notes:
1. Rainfall amount provided by Leon County.
2. Precipitation ratio is obtained from the FDOT Drainage Manual Appendix B for Zone 2.
3. Cumulative Precipitation amount for each time period is obtained by multiplying the Precipitation Ratio (Column 3) by the total rainfall.
4. Inflow to the pond from each area is obtained by multiplying the Incremental Precipitation amount (Column 6) by the Drainage Area and the ratio of Runoff/Rainfall.

2 Yr., 4 Hr. Storm Event

Rainfall 3.5 inches (See Note 1)

Drainage Areas

Surface	Curve No.	Runoff (in.)	Area (ac.)
Impervious	98	3.27	1.9
Pervious	89	2.36	4.8
Pond	100	3.50	1.00

Minimum Pond Level	130.00
Orifice Dia (inches)	4.25
Orfice Invert (ft)	130.00
Orfifice Operated El	130.00
Area of Orifice Sq.ft	0.10
Discharge Co-efficient	0.60
Length of Weir (ft)	6.00
Crest Level of Weir (ft)	134.77
Discharge Co-efficient	3.33

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Storm Time, in Hours	Incremental Time, Delta T, Hours	Precipitation Ratio (See Note 2)	Incremental Precipitation Ratio	Cumulative Precipitation Amount, (in.) (See Note 3)	Incremental Precipitation Amount (in.)	Inflow to Pond, (Ac.-Ft.) from Impervious Areas (See Note 4)	Inflow to Pond, (Ac.-Ft.) from Pervious Areas (See Note 4)	Inflow to Pond, (Ac.-Ft.) from Pond Area (See Note 4)	Cumulative Incremental Inflow to Pond in Acre-Ft.	Discharge through 4.25 Orifice (cfs)	Discharge Over Outlet Structure Sharp-Crested Weir (cfs)	Total Discharge Through Outlet Structure and Emergency Outflow Structure (cfs)	Outflow from Pond, (Ac.-Ft.)	Incremental Storage, Acre-Feet	Total Volume Stored in Pond, (Ac.-Ft.)	Water Level in the Pond, Ft.
0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	130.00
0.5	0.5	0.040	0.040	0.140	0.140	0.021	0.038	0.012	0.070	0.000	0.000	0.000	0.000	0.070	0.070	130.04
1	0.5	0.140	0.100	0.490	0.350	0.052	0.094	0.029	0.175	0.100	0.000	0.100	0.004	0.171	0.241	130.15
1.5	0.5	0.320	0.180	1.120	0.630	0.093	0.170	0.053	0.315	0.186	0.000	0.186	0.008	0.308	0.549	130.35
2	0.5	0.580	0.260	2.030	0.910	0.134	0.245	0.076	0.455	0.280	0.000	0.280	0.012	0.444	0.993	131.25
2.5	0.5	0.790	0.210	2.765	0.735	0.109	0.198	0.061	0.368	0.530	0.000	0.530	0.022	0.346	1.339	132.00
3	0.5	0.930	0.140	3.255	0.490	0.072	0.132	0.041	0.245	0.672	0.000	0.672	0.028	0.217	1.556	132.17
3.5	0.5	0.980	0.050	3.430	0.175	0.026	0.047	0.015	0.088	0.699	0.000	0.699	0.029	0.059	1.615	132.22
4	0.5	1.000	0.020	3.500	0.070	0.010	0.019	0.006	0.035	0.706	0.000	0.706	0.029	0.006	1.621	132.22
5	1	1.000	0.000	3.500	0.000	0.000	0.000	0.000	0.000	0.707	0.000	0.707	0.058	-0.058	1.562	132.18
6	1	1.000	0.000	3.500	0.000	0.000	0.000	0.000	0.000	0.700	0.000	0.700	0.058	-0.058	1.504	132.13
7	1	1.000	0.000	3.500	0.000	0.000	0.000	0.000	0.000	0.692	0.000	0.692	0.057	-0.057	1.447	132.09
8	1	1.000	0.000	3.500	0.000	0.000	0.000	0.000	0.000	0.685	0.000	0.685	0.057	-0.057	1.391	132.04
9	1	1.000	0.000	3.500	0.000	0.000	0.000	0.000	0.000	0.678	0.000	0.678	0.056	-0.056	1.335	132.00
10	1	1.000	0.000	3.500	0.000	0.000	0.000	0.000	0.000	0.671	0.000	0.671	0.055	-0.055	1.279	131.45
11	1	1.000	0.000	3.500	0.000	0.000	0.000	0.000	0.000	0.571	0.000	0.571	0.047	-0.047	1.232	131.42
12	1	1.000	0.000	3.500	0.000	0.000	0.000	0.000	0.000	0.565	0.000	0.565	0.047	-0.047	1.185	131.38
13	1	1.000	0.000	3.500	0.000	0.000	0.000	0.000	0.000	0.558	0.000	0.558	0.046	-0.046	1.139	131.35
14	1	1.000	0.000	3.500	0.000	0.000	0.000	0.000	0.000	0.552	0.000	0.552	0.046	-0.046	1.093	131.32
15	1	1.000	0.000	3.500	0.000	0.000	0.000	0.000	0.000	0.545	0.000	0.545	0.045	-0.045	1.048	131.29
16	1	1.000	0.000	3.500	0.000	0.000	0.000	0.000	0.000	0.539	0.000	0.539	0.045	-0.045	1.004	131.26
17	1	1.000	0.000	3.500	0.000	0.000	0.000	0.000	0.000	0.532	0.000	0.532	0.044	-0.044	0.960	131.23
18	1	1.000	0.000	3.500	0.000	0.000	0.000	0.000	0.000	0.525	0.000	0.525	0.043	-0.043	0.917	131.20
19	1	1.000	0.000	3.500	0.000	0.000	0.000	0.000	0.000	0.519	0.000	0.519	0.043	-0.043	0.874	131.17
20	1	1.000	0.000	3.500	0.000	0.000	0.000	0.000	0.000	0.512	0.000	0.512	0.042	-0.042	0.831	131.14
21	1	1.000	0.000	3.500	0.000	0.000	0.000	0.000	0.000	0.506	0.000	0.506	0.042	-0.042	0.789	131.11
22	1	1.000	0.000	3.500	0.000	0.000	0.000	0.000	0.000	0.499	0.000	0.499	0.041	-0.041	0.748	131.08
23	1	1.000	0.000	3.500	0.000	0.000	0.000	0.000	0.000	0.493	0.000	0.493	0.041	-0.041	0.708	131.05
24	1	1.000	0.000	3.500	0.000	0.000	0.000	0.000	0.000	0.486	0.000	0.486	0.040	-0.040	0.667	131.02
25	1	1.000	0.000	3.500	0.000	0.000	0.000	0.000	0.000	0.480	0.000	0.480	0.040	-0.040	0.628	130.40
26	1	1.000	0.000	3.500	0.000	0.000	0.000	0.000	0.000	0.299	0.000	0.299	0.025	-0.025	0.603	130.38
27	1	1.000	0.000	3.500	0.000	0.000	0.000	0.000	0.000	0.293	0.000	0.293	0.024	-0.024	0.579	130.37

Peak Discharge(Orifice) 0.707 Peak Discharge(Weir) 0.000 Peak Discharge= 0.707 CFS

Max. Pond Level= 132.22 Ft. El.

Notes:
1. Rainfall amount provided by Leon County.
2. Precipitation ratio is obtained from the FDOT Drainage Manual Appendix B for Zone 2.
3. Cumulative Precipitation amount for each time period is obtained by multiplying the Precipitation Ratio (Column 3) by the total rainfall.
4. Inflow to the pond from each area is obtained by multiplying the Incremental Precipitation amount (Column 6) by the Drainage Area and the ratio of Runoff/Rainfall.

2 Yr., 8 Hr. Storm Event

Rainfall 4.2 inches (See Note 1)

Drainage Areas

Surface	Curve No.	Runoff (in.)	Area (ac.)
Impervious	98	3.96	1.9
Pervious	89	3.01	4.8
Pond	100	4.20	1.00

Minimum Pond Level	130.00
Orifice Dia (inches)	4.25
Orfice Invert (ft)	130.00
Orfifice Operated El	130.00
Area of Orifice Sq.ft	0.10
Discharge Co-efficient	0.60
Length of Weir (ft)	6.00
Crest Level of Weir (ft)	134.77
Discharge Co-efficient	3.33

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Storm Time, in Hours	Incremental Time, Delta T, Hours	Precipitation Ratio (See Note 2)	Incremental Precipitation Ratio	Cumulative Precipitation Amount, (in.) (See Note 3)	Incremental Precipitation Amount (in.)	Inflow to Pond, (Ac.-Ft.) from Impervious Areas (See Note 4)	Inflow to Pond, (Ac.-Ft.) from Pervious Areas (See Note 4)	Inflow to Pond, (Ac.-Ft.) from Pond Area (See Note 4)	Cumulative Incremental Inflow to Pond in Acre-Ft.	Discharge through 4.25 Orifice (cfs)	Discharge Over Outlet Structure Sharp-Crested Weir (cfs)	Total Discharge Through Outlet Structure and Emergency Outflow Structure (cfs)	Outflow from Pond, (Ac.-Ft.)	Incremental Storage, Acre-Feet	Total Volume Stored in Pond, (Ac.-Ft.)	Water Level in the Pond, Ft.
0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	130.00
1	1	0.020	0.020	0.084	0.084	0.013	0.024	0.007	0.044	0.000	0.000	0.000	0.000	0.044	0.044	130.03
2	1	0.130	0.110	0.546	0.462	0.069	0.132	0.039	0.240	0.079	0.000	0.079	0.007	0.234	0.277	130.18
3	1	0.280	0.150	1.176	0.630	0.094	0.181	0.053	0.327	0.199	0.000	0.199	0.016	0.311	0.588	130.37
4	1	0.700	0.420	2.940	1.764	0.264	0.506	0.147	0.917	0.290	0.000	0.290	0.024	0.893	1.481	132.11
5	1	0.860	0.160	3.612	0.672	0.100	0.193	0.056	0.349	0.689	0.000	0.689	0.057	0.292	1.773	132.34
6	1	0.920	0.060	3.864	0.252	0.038	0.072	0.021	0.131	0.725	0.000	0.725	0.060	0.071	1.844	132.39
7	1	0.970	0.050	4.074	0.210	0.031	0.060	0.018	0.109	0.733	0.000	0.733	0.061	0.049	1.892	132.43
8	1	1.000	0.030	4.200	0.126	0.019	0.036	0.011	0.065	0.739	0.000	0.739	0.061	0.004	1.897	132.43
9	1	1.000	0.000	4.200	0.000	0.000	0.000	0.000	0.000	0.740	0.000	0.740	0.061	-0.061	1.836	132.38
10	1	1.000	0.000	4.200	0.000	0.000	0.000	0.000	0.000	0.732	0.000	0.732	0.061	-0.061	1.775	132.34
11	1	1.000	0.000	4.200	0.000	0.000	0.000	0.000	0.000	0.725	0.000	0.725	0.060	-0.060	1.715	132.29
12	1	1.000	0.000	4.200	0.000	0.000	0.000	0.000	0.000	0.718	0.000	0.718	0.059	-0.059	1.656	132.25
13	1	1.000	0.000	4.200	0.000	0.000	0.000	0.000	0.000	0.711	0.000	0.711	0.059	-0.059	1.597	132.20
14	1	1.000	0.000	4.200	0.000	0.000	0.000	0.000	0.000	0.704	0.000	0.704	0.058	-0.058	1.539	132.16
15	1	1.000	0.000	4.200	0.000	0.000	0.000	0.000	0.000	0.697	0.000	0.697	0.058	-0.058	1.481	132.11
16	1	1.000	0.000	4.200	0.000	0.000	0.000	0.000	0.000	0.690	0.000	0.690	0.057	-0.057	1.424	132.07
17	1	1.000	0.000	4.200	0.000	0.000	0.000	0.000	0.000	0.682	0.000	0.682	0.056	-0.056	1.368	132.03
18	1	1.000	0.000	4.200	0.000	0.000	0.000	0.000	0.000	0.675	0.000	0.675	0.056	-0.056	1.312	131.47
19	1	1.000	0.000	4.200	0.000	0.000	0.000	0.000	0.000	0.576	0.000	0.576	0.048	-0.048	1.264	131.44
20	1	1.000	0.000	4.200	0.000	0.000	0.000	0.000	0.000	0.569	0.000	0.569	0.047	-0.047	1.217	131.41
21	1	1.000	0.000	4.200	0.000	0.000	0.000	0.000	0.000	0.563	0.000	0.563	0.046	-0.046	1.171	131.37
22	1	1.000	0.000	4.200	0.000	0.000	0.000	0.000	0.000	0.556	0.000	0.556	0.046	-0.046	1.125	131.34
23	1	1.000	0.000	4.200	0.000	0.000	0.000	0.000	0.000	0.550	0.000	0.550	0.045	-0.045	1.080	131.31
24	1	1.000	0.000	4.200	0.000	0.000	0.000	0.000	0.000	0.543	0.000	0.543	0.045	-0.045	1.035	131.28
25	1	1.000	0.000	4.200	0.000	0.000	0.000	0.000	0.000	0.537	0.000	0.537	0.044	-0.044	0.990	131.25
26	1	1.000	0.000	4.200	0.000	0.000	0.000	0.000	0.000	0.530	0.000	0.530	0.044	-0.044	0.947	131.22
27	1	1.000	0.000	4.200	0.000	0.000	0.000	0.000	0.000	0.523	0.000	0.523	0.043	-0.043	0.903	131.19
28	1	1.000	0.000	4.200	0.000	0.000	0.000	0.000	0.000	0.517	0.000	0.517	0.043	-0.043	0.861	131.16
29	1	1.000	0.000	4.200	0.000	0.000	0.000	0.000	0.000	0.510	0.000	0.510	0.042	-0.042	0.818	131.13
30	1	1.000	0.000	4.200	0.000	0.000	0.000	0.000	0.000	0.504	0.000	0.504	0.042	-0.042	0.777	131.10
31	1	1.000	0.000	4.200	0.000	0.000	0.000	0.000	0.000	0.497	0.000	0.497	0.041	-0.041	0.736	131.07
32	1	1.000	0.000	4.200	0.000	0.000	0.000	0.000	0.000	0.491	0.000	0.491	0.041	-0.041	0.695	131.04
33	1	1.000	0.000	4.200	0.000	0.000	0.000	0.000	0.000	0.484	0.000	0.484	0.040	-0.040	0.655	131.01

Peak Discharge(Orifice) 0.740 Peak Discharge(Weir) 0.000 Peak Discharge= 0.740 CFS

Max. Pond Level= 132.43 Ft. El.

Notes:
1. Rainfall amount provided by Leon County.
2. Precipitation ratio is obtained from the FDOT Drainage Manual Appendix B for Zone 2.
3. Cumulative Precipitation amount for each time period is obtained by multiplying the Precipitation Ratio (Column 3) by the total rainfall.
4. Inflow to the pond from each area is obtained by multiplying the Incremental Precipitation amount (Column 6) by the Drainage Area and the ratio of Runoff/Rainfall.

2 Yr., 24 Hr. Storm Event

Rainfall 4.7 inches (See Note 1)

Drainage Areas

Surface	Curve No.	Runoff (in.)	Area (ac.)
Impervious	98	4.46	1.9
Pervious	89	3.49	4.8
Pond	100	4.70	1.00

Minimum Pond Level	130.00
Orifice Dia (inches)	4.25
Orfice Invert (ft)	130.00
Orfifice Operated El	130.00
Area of Orifice Sq.ft	0.10
Discharge Co-efficient	0.60
Length of Weir (ft)	6.00
Crest Level of Weir (ft)	134.77
Discharge Co-efficient	3.33

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Storm Time, in Hours	Incremental Time, Delta T, Hours	Precipitation Ratio (See Note 2)	Incremental Precipitation Ratio	Cumulative Precipitation Amount, (in.) (See Note 3)	Incremental Precipitation Amount (in.)	Inflow to Pond, (Ac.-Ft.) from Impervious Areas (See Note 4)	Inflow to Pond, (Ac.-Ft.) from Pervious Areas (See Note 4)	Inflow to Pond, (Ac.-Ft.) from Pond Area (See Note 4)	Cumulative Incremental Inflow to Pond in Acre-Ft.	Discharge through 4.25 Orifice (cfs)	Discharge Over Outlet Structure Sharp-Crested Weir (cfs)	Total Discharge Through Outlet Structure and Emergency Outflow Structure (cfs)	Outflow from Pond, (Ac.-Ft.)	Incremental Storage, Acre-Feet	Total Volume Stored in Pond, (Ac.-Ft.)	Water Level in the Pond, Ft.
0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	130.00
1	1	0.010	0.010	0.047	0.047	0.007	0.014	0.004	0.025	0.000	0.000	0.000	0.000	0.025	0.025	130.02
2	1	0.030	0.020	0.141	0.094	0.014	0.028	0.008	0.050	0.060	0.000	0.060	0.005	0.045	0.070	130.04
3	1	0.060	0.030	0.282	0.141	0.021	0.042	0.012	0.075	0.100	0.000	0.100	0.008	0.067	0.136	130.09
4	1	0.090	0.030	0.423	0.141	0.021	0.042	0.012	0.075	0.140	0.000	0.140	0.012	0.063	0.200	130.13
5	1	0.120	0.030	0.564	0.141	0.021	0.042	0.012	0.075	0.169	0.000	0.169	0.014	0.061	0.260	130.17
6	1	0.160	0.040	0.752	0.188	0.028	0.056	0.016	0.100	0.193	0.000	0.193	0.016	0.084	0.344	130.22
7	1	0.200	0.040	0.940	0.188	0.028	0.056	0.016	0.100	0.222	0.000	0.222	0.018	0.081	0.426	130.27
8	1	0.240	0.040	1.128	0.188	0.028	0.056	0.016	0.100	0.247	0.000	0.247	0.020	0.079	0.505	130.32
9	1	0.300	0.060	1.410	0.282	0.042	0.084	0.024	0.150	0.269	0.000	0.269	0.022	0.127	0.632	130.40
10	1	0.360	0.060	1.692	0.282	0.042	0.084	0.024	0.150	0.301	0.000	0.301	0.025	0.125	0.757	131.09
11	1	0.440	0.080	2.068	0.376	0.057	0.112	0.031	0.199	0.494	0.000	0.494	0.041	0.159	0.916	131.20
12	1	0.540	0.100	2.538	0.470	0.071	0.139	0.039	0.249	0.519	0.000	0.519	0.043	0.206	1.122	131.34
13	1	0.610	0.070	2.867	0.329	0.049	0.098	0.027	0.174	0.549	0.000	0.549	0.045	0.129	1.251	131.43
14	1	0.670	0.060	3.149	0.282	0.042	0.084	0.024	0.150	0.567	0.000	0.567	0.047	0.103	1.354	132.02
15	1	0.730	0.060	3.431	0.282	0.042	0.084	0.024	0.150	0.673	0.000	0.673	0.056	0.094	1.448	132.09
16	1	0.780	0.050	3.666	0.235	0.035	0.070	0.020	0.125	0.685	0.000	0.685	0.057	0.068	1.516	132.14
17	1	0.820	0.040	3.854	0.188	0.028	0.056	0.016	0.100	0.694	0.000	0.694	0.057	0.042	1.558	132.17
18	1	0.860	0.040	4.042	0.188	0.028	0.056	0.016	0.100	0.699	0.000	0.699	0.058	0.042	1.600	132.20
19	1	0.900	0.040	4.230	0.188	0.028	0.056	0.016	0.100	0.704	0.000	0.704	0.058	0.042	1.641	132.24
20	1	0.930	0.030	4.371	0.141	0.021	0.042	0.012	0.075	0.709	0.000	0.709	0.059	0.016	1.658	132.25
21	1	0.960	0.030	4.512	0.141	0.021	0.042	0.012	0.075	0.711	0.000	0.711	0.059	0.016	1.674	132.26
22	1	0.980	0.020	4.606	0.094	0.014	0.028	0.008	0.050	0.713	0.000	0.713	0.059	-0.009	1.664	132.25
23	1	0.990	0.010	4.653	0.047	0.007	0.014	0.004	0.025	0.712	0.000	0.712	0.059	-0.034	1.631	132.23
24	1	1.000	0.010	4.700	0.047	0.007	0.014	0.004	0.025	0.708	0.000	0.708	0.059	-0.034	1.597	132.20
25	1	1.000	0.000	4.700	0.000	0.000	0.000	0.000	0.000	0.704	0.000	0.704	0.058	-0.058	1.539	132.16
26	1	1.000	0.000	4.700	0.000	0.000	0.000	0.000	0.000	0.697	0.000	0.697	0.058	-0.058	1.481	132.11
27	1	1.000	0.000	4.700	0.000	0.000	0.000	0.000	0.000	0.690	0.000	0.690	0.057	-0.057	1.424	132.07
28	1	1.000	0.000	4.700	0.000	0.000	0.000	0.000	0.000	0.682	0.000	0.682	0.056	-0.056	1.368	132.03
29	1	1.000	0.000	4.700	0.000	0.000	0.000	0.000	0.000	0.675	0.000	0.675	0.056	-0.056	1.312	131.47
30	1	1.000	0.000	4.700	0.000	0.000	0.000	0.000	0.000	0.576	0.000	0.576	0.048	-0.048	1.264	131.44
31	1	1.000	0.000	4.700	0.000	0.000	0.000	0.000	0.000	0.569	0.000	0.569	0.047	-0.047	1.217	131.41
32	1	1.000	0.000	4.700	0.000	0.000	0.000	0.000	0.000	0.563	0.000	0.563	0.046	-0.046	1.171	131.37
33	1	1.000	0.000	4.700	0.000	0.000	0.000	0.000	0.000	0.556	0.000	0.556	0.046	-0.046	1.125	131.34
34	1	1.000	0.000	4.700	0.000	0.000	0.000	0.000	0.000	0.550	0.000	0.550	0.045	-0.045	1.080	131.31
35	1	1.000	0.000	4.700	0.000	0.000	0.000	0.000	0.000	0.543	0.000	0.543	0.045	-0.045	1.035	131.28
36	1	1.000	0.000	4.700	0.000	0.000	0.000	0.000	0.000	0.536	0.000	0.536	0.044	-0.044	0.990	131.25
37	1	1.000	0.000	4.700	0.000	0.000	0.000	0.000	0.000	0.530	0.000	0.530	0.044	-0.044	0.946	131.22
38	1	1.000	0.000	4.700	0.000	0.000	0.000	0.000	0.000	0.523	0.000	0.523	0.043	-0.043	0.903	131.19
39	1	1.000	0.000	4.700	0.000	0.000	0.000	0.000	0.000	0.517	0.000	0.517	0.043	-0.043	0.861	131.16
40	1	1.000	0.000	4.700	0.000	0.000	0.000	0.000	0.000	0.510	0.000	0.510	0.042	-0.042	0.818	131.13
41	1	1.000	0.000	4.700	0.000	0.000	0.000	0.000	0.000	0.504	0.000	0.504	0.042	-0.042	0.777	131.10
42	1	1.000	0.000	4.700	0.000	0.000	0.000	0.000	0.000	0.497	0.000	0.497	0.041	-0.041	0.736	131.07
43	1	1.000	0.000	4.700	0.000	0.000	0.000	0.000	0.000	0.491	0.000	0.491	0.041	-0.041	0.695	131.04
44	1	1.000	0.000	4.700	0.000	0.000	0.000	0.000	0.000	0.484	0.000	0.484	0.040	-0.040	0.655	131.01
45	1	1.000	0.000	4.700	0.000	0.000	0.000	0.000	0.000	0.478	0.000	0.478	0.039	-0.039	0.616	130.39
46	1	1.000	0.000	4.700	0.000	0.000	0.000	0.000	0.000	0.297	0.000	0.297	0.025	-0.025	0.591	130.38

Peak Discharge(Orifice) 0.713 Peak Discharge(Weir) 0.000 Peak Discharge= 0.713 CFS

Max. Pond Level= 132.26 Ft. El.

Notes:
1. Rainfall amount provided by Leon County.
2. Precipitation ratio is obtained from the FDOT Drainage Manual Appendix B for Zone 2.
3. Cumulative Precipitation amount for each time period is obtained by multiplying the Precipitation Ratio (Column 3) by the total rainfall.
4. Inflow to the pond from each area is obtained by multiplying the Incremental Precipitation amount (Column 6) by the Drainage Area and the ratio of Runoff/Rainfall.

5 Yr., 1 Hr. Storm Event

Rainfall 2.8 inches (See Note 1)

Drainage Areas

Surface	Curve No.	Runoff (in.)	Area (ac.)
Impervious	98	2.57	1.9
Pervious	89	1.72	4.8
Pond	100	2.80	1.00

Minimum Pond Level	130.00
Orifice Dia (inches)	4.25
Orfice Invert (ft)	130.00
Orfifice Operated El	130.00
Area of Orifice Sq.ft	0.10
Discharge Co-efficient	0.60
Length of Weir (ft)	6.00
Crest Level of Weir (ft)	134.77
Discharge Co-efficient	3.33

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Storm Time, in Hours	Incremental Time, Delta T, Hours	Precipitation Ratio (See Note 2)	Incremental Precipitation Ratio	Cumulative Precipitation Amount, (in.) (See Note 3)	Incremental Precipitation Amount (in.)	Inflow to Pond, (Ac.-Ft.) from Impervious Areas (See Note 4)	Inflow to Pond, (Ac.-Ft.) from Pervious Areas (See Note 4)	Inflow to Pond, (Ac.-Ft.) from Pond Area (See Note 4)	Cumulative Incremental Inflow to Pond in Acre-Ft.	Discharge through 4.25 Orifice (cfs)	Discharge Over Outlet Structure Sharp-Crested Weir (cfs)	Total Discharge Through Outlet Structure and Emergency Outflow Structure (cfs)	Outflow from Pond, (Ac.-Ft.)	Incremental Storage, Acre-Feet	Total Volume Stored in Pond, (Ac.-Ft.)	Water Level in the Pond, Ft.
0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	130.00
0.1	0.1	0.020	0.020	0.056	0.056	0.008	0.014	0.005	0.027	0.000	0.000	0.000	0.000	0.027	0.027	130.02
0.2	0.1	0.080	0.060	0.224	0.168	0.024	0.041	0.014	0.080	0.062	0.000	0.062	0.001	0.079	0.106	130.07
0.3	0.1	0.200	0.120	0.560	0.336	0.049	0.083	0.028	0.159	0.123	0.000	0.123	0.001	0.158	0.264	130.17
0.4	0.1	0.410	0.210	1.148	0.588	0.085	0.144	0.049	0.279	0.194	0.000	0.194	0.002	0.277	0.541	130.34
0.5	0.1	0.625	0.215	1.750	0.602	0.087	0.148	0.050	0.286	0.278	0.000	0.278	0.002	0.283	0.825	131.13
0.6	0.1	0.805	0.180	2.254	0.504	0.073	0.124	0.042	0.239	0.505	0.000	0.505	0.004	0.235	1.060	131.30
0.7	0.1	0.915	0.110	2.562	0.308	0.045	0.076	0.026	0.146	0.540	0.000	0.540	0.004	0.142	1.201	131.40
0.8	0.1	0.985	0.070	2.758	0.196	0.028	0.048	0.016	0.093	0.560	0.000	0.560	0.005	0.088	1.290	131.46
0.9	0.1	0.995	0.010	2.786	0.028	0.004	0.007	0.002	0.013	0.573	0.000	0.573	0.005	0.009	1.298	131.46
1	0.1	1.000	0.005	2.800	0.014	0.002	0.003	0.001	0.007	0.574	0.000	0.574	0.005	0.002	1.300	131.46
2	1	1.000	0.000	2.800	0.000	0.000	0.000	0.000	0.000	0.574	0.000	0.574	0.047	-0.047	1.253	131.43
3	1	1.000	0.000	2.800	0.000	0.000	0.000	0.000	0.000	0.568	0.000	0.568	0.047	-0.047	1.206	131.40
4	1	1.000	0.000	2.800	0.000	0.000	0.000	0.000	0.000	0.561	0.000	0.561	0.046	-0.046	1.159	131.37
5	1	1.000	0.000	2.800	0.000	0.000	0.000	0.000	0.000	0.554	0.000	0.554	0.046	-0.046	1.113	131.33
6	1	1.000	0.000	2.800	0.000	0.000	0.000	0.000	0.000	0.548	0.000	0.548	0.045	-0.045	1.068	131.30
7	1	1.000	0.000	2.800	0.000	0.000	0.000	0.000	0.000	0.541	0.000	0.541	0.045	-0.045	1.023	131.27
8	1	1.000	0.000	2.800	0.000	0.000	0.000	0.000	0.000	0.535	0.000	0.535	0.044	-0.044	0.979	131.24
9	1	1.000	0.000	2.800	0.000	0.000	0.000	0.000	0.000	0.528	0.000	0.528	0.044	-0.044	0.936	131.21
10	1	1.000	0.000	2.800	0.000	0.000	0.000	0.000	0.000	0.522	0.000	0.522	0.043	-0.043	0.892	131.18
11	1	1.000	0.000	2.800	0.000	0.000	0.000	0.000	0.000	0.515	0.000	0.515	0.043	-0.043	0.850	131.15
12	1	1.000	0.000	2.800	0.000	0.000	0.000	0.000	0.000	0.509	0.000	0.509	0.042	-0.042	0.808	131.12
13	1	1.000	0.000	2.800	0.000	0.000	0.000	0.000	0.000	0.502	0.000	0.502	0.042	-0.042	0.766	131.09
14	1	1.000	0.000	2.800	0.000	0.000	0.000	0.000	0.000	0.496	0.000	0.496	0.041	-0.041	0.725	131.06
15	1	1.000	0.000	2.800	0.000	0.000	0.000	0.000	0.000	0.489	0.000	0.489	0.040	-0.040	0.685	131.03
16	1	1.000	0.000	2.800	0.000	0.000	0.000	0.000	0.000	0.483	0.000	0.483	0.040	-0.040	0.645	131.01
17	1	1.000	0.000	2.800	0.000	0.000	0.000	0.000	0.000	0.476	0.000	0.476	0.039	-0.039	0.606	130.38
18	1	1.000	0.000	2.800	0.000	0.000	0.000	0.000	0.000	0.294	0.000	0.294	0.024	-0.024	0.581	130.37
19	1	1.000	0.000	2.800	0.000	0.000	0.000	0.000	0.000	0.288	0.000	0.288	0.024	-0.024	0.558	130.35
20	1	1.000	0.000	2.800	0.000	0.000	0.000	0.000	0.000	0.282	0.000	0.282	0.023	-0.023	0.534	130.34
21	1	1.000	0.000	2.800	0.000	0.000	0.000	0.000	0.000	0.276	0.000	0.276	0.023	-0.023	0.511	130.32
22	1	1.000	0.000	2.800	0.000	0.000	0.000	0.000	0.000	0.270	0.000	0.270	0.022	-0.022	0.489	130.31
23	1	1.000	0.000	2.800	0.000	0.000	0.000	0.000	0.000	0.264	0.000	0.264	0.022	-0.022	0.467	130.30

Peak Discharge(Orifice) 0.574 Peak Discharge(Weir) 0.000 Peak Discharge= 0.574 CFS

Max. Pond Level= 131.46 Ft. El.

Notes:
1. Rainfall amount provided by Leon County.
2. Precipitation ratio is obtained from the FDOT Drainage Manual Appendix B for Zone 2.
3. Cumulative Precipitation amount for each time period is obtained by multiplying the Precipitation Ratio (Column 3) by the total rainfall.
4. Inflow to the pond from each area is obtained by multiplying the Incremental Precipitation amount (Column 6) by the Drainage Area and the ratio of Runoff/Rainfall.

5 Yr., 2 Hr. Storm Event

Rainfall 3.6 inches (See Note 1)

Drainage Areas

Surface	Curve No.	Runoff (in.)	Area (ac.)
Impervious	98	3.37	1.9
Pervious	89	2.45	4.8
Pond	100	3.60	1.00

Minimum Pond Level	130.00
Orifice Dia (inches)	4.25
Orfice Invert (ft)	130.00
Orfifice Operated El	130.00
Area of Orifice Sq.ft	0.10
Discharge Co-efficient	0.60
Length of Weir (ft)	6.00
Crest Level of Weir (ft)	134.77
Discharge Co-efficient	3.33

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Storm Time, in Hours	Incremental Time, Delta T, Hours	Precipitation Ratio (See Note 2)	Incremental Precipitation Ratio	Cumulative Precipitation Amount, (in.) (See Note 3)	Incremental Precipitation Amount (in.)	Inflow to Pond, (Ac.-Ft.) from Impervious Areas (See Note 4)	Inflow to Pond, (Ac.-Ft.) from Pervious Areas (See Note 4)	Inflow to Pond, (Ac.-Ft.) from Pond Area (See Note 4)	Cumulative Incremental Inflow to Pond in Acre-Ft.	Discharge through 4.25 Orifice (cfs)	Discharge Over Outlet Structure Sharp-Crested Weir (cfs)	Total Discharge Through Outlet Structure and Emergency Outflow Structure (cfs)	Outflow from Pond, (Ac.-Ft.)	Incremental Storage, Acre-Feet	Total Volume Stored in Pond, (Ac.-Ft.)	Water Level in the Pond, Ft.
0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	130.00
0.2	0.2	0.010	0.010	0.036	0.036	0.005	0.010	0.003	0.018	0.000	0.000	0.000	0.000	0.018	0.018	130.01
0.4	0.2	0.250	0.240	0.900	0.864	0.128	0.235	0.072	0.435	0.051	0.000	0.051	0.001	0.434	0.452	130.29
0.6	0.2	0.450	0.200	1.620	0.720	0.107	0.196	0.060	0.363	0.254	0.000	0.254	0.004	0.358	0.811	131.12
0.8	0.2	0.700	0.250	2.520	0.900	0.133	0.245	0.075	0.453	0.503	0.000	0.503	0.008	0.445	1.256	131.43
1	0.2	0.800	0.100	2.880	0.360	0.053	0.098	0.030	0.181	0.568	0.000	0.568	0.009	0.172	1.428	132.07
1.2	0.2	0.860	0.060	3.096	0.216	0.032	0.059	0.018	0.109	0.683	0.000	0.683	0.011	0.097	1.525	132.15
1.4	0.2	0.910	0.050	3.276	0.180	0.027	0.049	0.015	0.091	0.695	0.000	0.695	0.011	0.079	1.604	132.21
1.6	0.2	0.950	0.040	3.420	0.144	0.021	0.039	0.012	0.073	0.705	0.000	0.705	0.012	0.061	1.665	132.25
1.8	0.2	0.980	0.030	3.528	0.108	0.016	0.029	0.009	0.054	0.712	0.000	0.712	0.012	0.043	1.708	132.29
2	0.2	1.000	0.020	3.600	0.072	0.011	0.020	0.006	0.036	0.717	0.000	0.717	0.012	0.024	1.732	132.31
3	1	1.000	0.000	3.600	0.000	0.000	0.000	0.000	0.000	0.720	0.000	0.720	0.060	-0.060	1.673	132.26
4	1	1.000	0.000	3.600	0.000	0.000	0.000	0.000	0.000	0.713	0.000	0.713	0.059	-0.059	1.614	132.21
5	1	1.000	0.000	3.600	0.000	0.000	0.000	0.000	0.000	0.706	0.000	0.706	0.058	-0.058	1.555	132.17
6	1	1.000	0.000	3.600	0.000	0.000	0.000	0.000	0.000	0.699	0.000	0.699	0.058	-0.058	1.498	132.13
7	1	1.000	0.000	3.600	0.000	0.000	0.000	0.000	0.000	0.692	0.000	0.692	0.057	-0.057	1.440	132.08
8	1	1.000	0.000	3.600	0.000	0.000	0.000	0.000	0.000	0.684	0.000	0.684	0.057	-0.057	1.384	132.04
9	1	1.000	0.000	3.600	0.000	0.000	0.000	0.000	0.000	0.677	0.000	0.677	0.056	-0.056	1.328	131.48
10	1	1.000	0.000	3.600	0.000	0.000	0.000	0.000	0.000	0.578	0.000	0.578	0.048	-0.048	1.280	131.45
11	1	1.000	0.000	3.600	0.000	0.000	0.000	0.000	0.000	0.571	0.000	0.571	0.047	-0.047	1.233	131.42
12	1	1.000	0.000	3.600	0.000	0.000	0.000	0.000	0.000	0.565	0.000	0.565	0.047	-0.047	1.186	131.39
13	1	1.000	0.000	3.600	0.000	0.000	0.000	0.000	0.000	0.558	0.000	0.558	0.046	-0.046	1.140	131.35
14	1	1.000	0.000	3.600	0.000	0.000	0.000	0.000	0.000	0.552	0.000	0.552	0.046	-0.046	1.094	131.32
15	1	1.000	0.000	3.600	0.000	0.000	0.000	0.000	0.000	0.545	0.000	0.545	0.045	-0.045	1.049	131.29
16	1	1.000	0.000	3.600	0.000	0.000	0.000	0.000	0.000	0.539	0.000	0.539	0.045	-0.045	1.005	131.26
17	1	1.000	0.000	3.600	0.000	0.000	0.000	0.000	0.000	0.532	0.000	0.532	0.044	-0.044	0.961	131.23
18	1	1.000	0.000	3.600	0.000	0.000	0.000	0.000	0.000	0.526	0.000	0.526	0.043	-0.043	0.917	131.20
19	1	1.000	0.000	3.600	0.000	0.000	0.000	0.000	0.000	0.519	0.000	0.519	0.043	-0.043	0.875	131.17
20	1	1.000	0.000	3.600	0.000	0.000	0.000	0.000	0.000	0.513	0.000	0.513	0.042	-0.042	0.832	131.14
21	1	1.000	0.000	3.600	0.000	0.000	0.000	0.000	0.000	0.506	0.000	0.506	0.042	-0.042	0.790	131.11
22	1	1.000	0.000	3.600	0.000	0.000	0.000	0.000	0.000	0.499	0.000	0.499	0.041	-0.041	0.749	131.08
23	1	1.000	0.000	3.600	0.000	0.000	0.000	0.000	0.000	0.493	0.000	0.493	0.041	-0.041	0.708	131.05
24	1	1.000	0.000	3.600	0.000	0.000	0.000	0.000	0.000	0.486	0.000	0.486	0.040	-0.040	0.668	131.02
25	1	1.000	0.000	3.600	0.000	0.000	0.000	0.000	0.000	0.480	0.000	0.480	0.040	-0.040	0.629	130.40
26	1	1.000	0.000	3.600	0.000	0.000	0.000	0.000	0.000	0.300	0.000	0.300	0.025	-0.025	0.604	130.38
27	1	1.000	0.000	3.600	0.000	0.000	0.000	0.000	0.000	0.294	0.000	0.294	0.024	-0.024	0.580	130.37

Peak Discharge(Orifice) 0.720 Peak Discharge(Weir) 0.000 Peak Discharge= 0.720 CFS

Max. Pond Level= 132.31 Ft. El.

Notes:
1. Rainfall amount provided by Leon County.
2. Precipitation ratio is obtained from the FDOT Drainage Manual Appendix B for Zone 2.
3. Cumulative Precipitation amount for each time period is obtained by multiplying the Precipitation Ratio (Column 3) by the total rainfall.
4. Inflow to the pond from each area is obtained by multiplying the Incremental Precipitation amount (Column 6) by the Drainage Area and the ratio of Runoff/Rainfall.

5 Yr., 4 Hr. Storm Event

Rainfall 4.4 inches (See Note 1)

Drainage Areas

Surface	Curve No.	Runoff (in.)	Area (ac.)
Impervious	98	4.16	1.9
Pervious	89	3.20	4.8
Pond	100	4.40	1.00

Minimum Pond Level 130.00

Orifice Dia (inches) 4.25
Orfice Invert (ft) 130.00
Orfifice Operated El 130.00
Area of Orifice Sq.ft 0.10
Discharge Co-efficient 0.60

Length of Weir (ft) 6.00
Crest Level of Weir (ft) 134.77
Discharge Co-efficient 3.33

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Storm Time, in Hours	Incremental Time, Delta T, Hours	Precipitation Ratio (See Note 2)	Incremental Precipitation Ratio	Cumulative Precipitation Amount, (in.) (See Note 3)	Incremental Precipitation Amount (in.)	Inflow to Pond, (Ac.-Ft.) from Impervious Areas (See Note 4)	Inflow to Pond, (Ac.-Ft.) from Pervious Areas (See Note 4)	Inflow to Pond, (Ac.-Ft.) from Pond Area (See Note 4)	Cumulative Incremental Inflow to Pond in Acre-Ft.	Discharge through 4.25 Orifice (cfs)	Discharge Over Outlet Structure Sharp-Crested Weir (cfs)	Total Discharge Through Outlet Structure and Emergency Outflow Structure (cfs)	Outflow from Pond, (Ac.-Ft.)	Incremental Storage, Acre-Feet	Total Volume Stored in Pond, (Ac.-Ft.)	Water Level in the Pond, Ft.
0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	130.00
0.5	0.5	0.040	0.040	0.176	0.176	0.026	0.051	0.015	0.092	0.000	0.000	0.000	0.000	0.092	0.092	130.06
1	0.5	0.140	0.100	0.616	0.440	0.066	0.128	0.037	0.231	0.115	0.000	0.115	0.005	0.226	0.318	130.20
1.5	0.5	0.320	0.180	1.408	0.792	0.119	0.230	0.066	0.415	0.213	0.000	0.213	0.009	0.406	0.724	131.06
2	0.5	0.580	0.260	2.552	1.144	0.171	0.333	0.095	0.600	0.489	0.000	0.489	0.020	0.579	1.304	131.47
2.5	0.5	0.790	0.210	3.476	0.924	0.138	0.269	0.077	0.484	0.575	0.000	0.575	0.024	0.461	1.764	132.33
3	0.5	0.930	0.140	4.092	0.616	0.092	0.179	0.051	0.323	0.724	0.000	0.724	0.030	0.293	2.057	132.55
3.5	0.5	0.980	0.050	4.312	0.220	0.033	0.064	0.018	0.115	0.758	0.000	0.758	0.031	0.084	2.141	133.04
4	0.5	1.000	0.020	4.400	0.088	0.013	0.026	0.007	0.046	0.827	0.000	0.827	0.034	0.012	2.153	133.05
5	1	1.000	0.000	4.400	0.000	0.000	0.000	0.000	0.000	0.828	0.000	0.828	0.068	-0.068	2.085	132.57
6	1	1.000	0.000	4.400	0.000	0.000	0.000	0.000	0.000	0.761	0.000	0.761	0.063	-0.063	2.022	132.53
7	1	1.000	0.000	4.400	0.000	0.000	0.000	0.000	0.000	0.754	0.000	0.754	0.062	-0.062	1.960	132.48
8	1	1.000	0.000	4.400	0.000	0.000	0.000	0.000	0.000	0.747	0.000	0.747	0.062	-0.062	1.898	132.43
9	1	1.000	0.000	4.400	0.000	0.000	0.000	0.000	0.000	0.740	0.000	0.740	0.061	-0.061	1.837	132.39
10	1	1.000	0.000	4.400	0.000	0.000	0.000	0.000	0.000	0.733	0.000	0.733	0.061	-0.061	1.776	132.34
11	1	1.000	0.000	4.400	0.000	0.000	0.000	0.000	0.000	0.725	0.000	0.725	0.060	-0.060	1.716	132.29
12	1	1.000	0.000	4.400	0.000	0.000	0.000	0.000	0.000	0.718	0.000	0.718	0.059	-0.059	1.657	132.25
13	1	1.000	0.000	4.400	0.000	0.000	0.000	0.000	0.000	0.711	0.000	0.711	0.059	-0.059	1.598	132.20
14	1	1.000	0.000	4.400	0.000	0.000	0.000	0.000	0.000	0.704	0.000	0.704	0.058	-0.058	1.540	132.16
15	1	1.000	0.000	4.400	0.000	0.000	0.000	0.000	0.000	0.697	0.000	0.697	0.058	-0.058	1.482	132.11
16	1	1.000	0.000	4.400	0.000	0.000	0.000	0.000	0.000	0.690	0.000	0.690	0.057	-0.057	1.425	132.07
17	1	1.000	0.000	4.400	0.000	0.000	0.000	0.000	0.000	0.683	0.000	0.683	0.056	-0.056	1.369	132.03
18	1	1.000	0.000	4.400	0.000	0.000	0.000	0.000	0.000	0.675	0.000	0.675	0.056	-0.056	1.313	131.47
19	1	1.000	0.000	4.400	0.000	0.000	0.000	0.000	0.000	0.576	0.000	0.576	0.048	-0.048	1.266	131.44
20	1	1.000	0.000	4.400	0.000	0.000	0.000	0.000	0.000	0.569	0.000	0.569	0.047	-0.047	1.218	131.41
21	1	1.000	0.000	4.400	0.000	0.000	0.000	0.000	0.000	0.563	0.000	0.563	0.047	-0.047	1.172	131.38
22	1	1.000	0.000	4.400	0.000	0.000	0.000	0.000	0.000	0.556	0.000	0.556	0.046	-0.046	1.126	131.34
23	1	1.000	0.000	4.400	0.000	0.000	0.000	0.000	0.000	0.550	0.000	0.550	0.045	-0.045	1.081	131.31
24	1	1.000	0.000	4.400	0.000	0.000	0.000	0.000	0.000	0.543	0.000	0.543	0.045	-0.045	1.036	131.28
25	1	1.000	0.000	4.400	0.000	0.000	0.000	0.000	0.000	0.537	0.000	0.537	0.044	-0.044	0.991	131.25
26	1	1.000	0.000	4.400	0.000	0.000	0.000	0.000	0.000	0.530	0.000	0.530	0.044	-0.044	0.948	131.22
27	1	1.000	0.000	4.400	0.000	0.000	0.000	0.000	0.000	0.524	0.000	0.524	0.043	-0.043	0.904	131.19
28	1	1.000	0.000	4.400	0.000	0.000	0.000	0.000	0.000	0.517	0.000	0.517	0.043	-0.043	0.862	131.16
29	1	1.000	0.000	4.400	0.000	0.000	0.000	0.000	0.000	0.511	0.000	0.511	0.042	-0.042	0.819	131.13
30	1	1.000	0.000	4.400	0.000	0.000	0.000	0.000	0.000	0.504	0.000	0.504	0.042	-0.042	0.778	131.10
31	1	1.000	0.000	4.400	0.000	0.000	0.000	0.000	0.000	0.497	0.000	0.497	0.041	-0.041	0.737	131.07
32	1	1.000	0.000	4.400	0.000	0.000	0.000	0.000	0.000	0.491	0.000	0.491	0.041	-0.041	0.696	131.04

Peak Discharge(Orifice) 0.828 Peak Discharge(Weir) 0.000 Peak Discharge= 0.828 CFS

Max. Pond Level= 133.05 Ft. El.

Notes:
1. Rainfall amount provided by Leon County.
2. Precipitation ratio is obtained from the FDOT Drainage Manual Appendix B for Zone 2.
3. Cumulative Precipitation amount for each time period is obtained by multiplying the Precipitation Ratio (Column 3) by the total rainfall.
4. Inflow to the pond from each area is obtained by multiplying the Incremental Precipitation amount (Column 6) by the Drainage Area and the ratio of Runoff/Rainfall.

5 Yr., 8 Hr. Storm Event

Rainfall 5.5 inches (See Note 1)

Drainage Areas

Surface	Curve No.	Runoff (in.)	Area (ac.)
Impervious	98	5.26	1.9
Pervious	89	4.25	4.8
Pond	100	5.50	1.00

Minimum Pond Level	130.00
Orifice Dia (inches)	4.25
Orfice Invert (ft)	130.00
Orfifice Operated El	130.00
Area of Orifice Sq.ft	0.10
Discharge Co-efficient	0.60
Length of Weir (ft)	6.00
Crest Level of Weir (ft)	134.77
Discharge Co-efficient	3.33

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Storm Time, in Hours	Incremental Time, Delta T, Hours	Precipitation Ratio (See Note 2)	Incremental Precipitation Ratio	Cumulative Precipitation Amount, (in.) (See Note 3)	Incremental Precipitation Amount (in.)	Inflow to Pond, (Ac.-Ft.) from Impervious Areas (See Note 4)	Inflow to Pond, (Ac.-Ft.) from Pervious Areas (See Note 4)	Inflow to Pond, (Ac.-Ft.) from Pond Area (See Note 4)	Cumulative Incremental Inflow to Pond in Acre-Ft.	Discharge through 4.25 Orifice (cfs)	Discharge Over Outlet Structure Sharp-Crested Weir (cfs)	Total Discharge Through Outlet Structure and Emergency Outflow Structure (cfs)	Outflow from Pond, (Ac.-Ft.)	Incremental Storage, Acre-Feet	Total Volume Stored in Pond, (Ac.-Ft.)	Water Level in the Pond, Ft.
0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	130.00
1	1	0.020	0.020	0.110	0.110	0.017	0.034	0.009	0.060	0.000	0.000	0.000	0.000	0.060	0.060	130.04
2	1	0.130	0.110	0.715	0.605	0.092	0.187	0.050	0.329	0.092	0.000	0.092	0.008	0.322	0.381	130.24
3	1	0.280	0.150	1.540	0.825	0.125	0.255	0.069	0.449	0.233	0.000	0.233	0.019	0.430	0.811	131.12
4	1	0.700	0.420	3.850	2.310	0.350	0.714	0.193	1.257	0.503	0.000	0.503	0.042	1.215	2.026	132.53
5	1	0.860	0.160	4.730	0.880	0.133	0.272	0.073	0.479	0.754	0.000	0.754	0.062	0.416	2.443	133.29
6	1	0.920	0.060	5.060	0.330	0.050	0.102	0.028	0.180	0.860	0.000	0.860	0.071	0.108	2.551	133.38
7	1	0.970	0.050	5.335	0.275	0.042	0.085	0.023	0.150	0.872	0.000	0.872	0.072	0.078	2.629	133.44
8	1	1.000	0.030	5.500	0.165	0.025	0.051	0.014	0.090	0.880	0.000	0.880	0.073	0.017	2.646	133.46
9	1	1.000	0.000	5.500	0.000	0.000	0.000	0.000	0.000	0.882	0.000	0.882	0.073	-0.073	2.573	133.40
10	1	1.000	0.000	5.500	0.000	0.000	0.000	0.000	0.000	0.874	0.000	0.874	0.072	-0.072	2.501	133.34
11	1	1.000	0.000	5.500	0.000	0.000	0.000	0.000	0.000	0.866	0.000	0.866	0.072	-0.072	2.429	133.28
12	1	1.000	0.000	5.500	0.000	0.000	0.000	0.000	0.000	0.859	0.000	0.859	0.071	-0.071	2.358	133.22
13	1	1.000	0.000	5.500	0.000	0.000	0.000	0.000	0.000	0.851	0.000	0.851	0.070	-0.070	2.288	133.16
14	1	1.000	0.000	5.500	0.000	0.000	0.000	0.000	0.000	0.843	0.000	0.843	0.070	-0.070	2.218	133.10
15	1	1.000	0.000	5.500	0.000	0.000	0.000	0.000	0.000	0.835	0.000	0.835	0.069	-0.069	2.149	133.04
16	1	1.000	0.000	5.500	0.000	0.000	0.000	0.000	0.000	0.827	0.000	0.827	0.068	-0.068	2.081	132.57
17	1	1.000	0.000	5.500	0.000	0.000	0.000	0.000	0.000	0.761	0.000	0.761	0.063	-0.063	2.018	132.52
18	1	1.000	0.000	5.500	0.000	0.000	0.000	0.000	0.000	0.754	0.000	0.754	0.062	-0.062	1.956	132.48
19	1	1.000	0.000	5.500	0.000	0.000	0.000	0.000	0.000	0.746	0.000	0.746	0.062	-0.062	1.894	132.43
20	1	1.000	0.000	5.500	0.000	0.000	0.000	0.000	0.000	0.739	0.000	0.739	0.061	-0.061	1.833	132.38
21	1	1.000	0.000	5.500	0.000	0.000	0.000	0.000	0.000	0.732	0.000	0.732	0.061	-0.061	1.772	132.34
22	1	1.000	0.000	5.500	0.000	0.000	0.000	0.000	0.000	0.725	0.000	0.725	0.060	-0.060	1.712	132.29
23	1	1.000	0.000	5.500	0.000	0.000	0.000	0.000	0.000	0.718	0.000	0.718	0.059	-0.059	1.653	132.24
24	1	1.000	0.000	5.500	0.000	0.000	0.000	0.000	0.000	0.711	0.000	0.711	0.059	-0.059	1.594	132.20
25	1	1.000	0.000	5.500	0.000	0.000	0.000	0.000	0.000	0.704	0.000	0.704	0.058	-0.058	1.536	132.16
26	1	1.000	0.000	5.500	0.000	0.000	0.000	0.000	0.000	0.696	0.000	0.696	0.058	-0.058	1.479	132.11
27	1	1.000	0.000	5.500	0.000	0.000	0.000	0.000	0.000	0.689	0.000	0.689	0.057	-0.057	1.422	132.07
28	1	1.000	0.000	5.500	0.000	0.000	0.000	0.000	0.000	0.682	0.000	0.682	0.056	-0.056	1.365	132.02
29	1	1.000	0.000	5.500	0.000	0.000	0.000	0.000	0.000	0.675	0.000	0.675	0.056	-0.056	1.309	131.47
30	1	1.000	0.000	5.500	0.000	0.000	0.000	0.000	0.000	0.575	0.000	0.575	0.048	-0.048	1.262	131.44
31	1	1.000	0.000	5.500	0.000	0.000	0.000	0.000	0.000	0.569	0.000	0.569	0.047	-0.047	1.215	131.41
32	1	1.000	0.000	5.500	0.000	0.000	0.000	0.000	0.000	0.562	0.000	0.562	0.046	-0.046	1.168	131.37
33	1	1.000	0.000	5.500	0.000	0.000	0.000	0.000	0.000	0.556	0.000	0.556	0.046	-0.046	1.123	131.34
34	1	1.000	0.000	5.500	0.000	0.000	0.000	0.000	0.000	0.549	0.000	0.549	0.045	-0.045	1.077	131.31
35	1	1.000	0.000	5.500	0.000	0.000	0.000	0.000	0.000	0.543	0.000	0.543	0.045	-0.045	1.032	131.28
36	1	1.000	0.000	5.500	0.000	0.000	0.000	0.000	0.000	0.536	0.000	0.536	0.044	-0.044	0.988	131.25
37	1	1.000	0.000	5.500	0.000	0.000	0.000	0.000	0.000	0.530	0.000	0.530	0.044	-0.044	0.944	131.22

Peak Discharge(Orifice) 0.882 Peak Discharge(Weir) 0.000 Peak Discharge= 0.882 CFS

Max. Pond Level= 133.46 Ft. El.

Notes:
1. Rainfall amount provided by Leon County.
2. Precipitation ratio is obtained from the FDOT Drainage Manual Appendix B for Zone 2.
3. Cumulative Precipitation amount for each time period is obtained by multiplying the Precipitation Ratio (Column 3) by the total rainfall.
4. Inflow to the pond from each area is obtained by multiplying the Incremental Precipitation amount (Column 6) by the Drainage Area and the ratio of Runoff/Rainfall.

5 Yr., 24 Hr. Storm Event

Rainfall 6.4 inches (See Note 1)

Drainage Areas

Surface	Curve No.	Runoff (in.)	Area (ac.)
Impervious	98	6.16	1.9
Pervious	89	5.12	4.8
Pond	100	6.40	1.00

Minimum Pond Level	130.00
Orifice Dia (inches)	4.25
Orfice Invert (ft)	130.00
Orfifice Operated El	130.00
Area of Orifice Sq.ft	0.10
Discharge Co-efficient	0.60
Length of Weir (ft)	6.00
Crest Level of Weir (ft)	134.77
Discharge Co-efficient	3.33

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Storm Time, in Hours	Incremental Time, Delta T, Hours	Precipitation Ratio (See Note 2)	Incremental Precipitation Ratio	Cumulative Precipitation Amount, (in.) (See Note 3)	Incremental Precipitation Amount (in.)	Inflow to Pond, (Ac.-Ft.) from Impervious Areas (See Note 4)	Inflow to Pond, (Ac.-Ft.) from Pervious Areas (See Note 4)	Inflow to Pond, (Ac.-Ft.) from Pond Area (See Note 4)	Cumulative Incremental Inflow to Pond in Acre-Ft.	Discharge through 4.25 Orifice (cfs)	Discharge Over Outlet Structure Sharp-Crested Weir (cfs)	Total Discharge Through Outlet Structure and Emergency Outflow Structure (cfs)	Outflow from Pond, (Ac.-Ft.)	Incremental Storage, Acre-Feet	Total Volume Stored in Pond, (Ac.-Ft.)	Water Level in the Pond, Ft.
0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	130.00
1	1	0.010	0.010	0.064	0.064	0.010	0.020	0.005	0.036	0.000	0.000	0.000	0.000	0.036	0.036	130.02
2	1	0.030	0.020	0.192	0.128	0.020	0.041	0.011	0.071	0.071	0.000	0.071	0.006	0.065	0.101	130.06
3	1	0.060	0.030	0.384	0.192	0.029	0.061	0.016	0.107	0.120	0.000	0.120	0.010	0.097	0.198	130.13
4	1	0.090	0.030	0.576	0.192	0.029	0.061	0.016	0.107	0.168	0.000	0.168	0.014	0.093	0.291	130.18
5	1	0.120	0.030	0.768	0.192	0.029	0.061	0.016	0.107	0.204	0.000	0.204	0.017	0.090	0.380	130.24
6	1	0.160	0.040	1.024	0.256	0.039	0.082	0.021	0.142	0.233	0.000	0.233	0.019	0.123	0.504	130.32
7	1	0.200	0.040	1.280	0.256	0.039	0.082	0.021	0.142	0.268	0.000	0.268	0.022	0.120	0.624	130.40
8	1	0.240	0.040	1.536	0.256	0.039	0.082	0.021	0.142	0.298	0.000	0.298	0.025	0.118	0.741	131.07
9	1	0.300	0.060	1.920	0.384	0.059	0.123	0.032	0.214	0.492	0.000	0.492	0.041	0.173	0.914	131.20
10	1	0.360	0.060	2.304	0.384	0.059	0.123	0.032	0.214	0.519	0.000	0.519	0.043	0.171	1.085	131.31
11	1	0.440	0.080	2.816	0.512	0.078	0.164	0.043	0.285	0.544	0.000	0.544	0.045	0.240	1.325	131.48
12	1	0.540	0.100	3.456	0.640	0.098	0.205	0.053	0.356	0.577	0.000	0.577	0.048	0.308	1.633	132.23
13	1	0.610	0.070	3.904	0.448	0.068	0.143	0.037	0.249	0.708	0.000	0.708	0.059	0.191	1.823	132.37
14	1	0.670	0.060	4.288	0.384	0.059	0.123	0.032	0.214	0.731	0.000	0.731	0.060	0.153	1.976	132.49
15	1	0.730	0.060	4.672	0.384	0.059	0.123	0.032	0.214	0.749	0.000	0.749	0.062	0.152	2.128	133.03
16	1	0.780	0.050	4.992	0.320	0.049	0.102	0.027	0.178	0.825	0.000	0.825	0.068	0.110	2.238	133.12
17	1	0.820	0.040	5.248	0.256	0.039	0.082	0.021	0.142	0.837	0.000	0.837	0.069	0.073	2.311	133.18
18	1	0.860	0.040	5.504	0.256	0.039	0.082	0.021	0.142	0.846	0.000	0.846	0.070	0.072	2.383	133.24
19	1	0.900	0.040	5.760	0.256	0.039	0.082	0.021	0.142	0.854	0.000	0.854	0.071	0.072	2.455	133.30
20	1	0.930	0.030	5.952	0.192	0.029	0.061	0.016	0.107	0.861	0.000	0.861	0.071	0.036	2.491	133.33
21	1	0.960	0.030	6.144	0.192	0.029	0.061	0.016	0.107	0.865	0.000	0.865	0.072	0.035	2.526	133.36
22	1	0.980	0.020	6.272	0.128	0.020	0.041	0.011	0.071	0.869	0.000	0.869	0.072	-0.001	2.525	133.36
23	1	0.990	0.010	6.336	0.064	0.010	0.020	0.005	0.036	0.869	0.000	0.869	0.072	-0.036	2.489	133.33
24	1	1.000	0.010	6.400	0.064	0.010	0.020	0.005	0.036	0.865	0.000	0.865	0.071	-0.036	2.453	133.30
25	1	1.000	0.000	6.400	0.000	0.000	0.000	0.000	0.000	0.861	0.000	0.861	0.071	-0.071	2.382	133.24
26	1	1.000	0.000	6.400	0.000	0.000	0.000	0.000	0.000	0.853	0.000	0.853	0.071	-0.071	2.311	133.18
27	1	1.000	0.000	6.400	0.000	0.000	0.000	0.000	0.000	0.846	0.000	0.846	0.070	-0.070	2.241	133.12
28	1	1.000	0.000	6.400	0.000	0.000	0.000	0.000	0.000	0.838	0.000	0.838	0.069	-0.069	2.172	133.06
29	1	1.000	0.000	6.400	0.000	0.000	0.000	0.000	0.000	0.830	0.000	0.830	0.069	-0.069	2.104	133.00
30	1	1.000	0.000	6.400	0.000	0.000	0.000	0.000	0.000	0.822	0.000	0.822	0.068	-0.068	2.036	132.54
31	1	1.000	0.000	6.400	0.000	0.000	0.000	0.000	0.000	0.756	0.000	0.756	0.062	-0.062	1.973	132.49
32	1	1.000	0.000	6.400	0.000	0.000	0.000	0.000	0.000	0.748	0.000	0.748	0.062	-0.062	1.911	132.44
33	1	1.000	0.000	6.400	0.000	0.000	0.000	0.000	0.000	0.741	0.000	0.741	0.061	-0.061	1.850	132.40
34	1	1.000	0.000	6.400	0.000	0.000	0.000	0.000	0.000	0.734	0.000	0.734	0.061	-0.061	1.789	132.35
35	1	1.000	0.000	6.400	0.000	0.000	0.000	0.000	0.000	0.727	0.000	0.727	0.060	-0.060	1.729	132.30
36	1	1.000	0.000	6.400	0.000	0.000	0.000	0.000	0.000	0.720	0.000	0.720	0.059	-0.059	1.670	132.26
37	1	1.000	0.000	6.400	0.000	0.000	0.000	0.000	0.000	0.713	0.000	0.713	0.059	-0.059	1.611	132.21
38	1	1.000	0.000	6.400	0.000	0.000	0.000	0.000	0.000	0.706	0.000	0.706	0.058	-0.058	1.553	132.17
39	1	1.000	0.000	6.400	0.000	0.000	0.000	0.000	0.000	0.698	0.000	0.698	0.058	-0.058	1.495	132.12
40	1	1.000	0.000	6.400	0.000	0.000	0.000	0.000	0.000	0.691	0.000	0.691	0.057	-0.057	1.438	132.08
41	1	1.000	0.000	6.400	0.000	0.000	0.000	0.000	0.000	0.684	0.000	0.684	0.057	-0.057	1.381	132.04
42	1	1.000	0.000	6.400	0.000	0.000	0.000	0.000	0.000	0.677	0.000	0.677	0.056	-0.056	1.325	131.48
43	1	1.000	0.000	6.400	0.000	0.000	0.000	0.000	0.000	0.577	0.000	0.577	0.048	-0.048	1.278	131.45
44	1	1.000	0.000	6.400	0.000	0.000	0.000	0.000	0.000	0.571	0.000	0.571	0.047	-0.047	1.230	131.42
45	1	1.000	0.000	6.400	0.000	0.000	0.000	0.000	0.000	0.564	0.000	0.564	0.047	-0.047	1.184	131.38
46	1	1.000	0.000	6.400	0.000	0.000	0.000	0.000	0.000	0.558	0.000	0.558	0.046	-0.046	1.138	131.35
47	1	1.000	0.000	6.400	0.000	0.000	0.000	0.000	0.000	0.551	0.000	0.551	0.046	-0.046	1.092	131.32
48	1	1.000	0.000	6.400	0.000	0.000	0.000	0.000	0.000	0.545	0.000	0.545	0.045	-0.045	1.047	131.29
49	1	1.000	0.000	6.400	0.000	0.000	0.000	0.000	0.000	0.538	0.000	0.538	0.044	-0.044	1.003	131.26
50	1	1.000	0.000	6.400	0.000	0.000	0.000	0.000	0.000	0.532	0.000	0.532	0.044	-0.044	0.959	131.23

Peak Discharge(Orifice) 0.869 Peak Discharge(Weir) 0.000 Peak Discharge= 0.869 CFS

Max. Pond Level= 133.36 Ft. El.

Notes:
1. Rainfall amount provided by Leon County.
2. Precipitation ratio is obtained from the FDOT Drainage Manual Appendix B for Zone 2.
3. Cumulative Precipitation amount for each time period is obtained by multiplying the Precipitation Ratio (Column 3) by the total rainfall.
4. Inflow to the pond from each area is obtained by multiplying the Incremental Precipitation amount (Column 6) by the Drainage Area and the ratio of Runoff/Rainfall.

10 Yr., 1 Hr. Storm Event

Rainfall 3.2 inches (See Note 1)

Drainage Areas

Surface	Curve No.	Runoff (in.)	Area (ac.)
Impervious	98	2.97	1.9
Pervious	89	2.08	4.8
Pond	100	3.20	1.00

Minimum Pond Level	130.00
Orifice Dia (inches)	4.25
Orfice Invert (ft)	130.00
Orfifice Operated El	130.00
Area of Orifice Sq.ft	0.10
Discharge Co-efficient	0.60
Length of Weir (ft)	6.00
Crest Level of Weir (ft)	134.77
Discharge Co-efficient	3.33

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Storm Time, in Hours	Incremental Time, Delta T, Hours	Precipitation Ratio (See Note 2)	Incremental Precipitation Ratio	Cumulative Precipitation Amount, (in.) (See Note 3)	Incremental Precipitation Amount (in.)	Inflow to Pond, (Ac.-Ft.) from Impervious Areas (See Note 4)	Inflow to Pond, (Ac.-Ft.) from Pervious Areas (See Note 4)	Inflow to Pond, (Ac.-Ft.) from Pond Area (See Note 4)	Cumulative Incremental Inflow to Pond in Acre-Ft.	Discharge through 4.25 Orifice (cfs)	Discharge Over Outlet Structure Sharp-Crested Weir (cfs)	Total Discharge Through Outlet Structure and Emergency Outflow Structure (cfs)	Outflow from Pond, (Ac.-Ft.)	Incremental Storage, Acre-Feet	Total Volume Stored in Pond, (Ac.-Ft.)	Water Level in the Pond, Ft.
0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	130.00
0.1	0.1	0.020	0.020	0.064	0.064	0.009	0.017	0.005	0.031	0.000	0.000	0.000	0.000	0.031	0.031	130.02
0.2	0.1	0.080	0.060	0.256	0.192	0.028	0.050	0.016	0.094	0.067	0.000	0.067	0.001	0.094	0.125	130.08
0.3	0.1	0.200	0.120	0.640	0.384	0.056	0.100	0.032	0.188	0.134	0.000	0.134	0.001	0.187	0.312	130.20
0.4	0.1	0.410	0.210	1.312	0.672	0.099	0.175	0.056	0.330	0.211	0.000	0.211	0.002	0.328	0.640	131.00
0.5	0.1	0.625	0.215	2.000	0.688	0.101	0.179	0.057	0.337	0.475	0.000	0.475	0.004	0.333	0.973	131.24
0.6	0.1	0.805	0.180	2.576	0.576	0.085	0.150	0.048	0.282	0.527	0.000	0.527	0.004	0.278	1.251	131.43
0.7	0.1	0.915	0.110	2.928	0.352	0.052	0.092	0.029	0.173	0.567	0.000	0.567	0.005	0.168	1.419	132.07
0.8	0.1	0.985	0.070	3.152	0.224	0.033	0.058	0.019	0.110	0.682	0.000	0.682	0.006	0.104	1.524	132.15
0.9	0.1	0.995	0.010	3.184	0.032	0.005	0.008	0.003	0.016	0.695	0.000	0.695	0.006	0.010	1.534	132.15
1	0.1	1.000	0.005	3.200	0.016	0.002	0.004	0.001	0.008	0.696	0.000	0.696	0.006	0.002	1.536	132.15
2	1	1.000	0.000	3.200	0.000	0.000	0.000	0.000	0.000	0.696	0.000	0.696	0.058	-0.058	1.478	132.11
3	1	1.000	0.000	3.200	0.000	0.000	0.000	0.000	0.000	0.689	0.000	0.689	0.057	-0.057	1.421	132.07
4	1	1.000	0.000	3.200	0.000	0.000	0.000	0.000	0.000	0.682	0.000	0.682	0.056	-0.056	1.365	132.02
5	1	1.000	0.000	3.200	0.000	0.000	0.000	0.000	0.000	0.675	0.000	0.675	0.056	-0.056	1.309	131.47
6	1	1.000	0.000	3.200	0.000	0.000	0.000	0.000	0.000	0.575	0.000	0.575	0.048	-0.048	1.261	131.44
7	1	1.000	0.000	3.200	0.000	0.000	0.000	0.000	0.000	0.569	0.000	0.569	0.047	-0.047	1.214	131.40
8	1	1.000	0.000	3.200	0.000	0.000	0.000	0.000	0.000	0.562	0.000	0.562	0.046	-0.046	1.168	131.37
9	1	1.000	0.000	3.200	0.000	0.000	0.000	0.000	0.000	0.556	0.000	0.556	0.046	-0.046	1.122	131.34
10	1	1.000	0.000	3.200	0.000	0.000	0.000	0.000	0.000	0.549	0.000	0.549	0.045	-0.045	1.077	131.31
11	1	1.000	0.000	3.200	0.000	0.000	0.000	0.000	0.000	0.543	0.000	0.543	0.045	-0.045	1.032	131.28
12	1	1.000	0.000	3.200	0.000	0.000	0.000	0.000	0.000	0.536	0.000	0.536	0.044	-0.044	0.988	131.25
13	1	1.000	0.000	3.200	0.000	0.000	0.000	0.000	0.000	0.530	0.000	0.530	0.044	-0.044	0.944	131.22
14	1	1.000	0.000	3.200	0.000	0.000	0.000	0.000	0.000	0.523	0.000	0.523	0.043	-0.043	0.901	131.19
15	1	1.000	0.000	3.200	0.000	0.000	0.000	0.000	0.000	0.516	0.000	0.516	0.043	-0.043	0.858	131.16
16	1	1.000	0.000	3.200	0.000	0.000	0.000	0.000	0.000	0.510	0.000	0.510	0.042	-0.042	0.816	131.13
17	1	1.000	0.000	3.200	0.000	0.000	0.000	0.000	0.000	0.503	0.000	0.503	0.042	-0.042	0.774	131.10
18	1	1.000	0.000	3.200	0.000	0.000	0.000	0.000	0.000	0.497	0.000	0.497	0.041	-0.041	0.733	131.07
19	1	1.000	0.000	3.200	0.000	0.000	0.000	0.000	0.000	0.490	0.000	0.490	0.041	-0.041	0.693	131.04
20	1	1.000	0.000	3.200	0.000	0.000	0.000	0.000	0.000	0.484	0.000	0.484	0.040	-0.040	0.653	131.01
21	1	1.000	0.000	3.200	0.000	0.000	0.000	0.000	0.000	0.477	0.000	0.477	0.039	-0.039	0.613	130.39
22	1	1.000	0.000	3.200	0.000	0.000	0.000	0.000	0.000	0.296	0.000	0.296	0.024	-0.024	0.589	130.37
23	1	1.000	0.000	3.200	0.000	0.000	0.000	0.000	0.000	0.290	0.000	0.290	0.024	-0.024	0.565	130.36
24	1	1.000	0.000	3.200	0.000	0.000	0.000	0.000	0.000	0.284	0.000	0.284	0.023	-0.023	0.541	130.34
25	1	1.000	0.000	3.200	0.000	0.000	0.000	0.000	0.000	0.278	0.000	0.278	0.023	-0.023	0.518	130.33

Peak Discharge(Orifice) 0.696 Peak Discharge(Weir) 0.000 Peak Discharge= 0.696 CFS

Max. Pond Level= 132.15 Ft. El.

Notes:
1. Rainfall amount provided by Leon County.
2. Precipitation ratio is obtained from the FDOT Drainage Manual Appendix B for Zone 2.
3. Cumulative Precipitation amount for each time period is obtained by multiplying the Precipitation Ratio (Column 3) by the total rainfall.
4. Inflow to the pond from each area is obtained by multiplying the Incremental Precipitation amount (Column 6) by the Drainage Area and the ratio of Runoff/Rainfall.

10 Yr., 2 Hr. Storm Event

Rainfall 4.1 inches (See Note 1)

Drainage Areas

Surface	Curve No.	Runoff (in.)	Area (ac.)
Impervious	98	3.86	1.9
Pervious	89	2.92	4.8
Pond	100	4.10	1.00

Minimum Pond Level 130.00

Orifice Dia (inches) 4.25
Orfice Invert (ft) 130.00
Orfifice Operated El 130.00
Area of Orifice Sq.ft 0.10
Discharge Co-efficient 0.60

Length of Weir (ft) 6.00
Crest Level of Weir (ft) 134.77
Discharge Co-efficient 3.33

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Storm Time, in Hours	Incremental Time, Delta T, Hours	Precipitation Ratio (See Note 2)	Incremental Precipitation Ratio	Cumulative Precipitation Amount, (in.) (See Note 3)	Incremental Precipitation Amount (in.)	Inflow to Pond, (Ac.-Ft.) from Impervious Areas (See Note 4)	Inflow to Pond, (Ac.-Ft.) from Pervious Areas (See Note 4)	Inflow to Pond, (Ac.-Ft.) from Pond Area (See Note 4)	Cumulative Incremental Inflow to Pond in Acre-Ft.	Discharge through 4.25 Orifice (cfs)	Discharge Over Outlet Structure Sharp-Crested Weir (cfs)	Total Discharge Through Outlet Structure and Emergency Outflow Structure (cfs)	Outflow from Pond, (Ac.-Ft.)	Incremental Storage, Acre-Feet	Total Volume Stored in Pond, (Ac.-Ft.)	Water Level in the Pond, Ft.
0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	130.00
0.2	0.2	0.010	0.010	0.041	0.041	0.006	0.012	0.003	0.021	0.000	0.000	0.000	0.000	0.021	0.021	130.01
0.4	0.2	0.250	0.240	1.025	0.984	0.147	0.280	0.082	0.509	0.055	0.000	0.055	0.001	0.508	0.529	130.34
0.6	0.2	0.450	0.200	1.845	0.820	0.122	0.233	0.068	0.424	0.275	0.000	0.275	0.005	0.420	0.949	131.22
0.8	0.2	0.700	0.250	2.870	1.025	0.153	0.292	0.085	0.530	0.524	0.000	0.524	0.009	0.521	1.470	132.10
1	0.2	0.800	0.100	3.280	0.410	0.061	0.117	0.034	0.212	0.688	0.000	0.688	0.011	0.201	1.671	132.26
1.2	0.2	0.860	0.060	3.526	0.246	0.037	0.070	0.021	0.127	0.713	0.000	0.713	0.012	0.115	1.786	132.35
1.4	0.2	0.910	0.050	3.731	0.205	0.031	0.058	0.017	0.106	0.727	0.000	0.727	0.012	0.094	1.880	132.42
1.6	0.2	0.950	0.040	3.895	0.164	0.024	0.047	0.014	0.085	0.738	0.000	0.738	0.012	0.073	1.953	132.47
1.8	0.2	0.980	0.030	4.018	0.123	0.018	0.035	0.010	0.064	0.746	0.000	0.746	0.012	0.051	2.004	132.51
2	0.2	1.000	0.020	4.100	0.082	0.012	0.023	0.007	0.042	0.752	0.000	0.752	0.012	0.030	2.034	132.54
3	1	1.000	0.000	4.100	0.000	0.000	0.000	0.000	0.000	0.755	0.000	0.755	0.062	-0.062	1.972	132.49
4	1	1.000	0.000	4.100	0.000	0.000	0.000	0.000	0.000	0.748	0.000	0.748	0.062	-0.062	1.910	132.44
5	1	1.000	0.000	4.100	0.000	0.000	0.000	0.000	0.000	0.741	0.000	0.741	0.061	-0.061	1.849	132.39
6	1	1.000	0.000	4.100	0.000	0.000	0.000	0.000	0.000	0.734	0.000	0.734	0.061	-0.061	1.788	132.35
7	1	1.000	0.000	4.100	0.000	0.000	0.000	0.000	0.000	0.727	0.000	0.727	0.060	-0.060	1.728	132.30
8	1	1.000	0.000	4.100	0.000	0.000	0.000	0.000	0.000	0.720	0.000	0.720	0.059	-0.059	1.668	132.26
9	1	1.000	0.000	4.100	0.000	0.000	0.000	0.000	0.000	0.713	0.000	0.713	0.059	-0.059	1.610	132.21
10	1	1.000	0.000	4.100	0.000	0.000	0.000	0.000	0.000	0.705	0.000	0.705	0.058	-0.058	1.551	132.17
11	1	1.000	0.000	4.100	0.000	0.000	0.000	0.000	0.000	0.698	0.000	0.698	0.058	-0.058	1.494	132.12
12	1	1.000	0.000	4.100	0.000	0.000	0.000	0.000	0.000	0.691	0.000	0.691	0.057	-0.057	1.436	132.08
13	1	1.000	0.000	4.100	0.000	0.000	0.000	0.000	0.000	0.684	0.000	0.684	0.057	-0.057	1.380	132.04
14	1	1.000	0.000	4.100	0.000	0.000	0.000	0.000	0.000	0.677	0.000	0.677	0.056	-0.056	1.324	131.48
15	1	1.000	0.000	4.100	0.000	0.000	0.000	0.000	0.000	0.577	0.000	0.577	0.048	-0.048	1.276	131.45
16	1	1.000	0.000	4.100	0.000	0.000	0.000	0.000	0.000	0.571	0.000	0.571	0.047	-0.047	1.229	131.42
17	1	1.000	0.000	4.100	0.000	0.000	0.000	0.000	0.000	0.564	0.000	0.564	0.047	-0.047	1.182	131.38
18	1	1.000	0.000	4.100	0.000	0.000	0.000	0.000	0.000	0.558	0.000	0.558	0.046	-0.046	1.136	131.35
19	1	1.000	0.000	4.100	0.000	0.000	0.000	0.000	0.000	0.551	0.000	0.551	0.046	-0.046	1.091	131.32
20	1	1.000	0.000	4.100	0.000	0.000	0.000	0.000	0.000	0.545	0.000	0.545	0.045	-0.045	1.046	131.29
21	1	1.000	0.000	4.100	0.000	0.000	0.000	0.000	0.000	0.538	0.000	0.538	0.044	-0.044	1.001	131.26
22	1	1.000	0.000	4.100	0.000	0.000	0.000	0.000	0.000	0.532	0.000	0.532	0.044	-0.044	0.957	131.23
23	1	1.000	0.000	4.100	0.000	0.000	0.000	0.000	0.000	0.525	0.000	0.525	0.043	-0.043	0.914	131.19
24	1	1.000	0.000	4.100	0.000	0.000	0.000	0.000	0.000	0.519	0.000	0.519	0.043	-0.043	0.871	131.17
25	1	1.000	0.000	4.100	0.000	0.000	0.000	0.000	0.000	0.512	0.000	0.512	0.042	-0.042	0.829	131.14
26	1	1.000	0.000	4.100	0.000	0.000	0.000	0.000	0.000	0.505	0.000	0.505	0.042	-0.042	0.787	131.11
27	1	1.000	0.000	4.100	0.000	0.000	0.000	0.000	0.000	0.499	0.000	0.499	0.041	-0.041	0.746	131.08
28	1	1.000	0.000	4.100	0.000	0.000	0.000	0.000	0.000	0.492	0.000	0.492	0.041	-0.041	0.705	131.05
29	1	1.000	0.000	4.100	0.000	0.000	0.000	0.000	0.000	0.486	0.000	0.486	0.040	-0.040	0.665	131.02

Peak Discharge(Orifice) 0.755 Peak Discharge(Weir) 0.000 Peak Discharge= 0.755 CFS

Max. Pond Level= 132.54 Ft. El.

Notes:
1. Rainfall amount provided by Leon County.
2. Precipitation ratio is obtained from the FDOT Drainage Manual Appendix B for Zone 2.
3. Cumulative Precipitation amount for each time period is obtained by multiplying the Precipitation Ratio (Column 3) by the total rainfall.
4. Inflow to the pond from each area is obtained by multiplying the Incremental Precipitation amount (Column 6) by the Drainage Area and the ratio of Runoff/Rainfall.

10 Yr., 4 Hr. Storm Event

Rainfall 5 inches (See Note 1)

Drainage Areas

Surface	Curve No.	Runoff (in.)	Area (ac.)
Impervious	98	4.76	1.9
Pervious	89	3.77	4.8
Pond	100	5.00	1.00

Minimum Pond Level	130.00
Orifice Dia (inches)	4.25
Orfice Invert (ft)	130.00
Orfifice Operated El	130.00
Area of Orifice Sq.ft	0.10
Discharge Co-efficient	0.60
Length of Weir (ft)	6.00
Crest Level of Weir (ft)	134.77
Discharge Co-efficient	3.33

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Storm Time, in Hours	Incremental Time, Delta T, Hours	Precipitation Ratio (See Note 2)	Incremental Precipitation Ratio	Cumulative Precipitation Amount, (in.) (See Note 3)	Incremental Precipitation Amount (in.)	Inflow to Pond, (Ac.-Ft.) from Impervious Areas (See Note 4)	Inflow to Pond, (Ac.-Ft.) from Pervious Areas (See Note 4)	Inflow to Pond, (Ac.-Ft.) from Pond Area (See Note 4)	Cumulative Incremental Inflow to Pond in Acre-Ft.	Discharge through 4.25 Orifice (cfs)	Discharge Over Outlet Structure Sharp-Crested Weir (cfs)	Total Discharge Through Outlet Structure and Emergency Outflow Structure (cfs)	Outflow from Pond, (Ac.-Ft.)	Incremental Storage, Acre-Feet	Total Volume Stored in Pond, (Ac.-Ft.)	Water Level in the Pond, Ft.
0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	130.00
0.5	0.5	0.040	0.040	0.200	0.200	0.030	0.060	0.017	0.107	0.000	0.000	0.000	0.000	0.107	0.107	130.07
1	0.5	0.140	0.100	0.700	0.500	0.075	0.151	0.042	0.268	0.124	0.000	0.124	0.005	0.263	0.370	130.23
1.5	0.5	0.320	0.180	1.600	0.900	0.136	0.272	0.075	0.482	0.230	0.000	0.230	0.010	0.473	0.843	131.15
2	0.5	0.580	0.260	2.900	1.300	0.196	0.392	0.108	0.697	0.508	0.000	0.508	0.021	0.676	1.519	132.14
2.5	0.5	0.790	0.210	3.950	1.050	0.158	0.317	0.088	0.563	0.694	0.000	0.694	0.029	0.534	2.053	132.55
3	0.5	0.930	0.140	4.650	0.700	0.106	0.211	0.058	0.375	0.757	0.000	0.757	0.031	0.344	2.396	133.25
3.5	0.5	0.980	0.050	4.900	0.250	0.038	0.075	0.021	0.134	0.855	0.000	0.855	0.035	0.099	2.495	133.33
4	0.5	1.000	0.020	5.000	0.100	0.015	0.030	0.008	0.054	0.866	0.000	0.866	0.036	0.018	2.513	133.35
5	1	1.000	0.000	5.000	0.000	0.000	0.000	0.000	0.000	0.868	0.000	0.868	0.072	-0.072	2.441	133.29
6	1	1.000	0.000	5.000	0.000	0.000	0.000	0.000	0.000	0.860	0.000	0.860	0.071	-0.071	2.370	133.23
7	1	1.000	0.000	5.000	0.000	0.000	0.000	0.000	0.000	0.852	0.000	0.852	0.070	-0.070	2.300	133.17
8	1	1.000	0.000	5.000	0.000	0.000	0.000	0.000	0.000	0.844	0.000	0.844	0.070	-0.070	2.230	133.11
9	1	1.000	0.000	5.000	0.000	0.000	0.000	0.000	0.000	0.837	0.000	0.837	0.069	-0.069	2.161	133.05
10	1	1.000	0.000	5.000	0.000	0.000	0.000	0.000	0.000	0.829	0.000	0.829	0.068	-0.068	2.092	132.58
11	1	1.000	0.000	5.000	0.000	0.000	0.000	0.000	0.000	0.762	0.000	0.762	0.063	-0.063	2.029	132.53
12	1	1.000	0.000	5.000	0.000	0.000	0.000	0.000	0.000	0.755	0.000	0.755	0.062	-0.062	1.967	132.48
13	1	1.000	0.000	5.000	0.000	0.000	0.000	0.000	0.000	0.748	0.000	0.748	0.062	-0.062	1.905	132.44
14	1	1.000	0.000	5.000	0.000	0.000	0.000	0.000	0.000	0.741	0.000	0.741	0.061	-0.061	1.844	132.39
15	1	1.000	0.000	5.000	0.000	0.000	0.000	0.000	0.000	0.733	0.000	0.733	0.061	-0.061	1.783	132.34
16	1	1.000	0.000	5.000	0.000	0.000	0.000	0.000	0.000	0.726	0.000	0.726	0.060	-0.060	1.723	132.30
17	1	1.000	0.000	5.000	0.000	0.000	0.000	0.000	0.000	0.719	0.000	0.719	0.059	-0.059	1.664	132.25
18	1	1.000	0.000	5.000	0.000	0.000	0.000	0.000	0.000	0.712	0.000	0.712	0.059	-0.059	1.605	132.21
19	1	1.000	0.000	5.000	0.000	0.000	0.000	0.000	0.000	0.705	0.000	0.705	0.058	-0.058	1.547	132.16
20	1	1.000	0.000	5.000	0.000	0.000	0.000	0.000	0.000	0.698	0.000	0.698	0.058	-0.058	1.489	132.12
21	1	1.000	0.000	5.000	0.000	0.000	0.000	0.000	0.000	0.691	0.000	0.691	0.057	-0.057	1.432	132.08
22	1	1.000	0.000	5.000	0.000	0.000	0.000	0.000	0.000	0.683	0.000	0.683	0.056	-0.056	1.376	132.03
23	1	1.000	0.000	5.000	0.000	0.000	0.000	0.000	0.000	0.676	0.000	0.676	0.056	-0.056	1.320	131.48
24	1	1.000	0.000	5.000	0.000	0.000	0.000	0.000	0.000	0.577	0.000	0.577	0.048	-0.048	1.272	131.44
25	1	1.000	0.000	5.000	0.000	0.000	0.000	0.000	0.000	0.570	0.000	0.570	0.047	-0.047	1.225	131.41
26	1	1.000	0.000	5.000	0.000	0.000	0.000	0.000	0.000	0.564	0.000	0.564	0.047	-0.047	1.178	131.38
27	1	1.000	0.000	5.000	0.000	0.000	0.000	0.000	0.000	0.557	0.000	0.557	0.046	-0.046	1.132	131.35
28	1	1.000	0.000	5.000	0.000	0.000	0.000	0.000	0.000	0.551	0.000	0.551	0.046	-0.046	1.087	131.32
29	1	1.000	0.000	5.000	0.000	0.000	0.000	0.000	0.000	0.544	0.000	0.544	0.045	-0.045	1.042	131.28
30	1	1.000	0.000	5.000	0.000	0.000	0.000	0.000	0.000	0.538	0.000	0.538	0.044	-0.044	0.997	131.25
31	1	1.000	0.000	5.000	0.000	0.000	0.000	0.000	0.000	0.531	0.000	0.531	0.044	-0.044	0.953	131.22
32	1	1.000	0.000	5.000	0.000	0.000	0.000	0.000	0.000	0.524	0.000	0.524	0.043	-0.043	0.910	131.19
33	1	1.000	0.000	5.000	0.000	0.000	0.000	0.000	0.000	0.518	0.000	0.518	0.043	-0.043	0.867	131.16
34	1	1.000	0.000	5.000	0.000	0.000	0.000	0.000	0.000	0.511	0.000	0.511	0.042	-0.042	0.825	131.13

Peak Discharge(Orifice) 0.868 Peak Discharge(Weir) 0.000 Peak Discharge= 0.868 CFS

Max. Pond Level= 133.35 Ft. El.

Notes:
1. Rainfall amount provided by Leon County.
2. Precipitation ratio is obtained from the FDOT Drainage Manual Appendix B for Zone 2.
3. Cumulative Precipitation amount for each time period is obtained by multiplying the Precipitation Ratio (Column 3) by the total rainfall.
4. Inflow to the pond from each area is obtained by multiplying the Incremental Precipitation amount (Column 6) by the Drainage Area and the ratio of Runoff/Rainfall.

10 Yr., 8 Hr. Storm Event

Rainfall 6.2 inches (See Note 1)

Drainage Areas

Surface	Curve No.	Runoff (in.)	Area (ac.)
Impervious	98	5.96	1.9
Pervious	89	4.93	4.8
Pond	100	6.20	1.00

Minimum Pond Level	130.00
Orifice Dia (inches)	4.25
Orfice Invert (ft)	130.00
Orfitice Operated El	130.00
Area of Orifice Sq.ft	0.10
Discharge Co-efficient	0.60
Length of Weir (ft)	6.00
Crest Level of Weir (ft)	134.77
Discharge Co-efficient	3.33

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Storm Time, in Hours	Incremental Time, Delta T, Hours	Precipitation Ratio (See Note 2)	Incremental Precipitation Ratio	Cumulative Precipitation Amount, (in.) (See Note 3)	Incremental Precipitation Amount (in.)	Inflow to Pond, (Ac.-Ft.) from Impervious Areas (See Note 4)	Inflow to Pond, (Ac.-Ft.) from Pervious Areas (See Note 4)	Inflow to Pond, (Ac.-Ft.) from Pond Area (See Note 4)	Cumulative Incremental Inflow to Pond in Acre-Ft.	Discharge through 4.25 Orifice (cfs)	Discharge Over Outlet Structure Sharp-Crested Weir (cfs)	Total Discharge Through Outlet Structure and Emergency Outflow Structure (cfs)	Outflow from Pond, (Ac.-Ft.)	Incremental Storage, Acre-Feet	Total Volume Stored in Pond, (Ac.-Ft.)	Water Level in the Pond, Ft.
0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	130.00
1	1	0.020	0.020	0.124	0.124	0.019	0.039	0.010	0.069	0.000	0.000	0.000	0.000	0.069	0.069	130.04
2	1	0.130	0.110	0.806	0.682	0.104	0.217	0.057	0.378	0.099	0.000	0.099	0.008	0.369	0.438	130.28
3	1	0.280	0.150	1.736	0.930	0.142	0.296	0.078	0.515	0.250	0.000	0.250	0.021	0.494	0.932	131.21
4	1	0.700	0.420	4.340	2.604	0.396	0.828	0.217	1.442	0.521	0.000	0.521	0.043	1.398	2.331	133.19
5	1	0.860	0.160	5.332	0.992	0.151	0.315	0.083	0.549	0.848	0.000	0.848	0.070	0.479	2.810	133.59
6	1	0.920	0.060	5.704	0.372	0.057	0.118	0.031	0.206	0.899	0.000	0.899	0.074	0.132	2.941	134.01
7	1	0.970	0.050	6.014	0.310	0.047	0.099	0.026	0.172	0.950	0.000	0.950	0.078	0.093	3.035	134.09
8	1	1.000	0.030	6.200	0.186	0.028	0.059	0.016	0.103	0.960	0.000	0.960	0.079	0.024	3.058	134.11
9	1	1.000	0.000	6.200	0.000	0.000	0.000	0.000	0.000	0.962	0.000	0.962	0.080	-0.080	2.979	134.04
10	1	1.000	0.000	6.200	0.000	0.000	0.000	0.000	0.000	0.954	0.000	0.954	0.079	-0.079	2.900	133.67
11	1	1.000	0.000	6.200	0.000	0.000	0.000	0.000	0.000	0.909	0.000	0.909	0.075	-0.075	2.825	133.61
12	1	1.000	0.000	6.200	0.000	0.000	0.000	0.000	0.000	0.901	0.000	0.901	0.074	-0.074	2.750	133.54
13	1	1.000	0.000	6.200	0.000	0.000	0.000	0.000	0.000	0.893	0.000	0.893	0.074	-0.074	2.677	133.48
14	1	1.000	0.000	6.200	0.000	0.000	0.000	0.000	0.000	0.885	0.000	0.885	0.073	-0.073	2.603	133.42
15	1	1.000	0.000	6.200	0.000	0.000	0.000	0.000	0.000	0.877	0.000	0.877	0.073	-0.073	2.531	133.36
16	1	1.000	0.000	6.200	0.000	0.000	0.000	0.000	0.000	0.870	0.000	0.870	0.072	-0.072	2.459	133.30
17	1	1.000	0.000	6.200	0.000	0.000	0.000	0.000	0.000	0.862	0.000	0.862	0.071	-0.071	2.388	133.24
18	1	1.000	0.000	6.200	0.000	0.000	0.000	0.000	0.000	0.854	0.000	0.854	0.071	-0.071	2.317	133.18
19	1	1.000	0.000	6.200	0.000	0.000	0.000	0.000	0.000	0.846	0.000	0.846	0.070	-0.070	2.247	133.12
20	1	1.000	0.000	6.200	0.000	0.000	0.000	0.000	0.000	0.838	0.000	0.838	0.069	-0.069	2.178	133.07
21	1	1.000	0.000	6.200	0.000	0.000	0.000	0.000	0.000	0.831	0.000	0.831	0.069	-0.069	2.109	133.01
22	1	1.000	0.000	6.200	0.000	0.000	0.000	0.000	0.000	0.823	0.000	0.823	0.068	-0.068	2.041	132.54
23	1	1.000	0.000	6.200	0.000	0.000	0.000	0.000	0.000	0.756	0.000	0.756	0.062	-0.062	1.979	132.49
24	1	1.000	0.000	6.200	0.000	0.000	0.000	0.000	0.000	0.749	0.000	0.749	0.062	-0.062	1.917	132.45
25	1	1.000	0.000	6.200	0.000	0.000	0.000	0.000	0.000	0.742	0.000	0.742	0.061	-0.061	1.856	132.40
26	1	1.000	0.000	6.200	0.000	0.000	0.000	0.000	0.000	0.735	0.000	0.735	0.061	-0.061	1.795	132.35
27	1	1.000	0.000	6.200	0.000	0.000	0.000	0.000	0.000	0.728	0.000	0.728	0.060	-0.060	1.735	132.31
28	1	1.000	0.000	6.200	0.000	0.000	0.000	0.000	0.000	0.720	0.000	0.720	0.060	-0.060	1.675	132.26
29	1	1.000	0.000	6.200	0.000	0.000	0.000	0.000	0.000	0.713	0.000	0.713	0.059	-0.059	1.616	132.22
30	1	1.000	0.000	6.200	0.000	0.000	0.000	0.000	0.000	0.706	0.000	0.706	0.058	-0.058	1.558	132.17
31	1	1.000	0.000	6.200	0.000	0.000	0.000	0.000	0.000	0.699	0.000	0.699	0.058	-0.058	1.500	132.13
32	1	1.000	0.000	6.200	0.000	0.000	0.000	0.000	0.000	0.692	0.000	0.692	0.057	-0.057	1.443	132.08
33	1	1.000	0.000	6.200	0.000	0.000	0.000	0.000	0.000	0.685	0.000	0.685	0.057	-0.057	1.386	132.04
34	1	1.000	0.000	6.200	0.000	0.000	0.000	0.000	0.000	0.678	0.000	0.678	0.056	-0.056	1.330	131.49
35	1	1.000	0.000	6.200	0.000	0.000	0.000	0.000	0.000	0.578	0.000	0.578	0.048	-0.048	1.283	131.45
36	1	1.000	0.000	6.200	0.000	0.000	0.000	0.000	0.000	0.572	0.000	0.572	0.047	-0.047	1.235	131.42
37	1	1.000	0.000	6.200	0.000	0.000	0.000	0.000	0.000	0.565	0.000	0.565	0.047	-0.047	1.189	131.39
38	1	1.000	0.000	6.200	0.000	0.000	0.000	0.000	0.000	0.559	0.000	0.559	0.046	-0.046	1.142	131.35
39	1	1.000	0.000	6.200	0.000	0.000	0.000	0.000	0.000	0.552	0.000	0.552	0.046	-0.046	1.097	131.32

Peak Discharge(Orifice) 0.962 Peak Discharge(Weir) 0.000 Peak Discharge= 0.962 CFS

Max. Pond Level= 134.11 Ft. El.

Notes:
1. Rainfall amount provided by Leon County.
2. Precipitation ratio is obtained from the FDOT Drainage Manual Appendix B for Zone 2.
3. Cumulative Precipitation amount for each time period is obtained by multiplying the Precipitation Ratio (Column 3) by the total rainfall.
4. Inflow to the pond from each area is obtained by multiplying the Incremental Precipitation amount (Column 6) by the Drainage Area and the ratio of Runoff/Rainfall.

10 Yr., 24 Hr. Storm Event

Rainfall 7.5 inches (See Note 1)

Drainage Areas

Surface	Curve No.	Runoff (in.)	Area (ac.)
Impervious	98	7.26	1.9
Pervious	89	6.20	4.8
Pond	100	7.50	1.00

Minimum Pond Level 130.00

Orifice Dia (inches) 4.25
Orfice Invert (ft) 130.00
Orfifice Operated El 130.00
Area of Orifice Sq.ft 0.10
Discharge Co-efficient 0.60

Length of Weir (ft) 6.00
Crest Level of Weir (ft) 134.77
Discharge Co-efficient 3.33

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Storm Time, in Hours	Incremental Time, Delta T, Hours	Precipitation Ratio (See Note 2)	Incremental Precipitation Ratio	Cumulative Precipitation Amount, (in.) (See Note 3)	Incremental Precipitation Amount (in.)	Inflow to Pond, (Ac.-Ft.) from Impervious Areas (See Note 4)	Inflow to Pond (Ac.-Ft.) from Pervious Areas (See Note 4)	Inflow to Pond, (Ac.-Ft.) from Pond Area (See Note 4)	Cumulative Incremental Inflow to Pond in Acre-Ft.	Discharge through 4.25 Orifice (cfs)	Discharge Over Outlet Structure Sharp-Crested Weir (cfs)	Total Discharge Through Outlet Structure and Emergency Outflow Structure (cfs)	Outflow from Pond, (Ac.-Ft.)	Incremental Storage, Acre-Feet	Total Volume Stored in Pond, (Ac.-Ft.)	Water Level in the Pond, Ft.
0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	130.00
1	1	0.010	0.010	0.075	0.075	0.011	0.025	0.006	0.043	0.000	0.000	0.000	0.000	0.043	0.043	130.03
2	1	0.030	0.020	0.225	0.150	0.023	0.050	0.013	0.085	0.078	0.000	0.078	0.006	0.079	0.121	130.08
3	1	0.060	0.030	0.450	0.225	0.034	0.074	0.019	0.128	0.132	0.000	0.132	0.011	0.117	0.238	130.15
4	1	0.090	0.030	0.675	0.225	0.034	0.074	0.019	0.128	0.184	0.000	0.184	0.015	0.112	0.350	130.22
5	1	0.120	0.030	0.900	0.225	0.034	0.074	0.019	0.128	0.224	0.000	0.224	0.018	0.109	0.459	130.29
6	1	0.160	0.040	1.200	0.300	0.046	0.099	0.025	0.170	0.256	0.000	0.256	0.021	0.149	0.608	130.39
7	1	0.200	0.040	1.500	0.300	0.046	0.099	0.025	0.170	0.295	0.000	0.295	0.024	0.146	0.754	131.08
8	1	0.240	0.040	1.800	0.300	0.046	0.099	0.025	0.170	0.494	0.000	0.494	0.041	0.129	0.883	131.17
9	1	0.300	0.060	2.250	0.450	0.069	0.149	0.038	0.255	0.514	0.000	0.514	0.042	0.213	1.096	131.32
10	1	0.360	0.060	2.700	0.450	0.069	0.149	0.038	0.255	0.545	0.000	0.545	0.045	0.210	1.306	131.47
11	1	0.440	0.080	3.300	0.600	0.092	0.198	0.050	0.340	0.575	0.000	0.575	0.048	0.293	1.599	132.20
12	1	0.540	0.100	4.050	0.750	0.115	0.248	0.063	0.425	0.704	0.000	0.704	0.058	0.367	1.966	132.48
13	1	0.610	0.070	4.575	0.525	0.080	0.174	0.044	0.298	0.748	0.000	0.748	0.062	0.236	2.202	133.09
14	1	0.670	0.060	5.025	0.450	0.069	0.149	0.038	0.255	0.833	0.000	0.833	0.069	0.186	2.388	133.24
15	1	0.730	0.060	5.475	0.450	0.069	0.149	0.037	0.255	0.854	0.000	0.854	0.071	0.185	2.573	133.40
16	1	0.780	0.050	5.850	0.375	0.057	0.124	0.031	0.213	0.874	0.000	0.874	0.072	0.140	2.713	133.51
17	1	0.820	0.040	6.150	0.300	0.046	0.099	0.025	0.170	0.889	0.000	0.889	0.073	0.097	2.810	133.59
18	1	0.860	0.040	6.450	0.300	0.046	0.099	0.025	0.170	0.899	0.000	0.899	0.074	0.096	2.906	133.67
19	1	0.900	0.040	6.750	0.300	0.046	0.099	0.025	0.170	0.909	0.000	0.909	0.075	0.095	3.001	134.06
20	1	0.930	0.030	6.975	0.225	0.034	0.074	0.019	0.128	0.956	0.000	0.956	0.079	0.049	3.050	134.11
21	1	0.960	0.030	7.200	0.225	0.034	0.074	0.019	0.128	0.961	0.000	0.961	0.079	0.048	3.098	134.15
22	1	0.980	0.020	7.350	0.150	0.023	0.050	0.013	0.085	0.966	0.000	0.966	0.080	0.005	3.103	134.15
23	1	0.990	0.010	7.425	0.075	0.011	0.025	0.006	0.043	0.967	0.000	0.967	0.080	-0.037	3.066	134.12
24	1	1.000	0.010	7.500	0.075	0.011	0.025	0.006	0.043	0.963	0.000	0.963	0.080	-0.037	3.028	134.09
25	1	1.000	0.000	7.500	0.000	0.000	0.000	0.000	0.000	0.959	0.000	0.959	0.079	-0.079	2.949	134.02
26	1	1.000	0.000	7.500	0.000	0.000	0.000	0.000	0.000	0.951	0.000	0.951	0.079	-0.079	2.871	133.64
27	1	1.000	0.000	7.500	0.000	0.000	0.000	0.000	0.000	0.906	0.000	0.906	0.075	-0.075	2.796	133.58
28	1	1.000	0.000	7.500	0.000	0.000	0.000	0.000	0.000	0.898	0.000	0.898	0.074	-0.074	2.722	133.52
29	1	1.000	0.000	7.500	0.000	0.000	0.000	0.000	0.000	0.890	0.000	0.890	0.074	-0.074	2.648	133.46
30	1	1.000	0.000	7.500	0.000	0.000	0.000	0.000	0.000	0.882	0.000	0.882	0.073	-0.073	2.575	133.40
31	1	1.000	0.000	7.500	0.000	0.000	0.000	0.000	0.000	0.874	0.000	0.874	0.072	-0.072	2.503	133.34
32	1	1.000	0.000	7.500	0.000	0.000	0.000	0.000	0.000	0.867	0.000	0.867	0.072	-0.072	2.431	133.28
33	1	1.000	0.000	7.500	0.000	0.000	0.000	0.000	0.000	0.859	0.000	0.859	0.071	-0.071	2.360	133.22
34	1	1.000	0.000	7.500	0.000	0.000	0.000	0.000	0.000	0.851	0.000	0.851	0.070	-0.070	2.290	133.16
35	1	1.000	0.000	7.500	0.000	0.000	0.000	0.000	0.000	0.843	0.000	0.843	0.070	-0.070	2.220	133.10
36	1	1.000	0.000	7.500	0.000	0.000	0.000	0.000	0.000	0.835	0.000	0.835	0.069	-0.069	2.151	133.04
37	1	1.000	0.000	7.500	0.000	0.000	0.000	0.000	0.000	0.828	0.000	0.828	0.068	-0.068	2.083	132.57
38	1	1.000	0.000	7.500	0.000	0.000	0.000	0.000	0.000	0.761	0.000	0.761	0.063	-0.063	2.020	132.53
39	1	1.000	0.000	7.500	0.000	0.000	0.000	0.000	0.000	0.754	0.000	0.754	0.062	-0.062	1.958	132.48
40	1	1.000	0.000	7.500	0.000	0.000	0.000	0.000	0.000	0.747	0.000	0.747	0.062	-0.062	1.896	132.43
41	1	1.000	0.000	7.500	0.000	0.000	0.000	0.000	0.000	0.739	0.000	0.739	0.061	-0.061	1.835	132.38
42	1	1.000	0.000	7.500	0.000	0.000	0.000	0.000	0.000	0.732	0.000	0.732	0.061	-0.061	1.774	132.34
43	1	1.000	0.000	7.500	0.000	0.000	0.000	0.000	0.000	0.725	0.000	0.725	0.060	-0.060	1.714	132.29
44	1	1.000	0.000	7.500	0.000	0.000	0.000	0.000	0.000	0.718	0.000	0.718	0.059	-0.059	1.655	132.25
45	1	1.000	0.000	7.500	0.000	0.000	0.000	0.000	0.000	0.711	0.000	0.711	0.059	-0.059	1.596	132.20
46	1	1.000	0.000	7.500	0.000	0.000	0.000	0.000	0.000	0.704	0.000	0.704	0.058	-0.058	1.538	132.16
47	1	1.000	0.000	7.500	0.000	0.000	0.000	0.000	0.000	0.697	0.000	0.697	0.058	-0.058	1.481	132.11
48	1	1.000	0.000	7.500	0.000	0.000	0.000	0.000	0.000	0.689	0.000	0.689	0.057	-0.057	1.424	132.07
49	1	1.000	0.000	7.500	0.000	0.000	0.000	0.000	0.000	0.682	0.000	0.682	0.056	-0.056	1.367	132.03
50	1	1.000	0.000	7.500	0.000	0.000	0.000	0.000	0.000	0.675	0.000	0.675	0.056	-0.056	1.311	131.47

Peak Discharge(Orifice) 0.967 Peak Discharge(Weir) 0.000 Peak Discharge= 0.967 CFS

Max. Pond Level= 134.15 Ft. El.

Notes:
1. Rainfall amount provided by Leon County.
2. Precipitation ratio is obtained from the FDOT Drainage Manual Appendix B for Zone 2.
3. Cumulative Precipitation amount for each time period is obtained by multiplying the Precipitation Ratio (Column 3) by the total rainfall.
4. Inflow to the pond from each area is obtained by multiplying the Incremental Precipitation amount (Column 6) by the Drainage Area and the ratio of Runoff/Rainfall.

25 Yr., 1 Hr. Storm Event

Rainfall 3.7 inches (See Note 1)

Drainage Areas

Surface	Curve No.	Runoff (in.)	Area (ac.)
Impervious	98	3.47	1.9
Pervious	89	2.54	4.8
Pond	100	3.70	1.00

Minimum Pond Level	130.00
Orifice Dia (inches)	4.25
Orfice Invert (ft)	130.00
Orfifice Operated El	130.00
Area of Orifice Sq.ft	0.10
Discharge Co-efficient	0.60
Length of Weir (ft)	6.00
Crest Level of Weir (ft)	134.77
Discharge Co-efficient	3.33

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Storm Time, in Hours	Incremental Time, Delta T, Hours	Precipitation Ratio (See Note 2)	Incremental Precipitation Ratio	Cumulative Precipitation Amount, (in.) (See Note 3)	Incremental Precipitation Amount (in.)	Inflow to Pond, (Ac.-Ft.) from Impervious Areas (See Note 4)	Inflow to Pond, (Ac.-Ft.) from Pervious Areas (See Note 4)	Inflow to Pond, (Ac.-Ft.) from Pond Area (See Note 4)	Cumulative Incremental Inflow to Pond in Acre-Ft.	Discharge through 4.25 Orifice (cfs)	Discharge Over Outlet Structure Sharp-Crested Weir (cfs)	Total Discharge Through Outlet Structure and Emergency Outflow Structure (cfs)	Outflow from Pond, (Ac.-Ft.)	Incremental Storage, Acre-Feet	Total Volume Stored in Pond, (Ac.-Ft.)	Water Level in the Pond, Ft.
0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	130.00
0.1	0.1	0.020	0.020	0.074	0.074	0.011	0.020	0.006	0.037	0.000	0.000	0.000	0.000	0.037	0.037	130.02
0.2	0.1	0.080	0.060	0.296	0.222	0.033	0.061	0.019	0.112	0.073	0.000	0.073	0.001	0.112	0.149	130.09
0.3	0.1	0.200	0.120	0.740	0.444	0.066	0.122	0.037	0.225	0.146	0.000	0.146	0.001	0.224	0.373	130.24
0.4	0.1	0.410	0.210	1.517	0.777	0.115	0.214	0.065	0.394	0.231	0.000	0.231	0.002	0.392	0.765	131.09
0.5	0.1	0.625	0.215	2.313	0.796	0.118	0.219	0.066	0.403	0.495	0.000	0.495	0.004	0.399	1.164	131.37
0.6	0.1	0.805	0.180	2.979	0.666	0.099	0.183	0.056	0.337	0.555	0.000	0.555	0.005	0.333	1.496	132.12
0.7	0.1	0.915	0.110	3.386	0.407	0.060	0.112	0.034	0.206	0.691	0.000	0.691	0.006	0.200	1.697	132.28
0.8	0.1	0.985	0.070	3.645	0.259	0.038	0.071	0.022	0.131	0.716	0.000	0.716	0.006	0.125	1.822	132.37
0.9	0.1	0.995	0.010	3.682	0.037	0.005	0.010	0.003	0.019	0.731	0.000	0.731	0.006	0.013	1.835	132.38
1	0.1	1.000	0.005	3.700	0.019	0.003	0.005	0.002	0.009	0.732	0.000	0.732	0.006	0.003	1.838	132.39
2	1	1.000	0.000	3.700	0.000	0.000	0.000	0.000	0.000	0.733	0.000	0.733	0.061	-0.061	1.777	132.34
3	1	1.000	0.000	3.700	0.000	0.000	0.000	0.000	0.000	0.726	0.000	0.726	0.060	-0.060	1.718	132.29
4	1	1.000	0.000	3.700	0.000	0.000	0.000	0.000	0.000	0.718	0.000	0.718	0.059	-0.059	1.658	132.25
5	1	1.000	0.000	3.700	0.000	0.000	0.000	0.000	0.000	0.711	0.000	0.711	0.059	-0.059	1.599	132.20
6	1	1.000	0.000	3.700	0.000	0.000	0.000	0.000	0.000	0.704	0.000	0.704	0.058	-0.058	1.541	132.16
7	1	1.000	0.000	3.700	0.000	0.000	0.000	0.000	0.000	0.697	0.000	0.697	0.058	-0.058	1.484	132.11
8	1	1.000	0.000	3.700	0.000	0.000	0.000	0.000	0.000	0.690	0.000	0.690	0.057	-0.057	1.427	132.07
9	1	1.000	0.000	3.700	0.000	0.000	0.000	0.000	0.000	0.683	0.000	0.683	0.056	-0.056	1.370	132.03
10	1	1.000	0.000	3.700	0.000	0.000	0.000	0.000	0.000	0.676	0.000	0.676	0.056	-0.056	1.314	131.47
11	1	1.000	0.000	3.700	0.000	0.000	0.000	0.000	0.000	0.576	0.000	0.576	0.048	-0.048	1.267	131.44
12	1	1.000	0.000	3.700	0.000	0.000	0.000	0.000	0.000	0.569	0.000	0.569	0.047	-0.047	1.220	131.41
13	1	1.000	0.000	3.700	0.000	0.000	0.000	0.000	0.000	0.563	0.000	0.563	0.047	-0.047	1.173	131.38
14	1	1.000	0.000	3.700	0.000	0.000	0.000	0.000	0.000	0.556	0.000	0.556	0.046	-0.046	1.127	131.34
15	1	1.000	0.000	3.700	0.000	0.000	0.000	0.000	0.000	0.550	0.000	0.550	0.045	-0.045	1.082	131.31
16	1	1.000	0.000	3.700	0.000	0.000	0.000	0.000	0.000	0.543	0.000	0.543	0.045	-0.045	1.037	131.28
17	1	1.000	0.000	3.700	0.000	0.000	0.000	0.000	0.000	0.537	0.000	0.537	0.044	-0.044	0.992	131.25
18	1	1.000	0.000	3.700	0.000	0.000	0.000	0.000	0.000	0.530	0.000	0.530	0.044	-0.044	0.949	131.22
19	1	1.000	0.000	3.700	0.000	0.000	0.000	0.000	0.000	0.524	0.000	0.524	0.043	-0.043	0.905	131.19
20	1	1.000	0.000	3.700	0.000	0.000	0.000	0.000	0.000	0.517	0.000	0.517	0.043	-0.043	0.863	131.16
21	1	1.000	0.000	3.700	0.000	0.000	0.000	0.000	0.000	0.511	0.000	0.511	0.042	-0.042	0.820	131.13
22	1	1.000	0.000	3.700	0.000	0.000	0.000	0.000	0.000	0.504	0.000	0.504	0.042	-0.042	0.779	131.10
23	1	1.000	0.000	3.700	0.000	0.000	0.000	0.000	0.000	0.498	0.000	0.498	0.041	-0.041	0.738	131.07
24	1	1.000	0.000	3.700	0.000	0.000	0.000	0.000	0.000	0.491	0.000	0.491	0.041	-0.041	0.697	131.04
25	1	1.000	0.000	3.700	0.000	0.000	0.000	0.000	0.000	0.485	0.000	0.485	0.040	-0.040	0.657	131.02
26	1	1.000	0.000	3.700	0.000	0.000	0.000	0.000	0.000	0.478	0.000	0.478	0.040	-0.040	0.617	130.39
27	1	1.000	0.000	3.700	0.000	0.000	0.000	0.000	0.000	0.297	0.000	0.297	0.025	-0.025	0.593	130.38

Peak Discharge(Orifice) 0.733 Peak Discharge(Weir) 0.000 Peak Discharge= 0.733 CFS

Max. Pond Level= 132.39 Ft. El.

Notes:
1. Rainfall amount provided by Leon County.
2. Precipitation ratio is obtained from the FDOT Drainage Manual Appendix B for Zone 2.
3. Cumulative Precipitation amount for each time period is obtained by multiplying the Precipitation Ratio (Column 3) by the total rainfall.
4. Inflow to the pond from each area is obtained by multiplying the Incremental Precipitation amount (Column 6) by the Drainage Area and the ratio of Runoff/Rainfall.

25 Yr., 2 Hr. Storm Event

Rainfall 4.7 inches (See Note 1)

Drainage Areas

Surface	Curve No.	Runoff (in.)	Area (ac.)
Impervious	98	4.46	1.9
Pervious	89	3.49	4.8
Pond	100	4.70	1.00

Minimum Pond Level	130.00
Orifice Dia (inches)	4.25
Orfice Invert (ft)	130.00
Orfifice Operated El	130.00
Area of Orifice Sq.ft	0.10
Discharge Co-efficient	0.60
Length of Weir (ft)	6.00
Crest Level of Weir (ft)	134.77
Discharge Co-efficient	3.33

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Storm Time, in Hours	Incremental Time, Delta T, Hours	Precipitation Ratio (See Note 2)	Incremental Precipitation Ratio	Cumulative Precipitation Amount, (in.) (See Note 3)	Incremental Precipitation Amount (in.)	Inflow to Pond, (Ac.-Ft.) from Impervious Areas (See Note 4)	Inflow to Pond, (Ac.-Ft.) from Pervious Areas (See Note 4)	Inflow to Pond, (Ac.-Ft.) from Pond Area (See Note 4)	Cumulative Incremental Inflow to Pond in Acre-Ft.	Discharge through 4.25 Orifice (cfs)	Discharge Over Outlet Structure Sharp-Crested Weir (cfs)	Total Discharge Through Outlet Structure and Emergency Outflow Structure (cfs)	Outflow from Pond, (Ac.-Ft.)	Incremental Storage, Acre-Feet	Total Volume Stored in Pond, (Ac.-Ft.)	Water Level in the Pond, Ft.
0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	130.00
0.2	0.2	0.010	0.010	0.047	0.047	0.007	0.014	0.004	0.025	0.000	0.000	0.000	0.000	0.025	0.025	130.02
0.4	0.2	0.250	0.240	1.175	1.128	0.170	0.335	0.094	0.598	0.060	0.000	0.060	0.001	0.597	0.622	130.39
0.6	0.2	0.450	0.200	2.115	0.940	0.141	0.279	0.078	0.499	0.298	0.000	0.298	0.005	0.494	1.116	131.34
0.8	0.2	0.700	0.250	3.290	1.175	0.177	0.349	0.098	0.623	0.548	0.000	0.548	0.009	0.614	1.730	132.30
1	0.2	0.800	0.100	3.760	0.470	0.071	0.139	0.039	0.249	0.720	0.000	0.720	0.012	0.237	1.967	132.48
1.2	0.2	0.860	0.060	4.042	0.282	0.042	0.084	0.024	0.150	0.748	0.000	0.748	0.012	0.137	2.104	133.01
1.4	0.2	0.910	0.050	4.277	0.235	0.035	0.070	0.020	0.125	0.822	0.000	0.822	0.014	0.111	2.215	133.10
1.6	0.2	0.950	0.040	4.465	0.188	0.028	0.056	0.016	0.100	0.835	0.000	0.835	0.014	0.086	2.301	133.17
1.8	0.2	0.980	0.030	4.606	0.141	0.021	0.042	0.012	0.075	0.845	0.000	0.845	0.014	0.061	2.362	133.22
2	0.2	1.000	0.020	4.700	0.094	0.014	0.028	0.008	0.050	0.851	0.000	0.851	0.014	0.036	2.398	133.25
3	1	1.000	0.000	4.700	0.000	0.000	0.000	0.000	0.000	0.855	0.000	0.855	0.071	-0.071	2.327	133.19
4	1	1.000	0.000	4.700	0.000	0.000	0.000	0.000	0.000	0.847	0.000	0.847	0.070	-0.070	2.257	133.13
5	1	1.000	0.000	4.700	0.000	0.000	0.000	0.000	0.000	0.840	0.000	0.840	0.069	-0.069	2.188	133.08
6	1	1.000	0.000	4.700	0.000	0.000	0.000	0.000	0.000	0.832	0.000	0.832	0.069	-0.069	2.119	133.02
7	1	1.000	0.000	4.700	0.000	0.000	0.000	0.000	0.000	0.824	0.000	0.824	0.068	-0.068	2.051	132.55
8	1	1.000	0.000	4.700	0.000	0.000	0.000	0.000	0.000	0.757	0.000	0.757	0.063	-0.063	1.988	132.50
9	1	1.000	0.000	4.700	0.000	0.000	0.000	0.000	0.000	0.750	0.000	0.750	0.062	-0.062	1.926	132.45
10	1	1.000	0.000	4.700	0.000	0.000	0.000	0.000	0.000	0.743	0.000	0.743	0.061	-0.061	1.865	132.41
11	1	1.000	0.000	4.700	0.000	0.000	0.000	0.000	0.000	0.736	0.000	0.736	0.061	-0.061	1.804	132.36
12	1	1.000	0.000	4.700	0.000	0.000	0.000	0.000	0.000	0.729	0.000	0.729	0.060	-0.060	1.744	132.31
13	1	1.000	0.000	4.700	0.000	0.000	0.000	0.000	0.000	0.722	0.000	0.722	0.060	-0.060	1.684	132.27
14	1	1.000	0.000	4.700	0.000	0.000	0.000	0.000	0.000	0.714	0.000	0.714	0.059	-0.059	1.625	132.22
15	1	1.000	0.000	4.700	0.000	0.000	0.000	0.000	0.000	0.707	0.000	0.707	0.058	-0.058	1.567	132.18
16	1	1.000	0.000	4.700	0.000	0.000	0.000	0.000	0.000	0.700	0.000	0.700	0.058	-0.058	1.509	132.13
17	1	1.000	0.000	4.700	0.000	0.000	0.000	0.000	0.000	0.693	0.000	0.693	0.057	-0.057	1.452	132.09
18	1	1.000	0.000	4.700	0.000	0.000	0.000	0.000	0.000	0.686	0.000	0.686	0.057	-0.057	1.395	132.05
19	1	1.000	0.000	4.700	0.000	0.000	0.000	0.000	0.000	0.679	0.000	0.679	0.056	-0.056	1.339	132.00
20	1	1.000	0.000	4.700	0.000	0.000	0.000	0.000	0.000	0.672	0.000	0.672	0.056	-0.056	1.283	131.45
21	1	1.000	0.000	4.700	0.000	0.000	0.000	0.000	0.000	0.572	0.000	0.572	0.047	-0.047	1.236	131.42
22	1	1.000	0.000	4.700	0.000	0.000	0.000	0.000	0.000	0.565	0.000	0.565	0.047	-0.047	1.189	131.39
23	1	1.000	0.000	4.700	0.000	0.000	0.000	0.000	0.000	0.559	0.000	0.559	0.046	-0.046	1.143	131.36
24	1	1.000	0.000	4.700	0.000	0.000	0.000	0.000	0.000	0.552	0.000	0.552	0.046	-0.046	1.098	131.32
25	1	1.000	0.000	4.700	0.000	0.000	0.000	0.000	0.000	0.546	0.000	0.546	0.045	-0.045	1.053	131.29
26	1	1.000	0.000	4.700	0.000	0.000	0.000	0.000	0.000	0.539	0.000	0.539	0.045	-0.045	1.008	131.26
27	1	1.000	0.000	4.700	0.000	0.000	0.000	0.000	0.000	0.533	0.000	0.533	0.044	-0.044	0.964	131.23
28	1	1.000	0.000	4.700	0.000	0.000	0.000	0.000	0.000	0.526	0.000	0.526	0.043	-0.043	0.920	131.20
29	1	1.000	0.000	4.700	0.000	0.000	0.000	0.000	0.000	0.520	0.000	0.520	0.043	-0.043	0.878	131.17
30	1	1.000	0.000	4.700	0.000	0.000	0.000	0.000	0.000	0.513	0.000	0.513	0.042	-0.042	0.835	131.14
31	1	1.000	0.000	4.700	0.000	0.000	0.000	0.000	0.000	0.506	0.000	0.506	0.042	-0.042	0.793	131.11
32	1	1.000	0.000	4.700	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.500	0.041	-0.041	0.752	131.08

Peak Discharge(Orifice) 0.855 Peak Discharge(Weir) 0.000 Peak Discharge= 0.855 CFS

Max. Pond Level= 133.25 Ft. El.

Notes:
1. Rainfall amount provided by Leon County.
2. Precipitation ratio is obtained from the FDOT Drainage Manual Appendix B for Zone 2.
3. Cumulative Precipitation amount for each time period is obtained by multiplying the Precipitation Ratio (Column 3) by the total rainfall.
4. Inflow to the pond from each area is obtained by multiplying the Incremental Precipitation amount (Column 6) by the Drainage Area and the ratio of Runoff/Rainfall.

25 Yr., 4 Hr. Storm Event

Rainfall 5.9 inches (See Note 1)

Drainage Areas

Surface	Curve No.	Runoff (in.)	Area (ac.)
Impervious	98	5.66	1.9
Pervious	89	4.64	4.8
Pond	100	5.90	1.00

Minimum Pond Level	130.00
Orifice Dia (inches)	4.25
Orfice Invert (ft)	130.00
Orfifice Operated El	130.00
Area of Orifice Sq.ft	0.10
Discharge Co-efficient	0.60
Length of Weir (ft)	6.00
Crest Level of Weir (ft)	134.77
Discharge Co-efficient	3.33

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Storm Time, in Hours	Incremental Time, Delta T, Hours	Precipitation Ratio (See Note 2)	Incremental Precipitation Ratio	Cumulative Precipitation Amount, (in.) (See Note 3)	Incremental Precipitation Amount (in.)	Inflow to Pond, (Ac.-Ft.) from Impervious Areas (See Note 4)	Inflow to Pond, (Ac.-Ft.) from Pervious Areas (See Note 4)	Inflow to Pond, (Ac.-Ft.) from Pond Area (See Note 4)	Cumulative Incremental Inflow to Pond in Acre-Ft.	Discharge through 4.25 Orifice (cfs)	Discharge Over Outlet Structure Sharp-Crested Weir (cfs)	Total Discharge Through Outlet Structure and Emergency Outflow Structure (cfs)	Outflow from Pond, (Ac.-Ft.)	Incremental Storage, Acre-Feet	Total Volume Stored in Pond, (Ac.-Ft.)	Water Level in the Pond, Ft.
0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	130.00
0.5	0.5	0.040	0.040	0.236	0.236	0.036	0.074	0.020	0.130	0.000	0.000	0.000	0.000	0.130	0.130	130.08
1	0.5	0.140	0.100	0.826	0.590	0.090	0.186	0.049	0.324	0.136	0.000	0.136	0.006	0.319	0.448	130.28
1.5	0.5	0.320	0.180	1.888	1.062	0.161	0.334	0.089	0.584	0.253	0.000	0.253	0.010	0.573	1.022	131.27
2	0.5	0.580	0.260	3.422	1.534	0.233	0.482	0.128	0.843	0.535	0.000	0.535	0.022	0.821	1.843	132.39
2.5	0.5	0.790	0.210	4.661	1.239	0.188	0.390	0.103	0.681	0.733	0.000	0.733	0.030	0.651	2.494	133.33
3	0.5	0.930	0.140	5.487	0.826	0.126	0.260	0.069	0.454	0.866	0.000	0.866	0.036	0.418	2.912	133.68
3.5	0.5	0.980	0.050	5.782	0.295	0.045	0.093	0.025	0.162	0.910	0.000	0.910	0.038	0.125	3.037	134.09
4	0.5	1.000	0.020	5.900	0.118	0.018	0.037	0.010	0.065	0.960	0.000	0.960	0.040	0.025	3.062	134.12
5	1	1.000	0.000	5.900	0.000	0.000	0.000	0.000	0.000	0.962	0.000	0.962	0.080	-0.080	2.983	134.05
6	1	1.000	0.000	5.900	0.000	0.000	0.000	0.000	0.000	0.954	0.000	0.954	0.079	-0.079	2.904	133.67
7	1	1.000	0.000	5.900	0.000	0.000	0.000	0.000	0.000	0.909	0.000	0.909	0.075	-0.075	2.829	133.61
8	1	1.000	0.000	5.900	0.000	0.000	0.000	0.000	0.000	0.901	0.000	0.901	0.074	-0.074	2.754	133.55
9	1	1.000	0.000	5.900	0.000	0.000	0.000	0.000	0.000	0.893	0.000	0.893	0.074	-0.074	2.680	133.49
10	1	1.000	0.000	5.900	0.000	0.000	0.000	0.000	0.000	0.886	0.000	0.886	0.073	-0.073	2.607	133.42
11	1	1.000	0.000	5.900	0.000	0.000	0.000	0.000	0.000	0.878	0.000	0.878	0.073	-0.073	2.535	133.36
12	1	1.000	0.000	5.900	0.000	0.000	0.000	0.000	0.000	0.870	0.000	0.870	0.072	-0.072	2.463	133.30
13	1	1.000	0.000	5.900	0.000	0.000	0.000	0.000	0.000	0.862	0.000	0.862	0.071	-0.071	2.391	133.24
14	1	1.000	0.000	5.900	0.000	0.000	0.000	0.000	0.000	0.854	0.000	0.854	0.071	-0.071	2.321	133.19
15	1	1.000	0.000	5.900	0.000	0.000	0.000	0.000	0.000	0.847	0.000	0.847	0.070	-0.070	2.251	133.13
16	1	1.000	0.000	5.900	0.000	0.000	0.000	0.000	0.000	0.839	0.000	0.839	0.069	-0.069	2.181	133.07
17	1	1.000	0.000	5.900	0.000	0.000	0.000	0.000	0.000	0.831	0.000	0.831	0.069	-0.069	2.113	133.01
18	1	1.000	0.000	5.900	0.000	0.000	0.000	0.000	0.000	0.823	0.000	0.823	0.068	-0.068	2.045	132.54
19	1	1.000	0.000	5.900	0.000	0.000	0.000	0.000	0.000	0.757	0.000	0.757	0.063	-0.063	1.982	132.50
20	1	1.000	0.000	5.900	0.000	0.000	0.000	0.000	0.000	0.749	0.000	0.749	0.062	-0.062	1.920	132.45
21	1	1.000	0.000	5.900	0.000	0.000	0.000	0.000	0.000	0.742	0.000	0.742	0.061	-0.061	1.859	132.40
22	1	1.000	0.000	5.900	0.000	0.000	0.000	0.000	0.000	0.735	0.000	0.735	0.061	-0.061	1.798	132.36
23	1	1.000	0.000	5.900	0.000	0.000	0.000	0.000	0.000	0.728	0.000	0.728	0.060	-0.060	1.738	132.31
24	1	1.000	0.000	5.900	0.000	0.000	0.000	0.000	0.000	0.721	0.000	0.721	0.060	-0.060	1.678	132.26
25	1	1.000	0.000	5.900	0.000	0.000	0.000	0.000	0.000	0.714	0.000	0.714	0.059	-0.059	1.619	132.22
26	1	1.000	0.000	5.900	0.000	0.000	0.000	0.000	0.000	0.707	0.000	0.707	0.058	-0.058	1.561	132.17
27	1	1.000	0.000	5.900	0.000	0.000	0.000	0.000	0.000	0.699	0.000	0.699	0.058	-0.058	1.503	132.13
28	1	1.000	0.000	5.900	0.000	0.000	0.000	0.000	0.000	0.692	0.000	0.692	0.057	-0.057	1.446	132.09
29	1	1.000	0.000	5.900	0.000	0.000	0.000	0.000	0.000	0.685	0.000	0.685	0.057	-0.057	1.389	132.04
30	1	1.000	0.000	5.900	0.000	0.000	0.000	0.000	0.000	0.678	0.000	0.678	0.056	-0.056	1.333	132.00
31	1	1.000	0.000	5.900	0.000	0.000	0.000	0.000	0.000	0.671	0.000	0.671	0.055	-0.055	1.278	131.45
32	1	1.000	0.000	5.900	0.000	0.000	0.000	0.000	0.000	0.571	0.000	0.571	0.047	-0.047	1.231	131.42
33	1	1.000	0.000	5.900	0.000	0.000	0.000	0.000	0.000	0.564	0.000	0.564	0.047	-0.047	1.184	131.38
34	1	1.000	0.000	5.900	0.000	0.000	0.000	0.000	0.000	0.558	0.000	0.558	0.046	-0.046	1.138	131.35
35	1	1.000	0.000	5.900	0.000	0.000	0.000	0.000	0.000	0.551	0.000	0.551	0.046	-0.046	1.092	131.32
36	1	1.000	0.000	5.900	0.000	0.000	0.000	0.000	0.000	0.545	0.000	0.545	0.045	-0.045	1.047	131.29
37	1	1.000	0.000	5.900	0.000	0.000	0.000	0.000	0.000	0.538	0.000	0.538	0.044	-0.044	1.003	131.26

Peak Discharge(Orifice) 0.962 Peak Discharge(Weir) 0.000 Peak Discharge= 0.962 CFS

Max. Pond Level= 134.12 Ft. El.

Notes:
1. Rainfall amount provided by Leon County.
2. Precipitation ratio is obtained from the FDOT Drainage Manual Appendix B for Zone 2.
3. Cumulative Precipitation amount for each time period is obtained by multiplying the Precipitation Ratio (Column 3) by the total rainfall.
4. Inflow to the pond from each area is obtained by multiplying the Incremental Precipitation amount (Column 6) by the Drainage Area and the ratio of Runoff/Rainfall.

25 Yr., 8 Hr. Storm Event

Rainfall 7.4 inches (See Note 1)

Drainage Areas

Surface	Curve No.	Runoff (in.)	Area (ac.)
Impervious	98	7.16	1.9
Pervious	89	6.10	4.8
Pond	100	7.40	1.00

Minimum Pond Level	130.00
Orifice Dia (inches)	4.25
Orfice Invert (ft)	130.00
Orfitice Operated El	130.00
Area of Orifice Sq.ft	0.10
Discharge Co-efficient	0.60
Length of Weir (ft)	6.00
Crest Level of Weir (ft)	134.77
Discharge Co-efficient	3.33

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Storm Time, in Hours	Incremental Time, Delta T, Hours	Precipitation Ratio (See Note 2)	Incremental Precipitation Ratio	Cumulative Precipitation Amount, (in.) (See Note 3)	Incremental Precipitation Amount (in.	Inflow to Pond, (Ac.-Ft.) from Impervious Areas (See Note 4)	Inflow to Pond (Ac.-Ft.) from Pervious Areas (See Note 4)	Inflow to Pond, (Ac.-Ft.) from Pond Area (See Note 4)	Cumulative Incremental Inflow to Pond in Acre-Ft.	Discharge through 4.25 Orifice (cfs)	Discharge Over Outlet Structure Sharp-Crested Weir (cfs)	Total Discharge Through Outlet Structure and Emergency Outflow Structure (cfs)	Outflow from Pond, (Ac.-Ft.)	Incremental Storage, Acre-Feet	Total Volume Stored in Pond, (Ac.-Ft.)	Water Level in the Pond, Ft.
0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	130.00
1	1	0.020	0.020	0.148	0.148	0.023	0.049	0.012	0.084	0.000	0.000	0.000	0.000	0.084	0.084	130.05
2	1	0.130	0.110	0.962	0.814	0.125	0.268	0.068	0.461	0.109	0.000	0.109	0.009	0.452	0.536	130.34
3	1	0.280	0.150	2.072	1.110	0.170	0.366	0.093	0.629	0.277	0.000	0.277	0.023	0.606	1.141	131.35
4	1	0.700	0.420	5.180	3.108	0.476	1.025	0.259	1.760	0.552	0.000	0.552	0.046	1.714	2.855	133.63
5	1	0.860	0.160	6.364	1.184	0.181	0.390	0.099	0.670	0.904	0.000	0.904	0.075	0.596	3.451	134.47
6	1	0.920	0.060	6.808	0.444	0.068	0.146	0.037	0.251	1.003	0.000	1.003	0.083	0.169	3.620	134.62
7	1	0.970	0.050	7.178	0.370	0.057	0.122	0.031	0.210	1.019	0.000	1.019	0.084	0.125	3.745	134.73
8	1	1.000	0.030	7.400	0.222	0.034	0.073	0.019	0.126	1.032	0.000	1.032	0.085	0.040	3.785	134.77
9	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	1.036	0.000	1.036	0.086	-0.086	3.700	134.69
10	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	1.027	0.000	1.027	0.085	-0.085	3.615	134.61
11	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	1.019	0.000	1.019	0.084	-0.084	3.531	134.54
12	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	1.011	0.000	1.011	0.084	-0.084	3.447	134.46
13	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	1.002	0.000	1.002	0.083	-0.083	3.364	134.39
14	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.994	0.000	0.994	0.082	-0.082	3.282	134.32
15	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.985	0.000	0.985	0.081	-0.081	3.201	134.24
16	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.977	0.000	0.977	0.081	-0.081	3.120	134.17
17	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.969	0.000	0.969	0.080	-0.080	3.040	134.10
18	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.960	0.000	0.960	0.079	-0.079	2.961	134.03
19	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.952	0.000	0.952	0.079	-0.079	2.882	133.65
20	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.907	0.000	0.907	0.075	-0.075	2.807	133.59
21	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.899	0.000	0.899	0.074	-0.074	2.733	133.53
22	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.891	0.000	0.891	0.074	-0.074	2.659	133.47
23	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.883	0.000	0.883	0.073	-0.073	2.586	133.41
24	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.876	0.000	0.876	0.072	-0.072	2.514	133.35
25	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.868	0.000	0.868	0.072	-0.072	2.442	133.29
26	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.860	0.000	0.860	0.071	-0.071	2.371	133.23
27	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.852	0.000	0.852	0.070	-0.070	2.301	133.17
28	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.844	0.000	0.844	0.070	-0.070	2.231	133.11
29	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.837	0.000	0.837	0.069	-0.069	2.162	133.05
30	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.829	0.000	0.829	0.069	-0.069	2.093	132.58
31	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.762	0.000	0.762	0.063	-0.063	2.030	132.53
32	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.755	0.000	0.755	0.062	-0.062	1.968	132.49
33	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.748	0.000	0.748	0.062	-0.062	1.906	132.44
34	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.741	0.000	0.741	0.061	-0.061	1.845	132.39
35	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.734	0.000	0.734	0.061	-0.061	1.784	132.34
36	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.726	0.000	0.726	0.060	-0.060	1.724	132.30
37	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.719	0.000	0.719	0.059	-0.059	1.665	132.25
38	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.712	0.000	0.712	0.059	-0.059	1.606	132.21
39	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.705	0.000	0.705	0.058	-0.058	1.548	132.16
40	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.698	0.000	0.698	0.058	-0.058	1.490	132.12
41	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.691	0.000	0.691	0.057	-0.057	1.433	132.08
42	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.683	0.000	0.683	0.056	-0.056	1.376	132.03
43	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.676	0.000	0.676	0.056	-0.056	1.320	131.48
44	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.577	0.000	0.577	0.048	-0.048	1.273	131.45
45	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.570	0.000	0.570	0.047	-0.047	1.226	131.41
46	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.564	0.000	0.564	0.047	-0.047	1.179	131.38
47	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.557	0.000	0.557	0.046	-0.046	1.133	131.35
48	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.551	0.000	0.551	0.046	-0.046	1.087	131.32
49	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.544	0.000	0.544	0.045	-0.045	1.042	131.28
50	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.538	0.000	0.538	0.044	-0.044	0.998	131.25
51	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.531	0.000	0.531	0.044	-0.044	0.954	131.22
52	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.525	0.000	0.525	0.043	-0.043	0.911	131.19
53	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.518	0.000	0.518	0.043	-0.043	0.868	131.16
54	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.512	0.000	0.512	0.042	-0.042	0.826	131.13
55	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.505	0.000	0.505	0.042	-0.042	0.784	131.10
56	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.498	0.000	0.498	0.041	-0.041	0.743	131.08
57	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.492	0.000	0.492	0.041	-0.041	0.702	131.05
58	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.485	0.000	0.485	0.040	-0.040	0.662	131.02
59	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.479	0.000	0.479	0.040	-0.040	0.622	130.40
60	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.298	0.000	0.298	0.025	-0.025	0.598	130.38
61	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.292	0.000	0.292	0.024	-0.024	0.574	130.36
62	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.286	0.000	0.286	0.024	-0.024	0.550	130.35
63	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.280	0.000	0.280	0.023	-0.023	0.527	130.33
64	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.274	0.000	0.274	0.023	-0.023	0.504	130.32
65	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.268	0.000	0.268	0.022	-0.022	0.482	130.31
66	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.262	0.000	0.262	0.022	-0.022	0.460	130.29
67	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.256	0.000	0.256	0.021	-0.021	0.439	130.28

68	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.021	-0.021	0.418	130.27
69	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.244	0.000	0.244	0.020	-0.020	0.398	130.25
70	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.238	0.000	0.238	0.020	-0.020	0.378	130.24
71	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.233	0.000	0.233	0.019	-0.019	0.359	130.23
72	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.227	0.000	0.227	0.019	-0.019	0.341	130.22
73	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.221	0.000	0.221	0.018	-0.018	0.322	130.20
74	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.215	0.000	0.215	0.018	-0.018	0.305	130.19
75	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.209	0.000	0.209	0.017	-0.017	0.287	130.18
76	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.203	0.000	0.203	0.017	-0.017	0.271	130.17
77	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.197	0.000	0.197	0.016	-0.016	0.254	130.16
78	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.191	0.000	0.191	0.016	-0.016	0.239	130.15
79	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.185	0.000	0.185	0.015	-0.015	0.223	130.14
80	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.179	0.000	0.179	0.015	-0.015	0.209	130.13
81	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.173	0.000	0.173	0.014	-0.014	0.194	130.12
82	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.167	0.000	0.167	0.014	-0.014	0.181	130.11
83	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.161	0.000	0.161	0.013	-0.013	0.167	130.11
84	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.155	0.000	0.155	0.013	-0.013	0.155	130.10
85	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.149	0.000	0.149	0.012	-0.012	0.142	130.09
86	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.143	0.000	0.143	0.012	-0.012	0.130	130.08
87	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.137	0.000	0.137	0.011	-0.011	0.119	130.08
88	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.130	0.000	0.130	0.011	-0.011	0.108	130.07
89	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.124	0.000	0.124	0.010	-0.010	0.098	130.06
90	1	1.000	0.000	7.400	0.000	0.000	0.000	0.000	0.000	0.118	0.000	0.118	0.010	-0.010	0.088	130.06

Peak Discharge(Orifice) 1.036 Peak Discharge(Weir) 0.000 Peak Discharge= 1.036 CFS

Max. Pond Level= 134.77 Ft. El.

Notes:

1. Rainfall amount provided by Leon County.
2. Precipitation ratio is obtained from the FDOT Drainage Manual Appendix B for Zone 2.
3. Cumulative Precipitation amount for each time period is obtained by multiplying the Precipitation Ratio (Column 3) by the total rainfall.
4. Inflow to the pond from each area is obtained by multiplying the Incremental Precipitation amount (Column 6) by the Drainage Area and the ratio of Runoff/Rainfall.

25 Yr., 24 Hr. Storm Event

Rainfall 8.5 inches (See Note 1)

Drainage Areas

Surface	Curve No.	Runoff (in.)	Area (ac.)
Impervious	98	8.26	1.9
Pervious	89	7.18	4.8
Pond	100	8.50	1.00

Minimum Pond Level	130.00
Orifice Dia (inches)	4.25
Orfice Invert (ft)	130.00
Orfifice Operated El	130.00
Area of Orifice Sq.ft	0.10
Discharge Co-efficient	0.60
Length of Weir (ft)	6.00
Crest Level of Weir (ft)	134.77
Discharge Co-efficient	3.33

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Storm Time, in Hours	Incremental Time, Delta T, Hours	Precipitation Ratio (See Note 2)	Incremental Precipitation Ratio	Cumulative Precipitation Amount, (in.) (See Note 3)	Incremental Precipitation Amount (in.)	Inflow to Pond, (Ac.-Ft.) from Impervious Areas (See Note 4)	Inflow to Pond, (Ac.-Ft.) from Pervious Areas (See Note 4)	Inflow to Pond, (Ac.-Ft.) from Pond Area (See Note 4)	Cumulative Incremental Inflow to Pond in Acre-Ft.	Discharge through 4.25 Orifice (cfs)	Discharge Over Outlet Structure Sharp-Crested Weir (cfs)	Total Discharge Through Outlet Structure and Emergency Outflow Structure (cfs)	Outflow from Pond, (Ac.-Ft.)	Incremental Storage, Acre-Feet	Total Volume Stored in Pond, (Ac.-Ft.)	Water Level in the Pond, Ft.
0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	130.00
1	1	0.010	0.010	0.085	0.085	0.013	0.029	0.007	0.049	0.000	0.000	0.000	0.000	0.049	0.049	130.03
2	1	0.030	0.020	0.255	0.170	0.026	0.057	0.014	0.098	0.084	0.000	0.084	0.007	0.091	0.140	130.09
3	1	0.060	0.030	0.510	0.255	0.039	0.086	0.021	0.147	0.141	0.000	0.141	0.012	0.135	0.275	130.17
4	1	0.090	0.030	0.765	0.255	0.039	0.086	0.021	0.147	0.198	0.000	0.198	0.016	0.130	0.405	130.26
5	1	0.120	0.030	1.020	0.255	0.039	0.086	0.021	0.147	0.240	0.000	0.240	0.020	0.127	0.532	130.34
6	1	0.160	0.040	1.360	0.340	0.052	0.115	0.028	0.195	0.276	0.000	0.276	0.023	0.173	0.704	131.05
7	1	0.200	0.040	1.700	0.340	0.052	0.115	0.028	0.195	0.486	0.000	0.486	0.040	0.155	0.860	131.16
8	1	0.240	0.040	2.040	0.340	0.052	0.115	0.028	0.195	0.510	0.000	0.510	0.042	0.153	1.013	131.26
9	1	0.300	0.060	2.550	0.510	0.078	0.172	0.043	0.293	0.533	0.000	0.533	0.044	0.249	1.262	131.44
10	1	0.360	0.060	3.060	0.510	0.078	0.172	0.043	0.293	0.569	0.000	0.569	0.047	0.246	1.508	132.13
11	1	0.440	0.080	3.740	0.680	0.105	0.230	0.057	0.391	0.693	0.000	0.693	0.057	0.334	1.842	132.39
12	1	0.540	0.100	4.590	0.850	0.131	0.287	0.071	0.489	0.733	0.000	0.733	0.061	0.428	2.270	133.14
13	1	0.610	0.070	5.185	0.595	0.092	0.201	0.050	0.342	0.841	0.000	0.841	0.070	0.273	2.543	133.37
14	1	0.670	0.060	5.695	0.510	0.078	0.172	0.043	0.293	0.871	0.000	0.871	0.072	0.221	2.764	133.56
15	1	0.730	0.060	6.205	0.510	0.078	0.172	0.043	0.293	0.894	0.000	0.894	0.074	0.219	2.983	134.05
16	1	0.780	0.050	6.630	0.425	0.065	0.144	0.035	0.244	0.954	0.000	0.954	0.079	0.166	3.149	134.20
17	1	0.820	0.040	6.970	0.340	0.052	0.115	0.028	0.195	0.972	0.000	0.972	0.080	0.115	3.264	134.30
18	1	0.860	0.040	7.310	0.340	0.052	0.115	0.028	0.195	0.983	0.000	0.983	0.081	0.114	3.378	134.40
19	1	0.900	0.040	7.650	0.340	0.052	0.115	0.028	0.195	0.995	0.000	0.995	0.082	0.113	3.492	134.50
20	1	0.930	0.030	7.905	0.255	0.039	0.086	0.021	0.147	1.007	0.000	1.007	0.083	0.063	3.555	134.56
21	1	0.960	0.030	8.160	0.255	0.039	0.086	0.021	0.147	1.013	0.000	1.013	0.084	0.063	3.618	134.62
22	1	0.980	0.020	8.330	0.170	0.026	0.057	0.014	0.098	1.019	0.000	1.019	0.084	0.014	3.631	134.63
23	1	0.990	0.010	8.415	0.085	0.013	0.029	0.007	0.049	1.021	0.000	1.021	0.084	-0.035	3.596	134.60
24	1	1.000	0.010	8.500	0.085	0.013	0.029	0.007	0.049	1.017	0.000	1.017	0.084	-0.035	3.561	134.57
25	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	1.014	0.000	1.014	0.084	-0.084	3.477	134.49
26	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	1.005	0.000	1.005	0.083	-0.083	3.394	134.42
27	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.997	0.000	0.997	0.082	-0.082	3.312	134.34
28	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.988	0.000	0.988	0.082	-0.082	3.230	134.27
29	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.980	0.000	0.980	0.081	-0.081	3.149	134.20
30	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.972	0.000	0.972	0.080	-0.080	3.069	134.12
31	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.963	0.000	0.963	0.080	-0.080	2.989	134.05
32	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.955	0.000	0.955	0.079	-0.079	2.910	133.68
33	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.910	0.000	0.910	0.075	-0.075	2.835	133.61
34	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.902	0.000	0.902	0.075	-0.075	2.760	133.55
35	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.894	0.000	0.894	0.074	-0.074	2.687	133.49
36	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.886	0.000	0.886	0.073	-0.073	2.613	133.43
37	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.878	0.000	0.878	0.073	-0.073	2.541	133.37
38	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.871	0.000	0.871	0.072	-0.072	2.469	133.31
39	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.863	0.000	0.863	0.071	-0.071	2.397	133.25
40	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.855	0.000	0.855	0.071	-0.071	2.327	133.19
41	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.847	0.000	0.847	0.070	-0.070	2.257	133.13
42	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.840	0.000	0.840	0.069	-0.069	2.187	133.07
43	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.832	0.000	0.832	0.069	-0.069	2.119	133.02
44	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.824	0.000	0.824	0.068	-0.068	2.050	132.55
45	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.757	0.000	0.757	0.063	-0.063	1.988	132.50
46	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.750	0.000	0.750	0.062	-0.062	1.926	132.45
47	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.743	0.000	0.743	0.061	-0.061	1.864	132.41
48	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.736	0.000	0.736	0.061	-0.061	1.804	132.36
49	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.729	0.000	0.729	0.060	-0.060	1.743	132.31
50	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.722	0.000	0.722	0.060	-0.060	1.684	132.27
51	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.714	0.000	0.714	0.059	-0.059	1.625	132.22
52	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.707	0.000	0.707	0.058	-0.058	1.566	132.18
53	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.700	0.000	0.700	0.058	-0.058	1.508	132.13
54	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.693	0.000	0.693	0.057	-0.057	1.451	132.09
55	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.686	0.000	0.686	0.057	-0.057	1.395	132.05
56	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.679	0.000	0.679	0.056	-0.056	1.338	132.00
57	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.672	0.000	0.672	0.055	-0.055	1.283	131.45
58	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.572	0.000	0.572	0.047	-0.047	1.236	131.42
59	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.565	0.000	0.565	0.047	-0.047	1.189	131.39

60	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.559	0.000	0.559	0.046	-0.046	1.143	131.35
61	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.552	0.000	0.552	0.046	-0.046	1.097	131.32
62	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.546	0.000	0.546	0.045	-0.045	1.052	131.29
63	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.539	0.000	0.539	0.045	-0.045	1.008	131.26
64	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.533	0.000	0.533	0.044	-0.044	0.964	131.23
65	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.526	0.000	0.526	0.043	-0.043	0.920	131.20
66	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.519	0.000	0.519	0.043	-0.043	0.877	131.17
67	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.513	0.000	0.513	0.042	-0.042	0.835	131.14
68	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.506	0.000	0.506	0.042	-0.042	0.793	131.11
69	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.500	0.041	-0.041	0.752	131.08
70	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.493	0.000	0.493	0.041	-0.041	0.711	131.05
71	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.487	0.000	0.487	0.040	-0.040	0.671	131.02
72	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.480	0.000	0.480	0.040	-0.040	0.631	130.40
73	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.300	0.000	0.300	0.025	-0.025	0.606	130.38
74	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.294	0.000	0.294	0.024	-0.024	0.582	130.37
75	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.288	0.000	0.288	0.024	-0.024	0.558	130.35
76	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.282	0.000	0.282	0.023	-0.023	0.535	130.34
77	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.276	0.000	0.276	0.023	-0.023	0.512	130.32
78	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.270	0.000	0.270	0.022	-0.022	0.489	130.31
79	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.264	0.000	0.264	0.022	-0.022	0.468	130.30
80	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.258	0.000	0.258	0.021	-0.021	0.446	130.28
81	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.252	0.000	0.252	0.021	-0.021	0.425	130.27
82	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.246	0.000	0.246	0.020	-0.020	0.405	130.26
83	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.241	0.000	0.241	0.020	-0.020	0.385	130.24
84	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.235	0.000	0.235	0.019	-0.019	0.366	130.23
85	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.229	0.000	0.229	0.019	-0.019	0.347	130.22
86	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.223	0.000	0.223	0.018	-0.018	0.328	130.21
87	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.217	0.000	0.217	0.018	-0.018	0.311	130.20
88	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.211	0.000	0.211	0.017	-0.017	0.293	130.19
89	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.205	0.000	0.205	0.017	-0.017	0.276	130.18
90	1	1.000	0.000	8.500	0.000	0.000	0.000	0.000	0.000	0.199	0.000	0.199	0.016	-0.016	0.260	130.16

Peak Discharge(Orifice) 1.021 Peak Discharge(Weir) 0.000 Peak Discharge= 1.021 CFS

Max. Pond Level= 134.63 Ft. El.

Notes:
1. Rainfall amount provided by Leon County.
2. Precipitation ratio is obtained from the FDOT Drainage Manual Appendix B for Zone 2.
3. Cumulative Precipitation amount for each time period is obtained by multiplying the Precipitation Ratio (Column 3) by the total rainfall.
4. Inflow to the pond from each area is obtained by multiplying the Incremental Precipitation amount (Column 6) by the Drainage Area and the ratio of Runoff/Rainfall.

100 Yr., 24 Hr. Storm Event

Rainfall 10.9 inches (See Note 1)

Drainage Areas

Surface	Curve No.	Runoff (in.)	Area (ac.)
Impervious	98	10.66	1.9
Pervious	89	9.55	4.8
Pond	100	10.90	1.00

Minimum Pond Level	130.00
Orifice Dia (inches)	4.25
Orfice Invert (ft)	130.00
Orfifice Operated El	130.00
Area of Orifice Sq.ft	0.10
Discharge Co-efficient	0.60
Length of Weir (ft)	6.00
Crest Level of Weir (ft)	134.77
Discharge Co-efficient	3.33

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Storm Time, in Hours	Incremental Time, Delta T, Hours	Precipitation Ratio (See Note 2)	Incremental Precipitation Ratio	Cumulative Precipitation Amount, (in.) (See Note 3)	Incremental Precipitation Amount (in.)	Inflow to Pond, (Ac.-Ft.) from Impervious Areas (See Note 4)	Inflow to Pond, (Ac.-Ft.) from Pervious Areas (See Note 4)	Inflow to Pond, (Ac.-Ft.) from Pond Area (See Note 4)	Cumulative Incremental Inflow to Pond in Acre-Ft.	Discharge through 4.25 Orifice (cfs)	Discharge Over Outlet Structure Sharp-Crested Weir (cfs)	Total Discharge Through Outlet Structure and Emergency Outflow Structure (cfs)	Outflow from Pond, (Ac.-Ft.)	Incremental Storage, Acre-Feet	Total Volume Stored in Pond, (Ac.-Ft.)	Water Level in the Pond, Ft.
0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	130.00
1	1	0.010	0.010	0.109	0.109	0.017	0.038	0.009	0.064	0.000	0.000	0.000	0.000	0.064	0.064	130.04
2	1	0.030	0.020	0.327	0.218	0.034	0.076	0.018	0.128	0.000	0.000	0.000	0.000	0.128	0.192	130.12
3	1	0.060	0.030	0.654	0.327	0.051	0.115	0.027	0.192	0.000	0.000	0.000	0.000	0.192	0.385	130.24
4	1	0.090	0.030	0.981	0.327	0.051	0.115	0.027	0.192	0.000	0.000	0.000	0.000	0.192	0.577	130.37
5	1	0.120	0.030	1.308	0.327	0.051	0.115	0.027	0.192	0.000	0.000	0.000	0.000	0.192	0.770	131.09
6	1	0.160	0.040	1.744	0.436	0.068	0.153	0.036	0.257	0.000	0.000	0.000	0.000	0.257	1.026	131.27
7	1	0.200	0.040	2.180	0.436	0.068	0.153	0.036	0.257	0.000	0.000	0.000	0.000	0.257	1.283	131.45
8	1	0.240	0.040	2.616	0.436	0.068	0.153	0.036	0.257	0.000	0.000	0.000	0.000	0.257	1.539	132.16
9	1	0.300	0.060	3.270	0.654	0.101	0.229	0.055	0.385	0.000	0.000	0.000	0.000	0.385	1.924	132.45
10	1	0.360	0.060	3.924	0.654	0.101	0.229	0.055	0.385	0.000	0.000	0.000	0.000	0.385	2.309	133.18
11	1	0.440	0.080	4.796	0.872	0.135	0.305	0.073	0.513	0.000	0.000	0.000	0.000	0.513	2.822	133.60
12	1	0.540	0.100	5.886	1.090	0.169	0.382	0.091	0.641	0.000	0.000	0.000	0.000	0.641	3.464	134.48
13	1	0.610	0.070	6.649	0.763	0.118	0.267	0.064	0.449	0.000	0.000	0.000	0.000	0.449	3.913	135.08
14	1	0.670	0.060	7.303	0.654	0.101	0.229	0.055	0.385	0.000	3.430	3.430	0.283	0.101	4.014	135.18
15	1	0.730	0.060	7.957	0.654	0.101	0.229	0.054	0.385	0.000	5.171	5.171	0.427	-0.042	3.972	135.14
16	1	0.780	0.050	8.502	0.545	0.084	0.191	0.045	0.321	0.000	4.412	4.412	0.365	-0.044	3.928	135.09
17	1	0.820	0.040	8.938	0.436	0.068	0.153	0.036	0.257	0.000	3.671	3.671	0.303	-0.047	3.881	135.05
18	1	0.860	0.040	9.374	0.436	0.068	0.153	0.036	0.257	0.000	2.933	2.933	0.242	0.014	3.895	135.06
19	1	0.900	0.040	9.810	0.436	0.068	0.153	0.036	0.257	0.000	3.150	3.150	0.260	-0.004	3.891	135.06
20	1	0.930	0.030	10.137	0.327	0.051	0.115	0.027	0.192	0.000	3.092	3.092	0.256	-0.063	3.828	134.81
21	1	0.960	0.030	10.464	0.327	0.051	0.115	0.027	0.192	0.000	0.134	0.134	0.011	0.181	4.009	135.17
22	1	0.980	0.020	10.682	0.218	0.034	0.076	0.018	0.128	0.000	5.086	5.086	0.420	-0.292	3.717	134.71
23	1	0.990	0.010	10.791	0.109	0.017	0.038	0.009	0.064	0.000	0.000	0.000	0.000	0.064	3.781	134.76
24	1	1.000	0.010	10.900	0.109	0.017	0.038	0.009	0.064	0.000	0.000	0.000	0.000	0.064	3.846	135.01
25	1	1.000	0.000	10.900	0.000	0.000	0.000	0.000	0.000	0.000	2.417	2.417	0.200	-0.200	3.646	134.64
26	1	1.000	0.000	10.900	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.646	134.64
27	1	1.000	0.000	10.900	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.646	134.64
28	1	1.000	0.000	10.900	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.646	134.64
29	1	1.000	0.000	10.900	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.646	134.64
30	1	1.000	0.000	10.900	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.646	134.64
31	1	1.000	0.000	10.900	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.646	134.64
32	1	1.000	0.000	10.900	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.646	134.64
33	1	1.000	0.000	10.900	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.646	134.64
34	1	1.000	0.000	10.900	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.646	134.64
35	1	1.000	0.000	10.900	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.646	134.64
36	1	1.000	0.000	10.900	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.646	134.64
37	1	1.000	0.000	10.900	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.646	134.64
38	1	1.000	0.000	10.900	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.646	134.64
39	1	1.000	0.000	10.900	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.646	134.64
40	1	1.000	0.000	10.900	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.646	134.64
41	1	1.000	0.000	10.900	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.646	134.64
42	1	1.000	0.000	10.900	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.646	134.64
43	1	1.000	0.000	10.900	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.646	134.64
44	1	1.000	0.000	10.900	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.646	134.64
45	1	1.000	0.000	10.900	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.646	134.64
46	1	1.000	0.000	10.900	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.646	134.64
47	1	1.000	0.000	10.900	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.646	134.64
48	1	1.000	0.000	10.900	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.646	134.64
49	1	1.000	0.000	10.900	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.646	134.64
50	1	1.000	0.000	10.900	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.646	134.64

Peak Discharge(Orifice) 0.000 Peak Discharge(Weir) 5.171 Peak Discharge= 5.171 CFS

Max. Pond Level= 135.18 Ft. El.

Notes:
1. Rainfall amount provided by Leon County.
2. Precipitation ratio is obtained from the FDOT Drainage Manual Appendix B for Zone 2.
3. Cumulative Precipitation amount for each time period is obtained by multiplying the Precipitation Ratio (Column 3) by the total rainfall.
4. Inflow to the pond from each area is obtained by multiplying the Incremental Precipitation amount (Column 6) by the Drainage Area and the ratio of Runoff/Rainfall.

ATTACHMENT 10
UNDERDRAIN CALCULATIONS
(Pending)

10.5.5 Wetlands / Endangered Species Surveys

Part 1 – 2006 Wetlands Study

THE PHOENIX ENVIRONMENTAL GROUP, INCORPORATED

2916 East Park Avenue • Tallahassee, FL 32301

Telephone: (850) 878-3331
FAX: (850) 878-2383

April 17, 2006

Mr. Phil Bucci
City of Tallahassee
Arvah B. Hopkins Generating Station
1125 Geddie Road
Tallahassee, Florida 32304

RE: Approximate Wetland Boundary
Hopkins Expansion, Construction Laydown Area

Dear Phil,

Attached is an aerial with the approximate wetland boundary labeled in relation to the construction laydown area. As you can see, the proposed construction area does not impact wetlands if constructed as shown. Please let me know if any changes are proposed or if you need additional documentation.

Sincerely,

Jackie L. Fry

Jackie L. Fry
Vice President

Attachment

Approx. wetland line adjacent to construction
Geddie
Stormwater Pond
Equipment Laydown
Equipment Laydown Area
REPOWERING AREA
Contractor Parking
0.16mi

Part 2 – 2004 Wetlands and Endangered Species Survey

INTRODUCTION

The Phoenix Environmental Group, Inc. (Phoenix) was retained to provide a wetland delineation and a threatened and endangered species update at the Arvah B. Hopkins power generating plant in western Leon County. The plant is located on Geddie Road, between S.R. 20 and U.S. Highway 90, just east of the Lake Talquin State Forest (see Figure 1, Location Map). The property lies roughly in Township 1 North, Range 2 West, Section 26.

The City of Tallahassee has plans to expand the plant by 103,125 square feet on the southeast corner of the existing plant footprint to provide additional generating power to City customers, add a security fence around the perimeter of the property and build a stormwater pond to the south of the existing footprint to manage stormwater created by the plant expansion.

SCOPE OF WORK

The scope of services included background research and a field investigation to determine the approximate extent of wetlands on the site that were in the proposed footprint of a proposed plant expansion, part of which included fencing the entire property boundary for security purposes. Phoenix would produce marked aerial photographs on which the approximate boundaries would be indicated. Wetlands would be delineated by field flagging. Phoenix would also determine the likelihood that any identified wetlands would fall within the regulatory jurisdiction of either the state (Florida Department of Environmental Protection, FDEP) or the federal (U. S. Army Corps of Engineers, Corps) governments.

In addition, Phoenix was to complete a threatened and endangered species update within the uplands of the proposed expansion footprint, and to evaluate the adjoining land for the likelihood that any other threatened and endangered species are onsite. Gopher tortoises were known to occur on the site.

METHODOLOGY

Phoenix reviewed existing information from various sources before conducting the field investigation. These included the "Soil Survey of Leon County" (Soil Conservation Service, currently Natural Resources Conservation Service; Figure 2), "Hydric Soils of Florida Handbook (Florida Association of Soil Scientists; Figure 3), digital false color infrared aerial photography (Department of Environmental Protection 1999; Figure 4), and USGS topographic relief maps (Figure 5).

After review of the cited information, Phoenix conducted a site inspection on April 1 and 2, 2004, and July 29, 2004. Portions of the property were inspected by vehicle and by pedestrian transects. Close attention was given to portions of the property where the initial review of the cited information indicated the likelihood of significant features, such as wetlands.

Wetland boundaries were flagged by evaluating soils, plant communities and hydrology. The forested wetland along the southern property boundary in the area proposed for construction of a storm water system was flagged. This area is designated on Attachment 6 as the A-line. Please note that these are approximate lines, and should be verified by a surveyor.

The threatened and endangered species survey was conducted by first evaluating the Florida Natural Areas Inventory (FNAI) data compilation for the area. Results reported by FNAI are in Attachment 1. Second, the area in and adjacent to the proposed expansion footprint was visually inspected for gopher tortoise burrows. These burrows were marked with stakes and flagged with yellow tape. Approximate locations were marked using GPS and are indicated on Attachment 6. In addition, the area was evaluated for potential to house other endangered animal and plant species.

The proposed perimeter fence line was walked via pedestrian transect to determine wetland and threatened and endangered species impacts, and to mark trees greater than 36" DBH. The fence line is shown on Attachment 3.

Finally, photographs were taken to document the field work (see Attachment 2).

RESULTS and OBSERVATIONS

Soils

A review of the Leon County Soil Survey indicates that the southern portions of the site are dominated by Albany loamy sand, 0 to 2 percent slopes (see Figure 2). Albany soil typically has a seasonal high water table 12 to 30 inches below the surface for 1 to 2 months of the year. Albany soils are typically found on the lower elevations of uplands. Permeability is rapid, and soil fertility is low. The Albany map unit can contain an inclusion of Plummer soil, which is hydric. The presence of a Plummer inclusion was not field verified, as drainage from the culvert system north of the wetlands has deposited coarse yellow sand in the area, up to 10 inches thick, which has disturbed the natural horizon of the soil.

The uplands at the site are dominated by Blanton fine sand, 0 to 5 percent slopes. This is a moderately well-drained, non-hydric soil and is typical of uplands. The majority of the gopher tortoise surveys were done in this area.

Plant communities

The mesic mixed hardwood hammock just south of the current interior fence line is dominated by sweet gum (*Liquidambar styraciflua*), water oak (*Quercus nigra*) and wax myrtle (*Myrica cerifera*), which indicates that the area has been disturbed in the last 20-30 years. This is the area where the stormwater pond will be built. As the land slopes southward, the soils become more saturated and more typical forested wetland appears, with plants such as red maple (*Acer rubrum*), hophornbeam (*Carpinus caroliniana*), and fetterbush (*Lyonia lucida*). Table 1 lists the plant species found.

In the uplands, there are remnants of upland pine hardwoods and pastureland. This area is greatly disturbed from the power plant itself, power lines, previous silviculture and an old railroad line. The dominant species are slash pine (*Pinus elliottii*), laurel oak (*Quercus laurifolia*), live oak (*Quercus virginiana*), sweet gum (*Liquidambar styraciflua*), and loblolly pine (*Pinus taeda*).

Wetlands

The footprint of the plant expansion requires a stormwater pond be built to the south of the current southeast corner of the plant. The design of the system avoids the forested wetlands to the south of the plant, and thus does not impact wetlands.

The security fence will minimally impact 1.75 acres, or 4.6 % of the forested wetlands onsite, as identified by Leon County's TCGIS mapping system wetlands layer.

Threatened and Endangered Species

The FNAI report indicates that some habitats around the power plant have *potential* for containing rare species. Those species that might be expected to occur within or adjacent to the footprint of the expansion include: eastern indigo snake (*Drymarchon couperi*), pondspice (*Litsea aestivalis*) and red-cockaded woodpecker (*Picoides borealis*).

Actual occurrences of threatened and endangered species documented by FNAI within one to two miles of the area include gopher tortoise (*Gopherus polyphemus*), bent goldenaster (*Pityopsis flexuosa*) and sweet-shrub (*Calycanthus floridus*).

No listed plant species were found onsite. In particular, the uplands were evaluated for bent goldenaster, as the dry, sandy soil offered a good habitat for that species. Only *Pityopsis aspera* and *P. graminifolia* were found in the areas inspected. That does not rule out the possibility that *P. flexuosa* exists onsite, only that it was not observed in the three days of field work.

There was no visual evidence of red-cockaded woodpeckers in the area surveyed. Red-cockaded woodpeckers require old (>60 years) pine stands for nesting. Additional pine forest is required for foraging by the birds, which prefer open, park-like stands of pines. Suitable habitat does not exist for the birds on the Hopkins site. The pines on the Hopkins site are not old enough nor open enough in the understory to support red-cockaded woodpeckers.

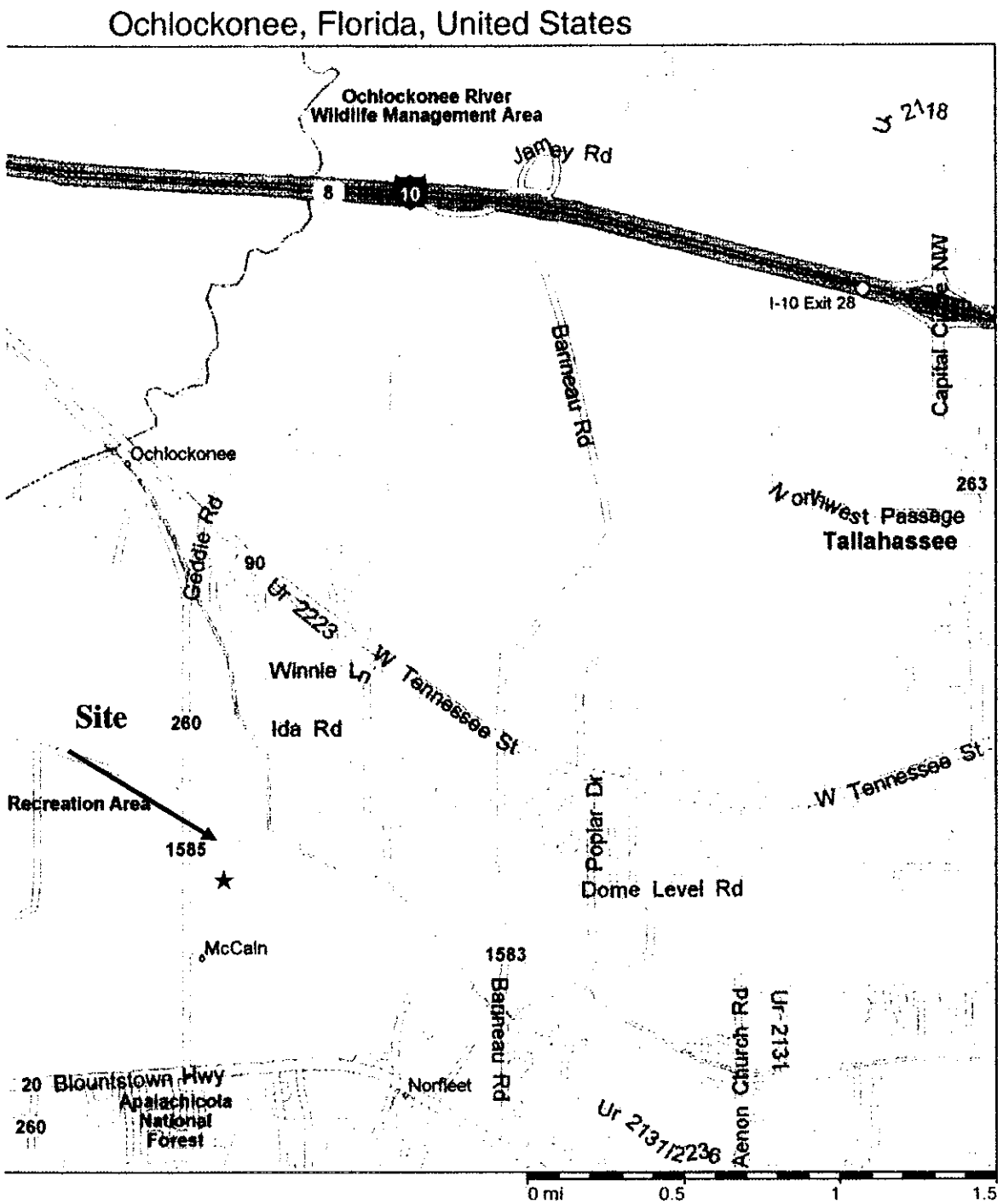
Seventeen gopher tortoise burrows were found. These locations are indicated on Attachment 6. It appears that no burrows are in the expansion footprint, but GT-10, GT-11, GT-12 and GT-13 are probably close enough to be disturbed by construction. GT-3, GT-4 and GT-9 are inactive. A separate Gopher tortoise management plan is included under separate cover.

Finally, it should be noted that summer Kestrels tend to congregate around power lines, but would probably not nest and breed in the area.

SUMMARY/CONCLUSIONS

Obviously this site has been disturbed due to the construction of the power plant and surrounding development of roads, railway, culverts and ditches. Therefore, optimal habitat does not exist to support a great diversity of animal species.

Surveys should be done to more precisely locate the wetland features and gopher tortoise burrows. Four gopher tortoise burrows do appear to be in close proximity of the footprint of the power plant expansion and should be moved. Silt fencing should be put up immediately thereafter to prevent other tortoises from moving into the area. At the time of the relocation, care should be taken to look for other species that may inhabit the burrows, such as the eastern indigo snake, gopher frogs and gopher crickets. Any commensal species found in the burrows should also be relocated onsite.

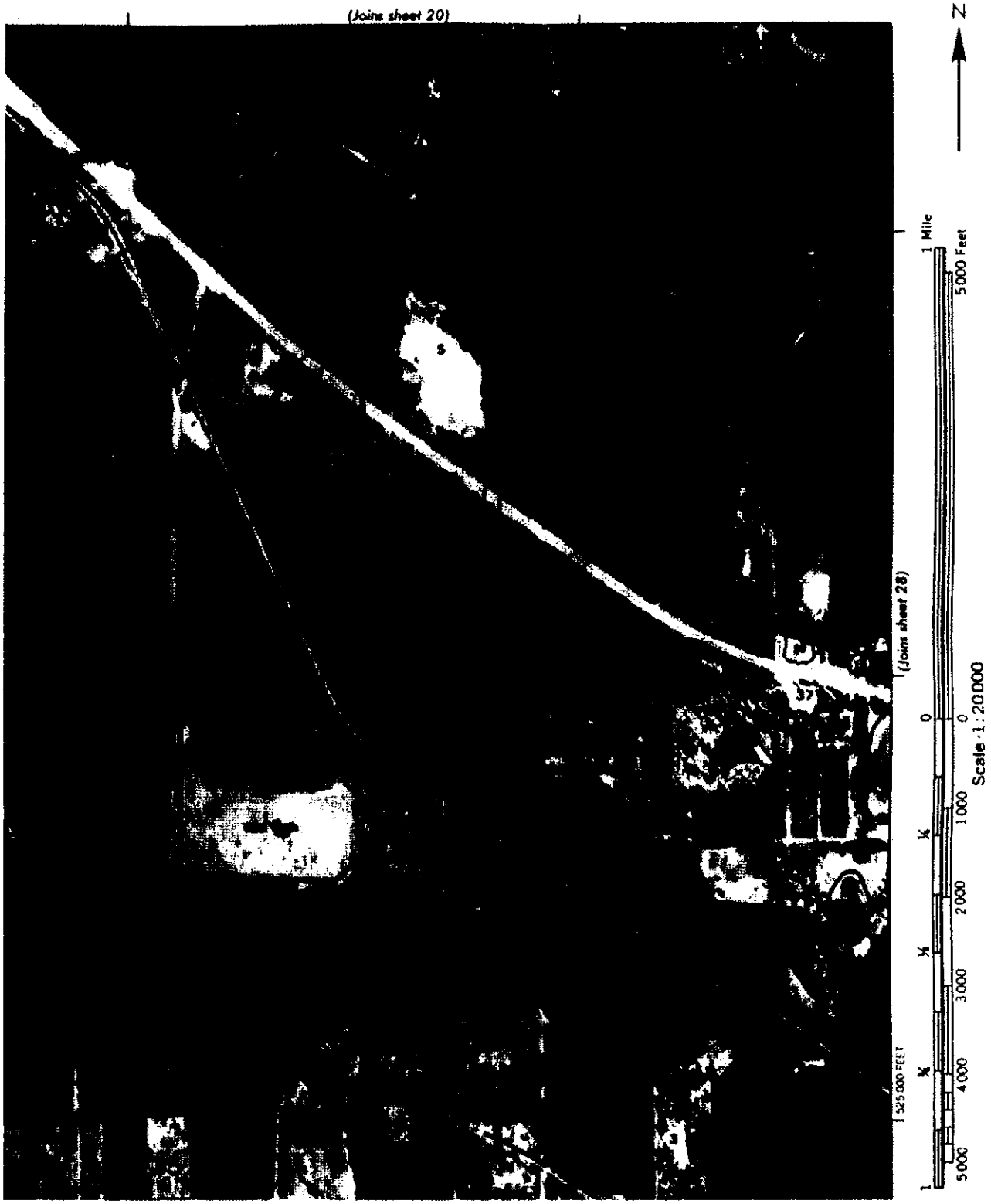


The Phoenix Environmental Group, Inc.

Figure 1
Location Map
Tallahassee, FL

Source: Microsoft Maps and Streets

N



The Phoenix Environmental Group, Inc.

Figure 2
USDS Soils Map
Leon County, FL

Source:
USDS Soil Survey of Leon County, FL

N

Map Symbol Mapunit Name		Component(C)/ Inclusion(I)	Hydric	Local Landform	Hydric Soils Criteria: Hydric Criteria Code	Meets Saturation Criteria	Meets Flooding Criteria	Meets Ponding Criteria
73: PINEDA FINE SAND, DEPRESSIONAL----------								
	75%	PINEDA (C)	Yes	Marsh	2B1,3	YES	NO	YES
	15%	FLORIDANA (I)	Yes	Depression	2B1,3	YES	NO	YES
	10%	MALABAR (I)	Yes	Depression	2B1,3	YES	NO	YES
74: BOCA FINE SAND, SLOUGH								
	65%	BOCA (C)	Yes	Slough	2B1	YES	NO	NO
	10%	BOCA (I)	No					
	10%	HALLANDALE(I)	Yes	Slough	2B1	YES	NO	NO
	15%	WABASSO (I)	No					
75: HALLANDALE FINE SAND, SLOUGH----------								
	65%	HALLANDALE(C)	Yes	Slough	2B3	YES	NO	NO
	10%	BOCA (I)	Yes	Slough	2B1	YES	NO	NO
	10%	HALLANDALE(I)	No					
	15%	WABASSO (I)	No					
77: PINEDA FINE SAND, LIMESTONE SUBSTRATUM--								
	85%	PINEDA (C)	Yes	Slough	2B1	YES	NO	NO
	10%	WABASSO (I)	Yes	Marine Terrace	2B1	YES	NO	NO
	5%	WABASSO (I)	No					
78: CHOBEE MUCK----------								
	75%	CHOBEE (C)	Yes	Depression	2B3,3	YES	NO	YES
	15%	FLORIDANA (I)	Yes	Marsh	2B1,3	YES	NO	YES
	10%	GATOR (I)	Yes	Marsh	1,3	YES	NO	YES

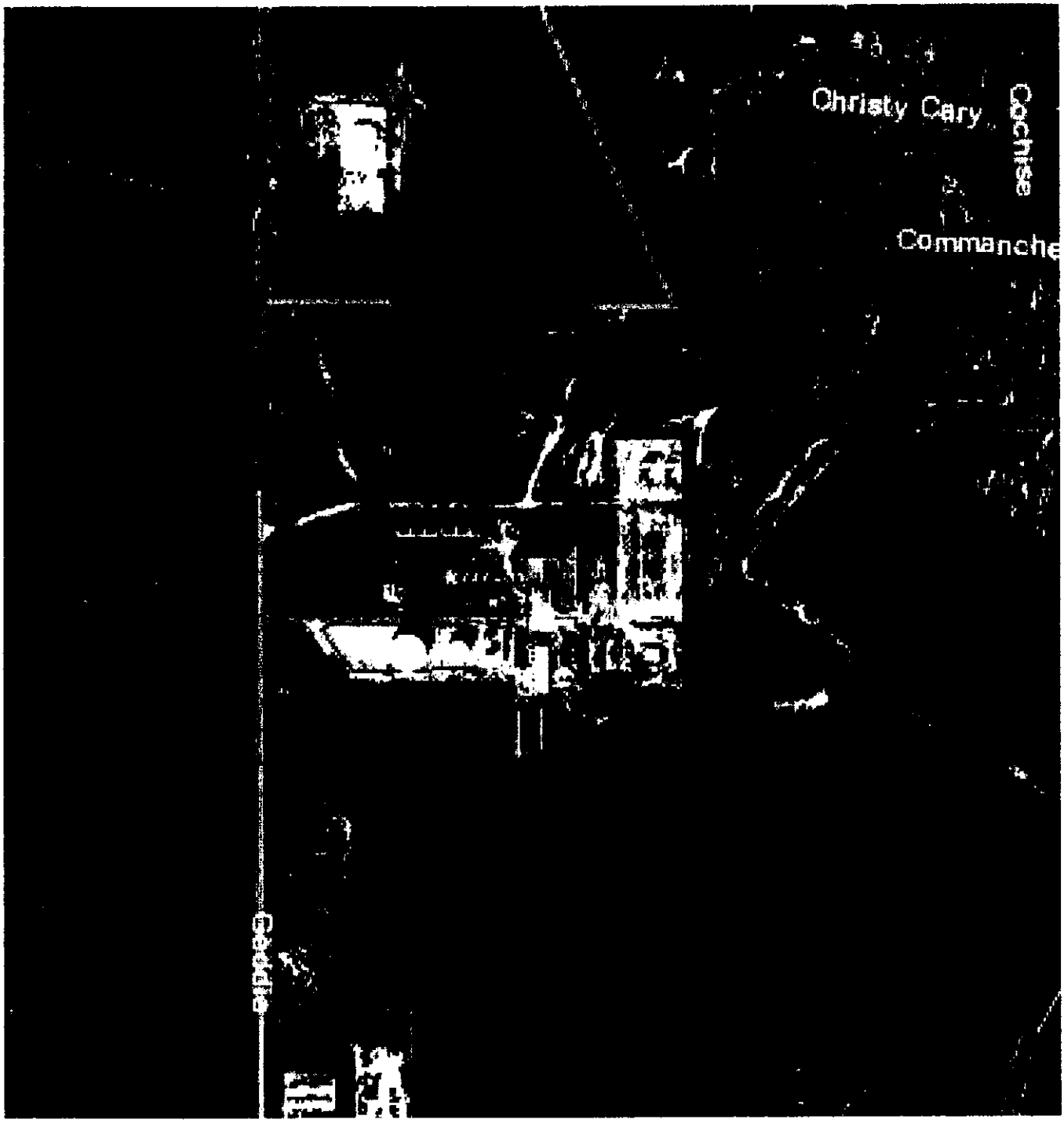
LEON COUNTY — HYDRIC SOILS

1: ALBANY LOAMY SAND-----								
	85%	ALBANY (C)	No					
	5%	BLANTON (I)	No					
	10%	PLUMMER (I)	Yes	Marine Terrace	2B1	YES	NO	NO

The Phoenix Environmental Group, Inc.

Figure 3
Hydric Soils of Florida
Leon County, FL

Source: Fla. Assoc. of Environmental Soil Scientists, 1995

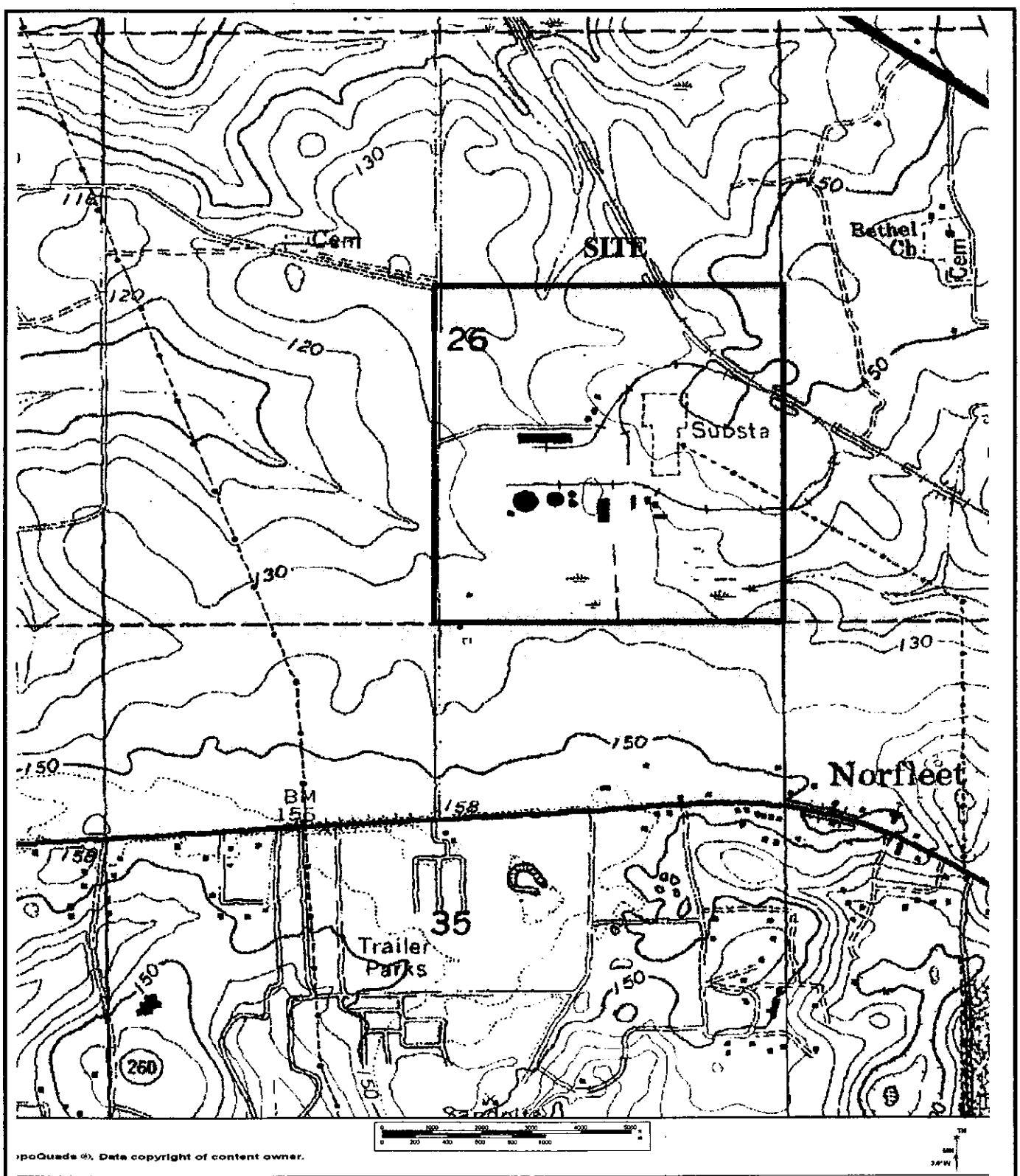


The Phoenix Environmental Group, Inc.

Figure 4
Infrared Aerial

Source:
DEP, 1999

N

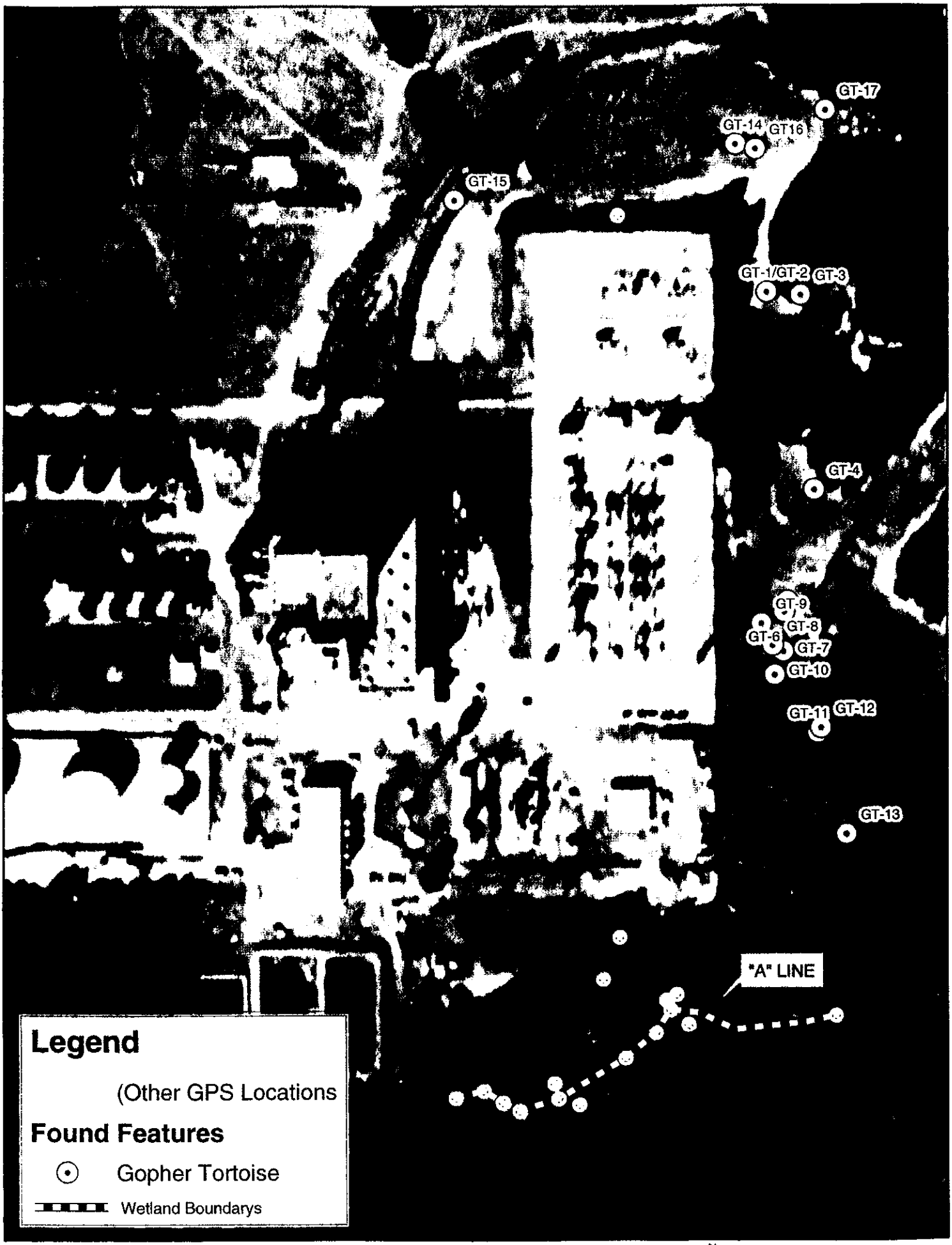


The Phoenix Environmental Group, Inc.

Figure 5
Topographic Quadrangle
Midway Quad

Source:
DeLorme
Topoquad

N



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Drawn By: RAS Checked By: VW
Job No.: G0808
Print Date: 8-12-04 File Name: Hopkins.mxd

Figure 6

Gopher Tortoise and
Wetland Boundary Locations
1 inch equals 200 feet

Table 1

Plant Species List (in order of occurrence):

AREA 1 – Mesic Hardwood Forest

Scientific Name	Common Name	DEP Status	USACOE Status
Trees			
Liquidambar styraciflua	Sweet gum	FACW	FAC+
Acer rubrum	Red maple	FACW	FAC
Quercus nigra	Water oak	FACW	FAC
Magnolia virginiana	Sweet bay	OBL	N/L
Magnolia grandiflora	Southern magnolia	N/L	FAC+
Pinus elliottii	Slash pine	UPL	FACW
Carpinus caroliniana	Hophornbeam	FACW	FAC
Quercus laurifolia	Laurel Oak	FACW	FACW
Ilex opaca	American holly	N/L	N/L
Crataegus marshallii	Parsley haw	FACW	FAC
Pinus taeda	Loblolly pine	N/L	FAC
Quercus alba	White oak	N/L	FACU
Shrubs			
Myrica cerifera	Wax myrtle	FAC	FAC+
Viburnum dentatum	Arrowood viburnum	FACW	FAC
Rhododendron canescans	Wild azalea	N/L	N/L
Vaccinium corymbosum	Highbush blueberry	FACW	FACW
Lyonia lucida	Fetterbush	FACW	FACW
Callicarpa americana	Beautyberry	N/L	FACU-
Sambucus canadensis	Elderberry	FAC	FACW-
Cornus florida	Dogwood	N/L	FACU
Herbaceous groundcovers/Vines			
Parthenociccus quinquefolia	Virginia creeper	N/L	N/L
Toxicodendron radicans	Poison ivy	N/L	N/L
Viola floridana	Florida violet	N/L	FACW-
Phytolacca rigida	Pokeweed	N/L	FACU
Pteridium aquilinum	Bracken fern	N/L	FACU
Vitis rotundifolia	Muscadine grape	N/L	FAC
Woodwardia virginiana	Virginia chain fern	OBL	OBL
Dicanthelium commutatum	Variable panicum	FAC	FAC
Asplenium platyneuron	Ebony spleenwort	N/L	FACU
Gelsemium sempervirens	Carolina Jessamine	N/L	FAC

[redacted]

Scientific Name	Common Name
Trees	
Quercus laurifolia	Laurel oak
Quercus virginiana	Live oak
Pinus elliottii	Slash pine
Liquidambar styraciflua	Sweet gum
Pinus taeda	Loblolly pine
Shrubs	
Vaccinium corymbosum	Highbush blueberry
Myrica cerifera	Wax myrtle
Quercus nigra	Water oak
Herbaceous groundcovers/Vines	
Paspalum notatum	Bahiagrass
Rumex hastatulus	Haste-leaf Dock
Pityopsis aspera	Pineland silkgrass
Licania michauxii	Gopher apple
Rubus spp.	Blackberry
Smilax spp.	Catbrier
Carphephorus paniculatus	Deer tongue
Eupatorium capillifolium	Dog fennel
Parthenociccus quinquefolia	Virginia creeper
Toxicodendron radicans	Poison ivy
Vitis rotundifolia	Muscadine grape
Pityopsis graminifolia	Narrowleaf silkgrass
Eupatorium incarnatum	Ageratum
Gelsemium sempervirens	Carolina jessamine
Opuntia humifusa	Prickly pear

FLORIDA
Natural Areas
INVENTORY

1018 Thomasville Road
Suite 200-C
Tallahassee, FL 32303
850-224-8207
fax 850-681-9364
www.fnai.org

ATTACHMENT 1

April 1, 2004

Jackie L. Fry
Phoenix Environmental Group, Inc.
2916 East Park Ave.
Tallahassee, FL 32301

Dear Ms. Fry:

Thank you for your request for information from the Florida Natural Areas Inventory (FNAI). We have compiled the following information for your project area.

Project:	Expansion of Arvah B. Hopkins Generating Station
Date Received:	March 23, 2004
Location:	Township 1 N, Range 2 W, Sections 25-27 Gadsden County

Based on the information available, this site appears to be located within a significant region of natural areas and habitat for several rare species along the Ochlockonee River. Extra consideration should be taken to avoid and/or mitigate impacts to these natural resources, and to design land uses that are compatible with these resources.

Element Occurrences

A search of our maps and database indicates that currently we have several Element Occurrences mapped within the vicinity of the study area (see enclosed map and table). Please be advised that a lack of element occurrences in the FNAI database is not a sufficient indication of the absence of rare or endangered species on a site.

The Element Occurrences data layer includes occurrences of rare species and natural communities. The map legend indicates the precision of the element occurrence location, defined as second (within about 300 feet of the point), minute (within about one mile), or general (within about 5 miles). For animals and plants, Element Occurrences generally refer to more than a casual sighting; they usually indicate a viable population of the species. Note that some element occurrences represent historically documented observations that may no longer be extant.

Managed Areas

Portions of the site appear to be located within the Lake Talquin State Forest, managed by the Florida Department of Agriculture and Consumer Services, Division of Forestry.

Florida Resources and Environmental Analysis Center

Institute of Science and Public Affairs

The Florida State University

The Managed Areas data layer shows public and privately managed conservation lands throughout the state. Federal, state, local, and privately managed conservation lands are included.

Potential Natural Areas

Portions of the site appear to be located on or near Potential Natural Areas (PNA). These PNA are priority 5 and may include the following community types: upland mixed forest, basin swamp, or baygall.

Potential Natural Areas are lands that appear to be relatively intact areas of natural vegetation based on aerial photography, as determined by FNAI scientists. Please see the enclosed explanation sheet for more information. PNAs are not a regulatory designation; they are intended for conservation planning purposes. The maps show a revised version of the PNAs, based on 1995 land use land cover data from the water management districts.

Potential Habitat for Rare Species

Portions of the site appear to be located on or near Potential Habitat for Rare Species. This potential habitat is associated with a known occurrence in the vicinity of: wood stork (*Mycteria americana*), Barbour's map turtle (*Graptemys barbouri*), eastern indigo snake (*Drymarchon couperi*), Ochlockonee moccasinshell (*Medionidus simpsonianus*), oval pigtoe (*Pleurobema pyriforme*), pondspice (*Litsea aestivalis*), purple bankclimber (*Elliptoideus sloatianus*), red-cockaded woodpecker (*Picoides borealis*), shiny-rayed pocketbook (*Lampsilis subangulata*) and Suwannee bass (*Micropterus notius*).

FNAI Potential Habitat for Rare Species indicates areas, which based on landcover type, offer suitable habitat for one or more rare species that is known to occur in the vicinity. Potential habitat layers have been developed for approximately 250 of the most rare species tracked by the Inventory, including all federally listed species.

Potential Habitat is not a regulatory designation, and should not be confused with "critical habitat", which is an official designation made by the U.S. Fish and Wildlife Service. Information on critical habitats can be found in the Code of Federal Regulations, 50 CFR 17.95, which lists all critical habitats that have been designated. The Code of Federal Regulations can be accessed through the following website: "www.access.gpo.gov/nara/cfr/cfr-table-search.html".

The Inventory always recommends that a site-specific survey be conducted to determine the current presence or absence of rare, threatened, or endangered species. Surveys should be conducted by persons familiar with Florida's flora and fauna. For your convenience, a summary of the elements recorded for Leon County is enclosed.

The database maintained by the Florida Natural Areas Inventory is the single most comprehensive source of information available on the locations of rare species and other significant ecological resources. However, the data are not always based on comprehensive or site-specific field surveys. Therefore, this information should not be regarded as a final statement on the biological resources of the site being considered, nor should it be substituted for on-site surveys. Inventory data are designed for the purposes of conservation planning and scientific research, and are not intended for use as the primary criteria for regulatory decisions.

Information provided by this database may not be published without prior written notification to the Florida Natural Areas Inventory, and the Inventory must be credited as an information source in these publications. FNAI data may not be resold for profit.

Thank you for your use of FNAI services. An invoice will be mailed to your accounts payable department. If I can be of further assistance, please give me a call at (850) 224-8207.

Sincerely,

Edwin A. Abbey

Edwin A. Abbey
Environmental Reviewer

encl

Florida Natural Areas Inventory
Potential Natural Areas (PNA) Data Layer

POTENTIAL NATURAL AREAS (PNA)

The Potential Natural Areas data layer indicates, throughout the State of Florida, lands that are in private ownership and are not managed or listed for conservation purposes that are possible examples of good quality natural communities. These areas were determined from FNAI's scientific staff vegetative interpretation of 1988-1993 FDOT aerial photographs and from input received during Regional Ecological Workshops held for each regional planning council. These workshops were attended by experts familiar with natural areas in the region. Element occurrences in the FNAI database may or may not be present on these sites. In order to be classified as a Potential Natural Area (with the exception of internal rank PNA-5) the natural communities identified through aerial photographs must meet the following criteria:

1. Must be a minimum of 500 acres. *Exceptions*: sandhill, min. 320 acres; scrub, min. 80 acres; pine rockland, min. 20 acres; dry prairie, min. 320 acres; *or* any example of coastal rock barren, upland glade, coastal dune lake, spring-run stream or terrestrial cave.

2. Must contain at least one of the following:
   a. One or more high quality examples of FNAI state ranked S3 or above natural communities.
   b. An outstanding example of any FNAI tracked natural community.

Potential Natural Areas have been assigned ranks of PNA-1 through PNA-4 mostly based on size and perceived quality and type of natural community present. The areas included in internal rank PNA-5 (former ACI Category C) are exceptions to the above criteria. These areas were identified through the same process of aerial photographic interpretation and regional workshops as the PNA 1 through 4 ranked sites, but do not meet the standard criteria. These PNA 5 areas are considered lower priority for conservation than areas ranked PNA 1- 4, but nonetheless are believed to be ecologically viable tracts of land representative of Florida's natural ecosystems.

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FLORIDA Natural Areas INVENTORY

Florida Resources and Environmental Analysis Center
Institute of Science and Public Affairs
The Florida State University

Tracking Florida's Biodiversity

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FLORIDA Natural Areas INVENTORY

Element Occurrences

Precision:
second minute general

- Animals
- Plants
- Communities
- Other

U.S. Fish & Wildlife Service Scrub Jay Survey 1992-96

FL Fish & Wildlife Cons. Comm. Breeding Bird Atlas Project 1986-91 center point of 10 sq mi survey block

Conservation Lands

- Federal
- State
- Local
- Private
- State Aquatic Preserves

Land Acquisition Projects

- Florida Forever Board of Trustees Projects

Non-Managed Natural Areas

- FNAI Potential Habitat for Rare Species
- FNAI Potential Natural Areas

- County Boundary
- Interstate
- Turnpike
- Major Highway
- Local Road
- Water

Map produced by EAA
Data Source: 11/03
NOTE
Map should not be interpreted without accompanying documents.

Township 1 N, Range 2 W, Sections 25-27

Leon County

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Florida Natural Areas Inventory

FLORIDA Natural Areas INVENTORY

ELEMENT OCCURRENCES ON OR NEAR PROJECT SITE

Map Label	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing	Observation Date	Description	EO Comments
GOPHPOLY*0402	Gopherus polyphemus	Gopher Tortoise	G3	S3	N	LS	1985	No general description given	D. MARTIN OBSERVED SPECIES AT THIS LOCALITY CA. 1985-1986.
PLEUPYRI*0020	Pleurobema pyriforme	Oval Pigtoe	G2	S1S2	LE	N	1957-11-07	Blackwater Stream.	One individual discovered. Collection code is MFM7634.
CYPRLEED*0001	Cyprinella leedsi	Bannerfin Shiner	G4	S3	N	N	1989	ALLUVIAL STREAM.	OVER 1129 SPECIMENS COLLECTED BY VARIOUS COLLECTORS AT 26 LOCALITIES (SEE ATTACHED SHEETS) BETWEEN 1952 AND 1989. FREQUENTS MAIN CHANNEL OF RIVER AND LARGER TRIBUTARIES; TAKEN OVER SANDY BOTTOM IN MODERATE CURRENT. 746 OF 1116 SPECIMENS ARE FROM LEITMAN
MEDISIMP*0001	Medionidus simpsonianus	Ochlockonee Moccasinshell	G1	S1	LE	N	1933-06-08	RIVER MODERATELY LOW, SLIGHT CURRENT, SILTY (YELLOW-BROWN) WATER; MUSSELS IN MODERATELY FIRM CLAY-SAND RIVER BANKS AT 2-6 FT. DEPTH.	NOT FOUND 1980-07-29 (MCCLELLAN STATION 285) ON CANOE TRIP OF CA. 0.1 MI. UPSTREAM. SEVERAL LOTS HOUSED AT FLORIDA MUSEUM NATURAL HISTORY (UF) (NO. SPEC. IN PARENTHESES): UF 4158 (24), UF 6369 (1) 13 NOV. 1931, T. & D. C. VAN HYNING; UF 4182 (21), 8 JUNE
GOPHPOLY*1099	Gopherus polyphemus	Gopher Tortoise	G3	S3	N	LS	1999-09-29	99-09-29: longleaf pine plantations with recovering herb layer (PNDPRI03).	99-09-29: western polygon - 20+ burrows observed, most active, all adults, no signs of reproduction; central west polygon - 20-30 burrows observed, approximately half active; central east polygon - 30+ burrows observed; eastern polygon - 20+ burrows obse
PITYFLEX*0023	Pityopsis flexuosa	Bent Golden Aster	G3	S3	N	LE	1985-11	No general description given	1985-11: NONE GIVEN.
CALYFLOR*0011	Calycanthus floridus	Sweet-shrub	G5	S2	N	LE	1999-10-21	1999-10-21: SLOPE FOREST ON A NARRROW, STEEP SLOPE ABOVE THE OCHLOCKONEE RIVER FLOODPLAIN. IT HAS BEEN LOGGED IN THE PAST, PERHAPS SELECTIVELY SINCE THERE ARE A FEW VERY LARGE TREES E.G. BEECH, SPRUCE PINE, LIVE OAK, AND BASSWOOD, LEFT IN THE CANOPY. OTH	1999-10-21: Several hundred stems in many small patches (clones); no fruit seen this late in the year (PNDCHA05FLUS).
MAGNPYRA*0054	Magnolia pyramidata	Pyramid Magnolia	G4	S3	N	LE	2001-06-07	2001-06-07: TREES IN A SMALL PIECE OF INTACT SLOPE FOREST ABOUT 30 FEET ABOVE FROM OCHLOCKONEE RIVER FLOODPLAIN (PNDCHA05FLUS).	2001-06-18: ELEVEN TREES, MOST YOUNGER MATURE TO SAPLING SIZE (PNDCHA05FLUS).

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Florida Natural Areas Inventory

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PITYFLEX*0022	Pityopsis flexuosa	Bent Golden Aster	G3	S3	N	LE	1985-11	1985: roadside.	1985-11: NONE GIVEN
SLOPFORE*0087	Slope forest		G3	S2	N	N	1999-10-21	1999-10-21: THE SLOPE FOREST OCCURS ON A NARROW SLOPE TRANSITIONAL FROM DRY, EVE-DRAINED AND TIMBERED UPLANDS TO OCHLOCKONEE RIVER FLOODPLAIN. SMALLER SLOPES TO THE EAST AND WEST ARE TYPICALLY OVERGROWN WITH LAUREL OAK AND OTHER "WEEDY" TREE SPECIE	1999-10-21: FOREST OCCURS ON A NARROW, STEEP SLOPE ABOVE THE OCHLOCKONEE RIVER FLOODPLAIN. IT HAS BEEN LOGGED IN THE PAST, PERHAPS SELECTIVELY SINCE THERE ARE A FEW VERY LARGE TREES E.G. BEECH, SPRUCE PINE, LIVE OAK, AND BASSWOOD, LEFT IN THE CANOPY. OT
MEGANERV*0001	Megalonaias nervosa	Washboard	G5	S3	N	N	1980-07-29	RIVER CA. 20 M WIDE, 2+ M DEEP, MODERATELY LOW WITH SLIGHT CURRENT; WATER SILTY WITH YELLOW-BROWN COLOR. MUSSELS FOUND IN FIRM CLAY-SAND RIVER BANKS IN 2-6 FT. DEPTH. MAJORITY OF MUSSELS LOCATED ABOUT 1 MILE UPSTREAM.	LEE AND MCCULLAGH COLLECTED ABOUT 10 SPECIMENS ON 1988-07-29, TO 150 MM LONG, IN FIRM SANDY-CLAY SUBSTRATE IN 3-6 FT. OF WATER, MOSTLY ON SLOPING BANKS IN SOME CURRENT. FOUND WITH TOES (PALPATION). SITE MENTIONED IN A56CLE01FL. NUMEROUS LOTS HOUSED AT UF
LAMPSUBA*0001	Lampsilis subangulata	Shiny-rayed Pocketbook	G2	S1S2	LE	N	1947-01-28	RIVER CA. 20 M WIDE, 2+ M DEEP, MODERATELY LOW WITH SLIGHT CURRENT; WATER SILTY WITH YELLOW-BROWN COLOR. MUSSELS FOUND IN FIRM CLAY-SAND RIVER BANKS IN 2-6 FT. DEPTH. MAJORITY OF MUSSELS LOCATED ABOUT 1 MILE UPSTREAM.	1987-11-15: (3) INDIVIDUALS COLLECTED. COLLECTION FIELD NUMBER IS MFM 7833. 1947-01-28: WALKER COLLECTED 8 INDIVIDUALS. LEE AND MCCULLAGH FAILED TO COLLECT SPECIES 1980-07-09. THE COLLECTORS HAVE CONDUCTED FOUR SURVEYS BETWEEN 1974 AND 1980 AT SITE WITHO
PANDHALI*0122	Pandion haliaetus	Osprey	G5	S3S4	N	LS*	2000-04-23	Alluvial river, probably with some blackwater characteristics.	2000-04-23: D. Jackson and M. Aresco observed several individuals foraging and perching, as well as one on nest, within one mile downstream of US-90 bridge; nest was on west side of channel in very low (ca. 2 m above low water level) cypress.

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Florida Natural Areas Inventory

FLORIDA Natural Areas INVENTORY

ELEMENT OCCURRENCES ON OR NEAR
PROJECT SITE

Map Label	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing	Observation Date	Description	EO Comments
ELLSLOA*0001	Elliptoideus sloatianus	Purple Bankclimber	G2	S1S2	LT	N	1990-07-28	RIVER CA. 20M WIDE, 2-4M DEEP, MODERATE CURRENT, MUDDY WATER, SLIGHT CURRENT, INTERSPERSED WITH YELLOW-BROWN MUSSELS FOUND IN CLAY SUBSTRATE IN 2-6 FT. DEPTH. SEVERAL OF MUSSELS LOCATED ABOUT 1 MILE UPSTREAM.	LEE AND MCCULLAGH COLLECTED 8-10 SPECIMENS ON 1990-07-28; FOUND IN SANDY CLAY SUBSTRATES OF SLOPING BANK, SOME CURRENT. SPECIMENS: UF 8361 (1) COLL. 6 JUNE 1930 BY T. AND G.M. VAN BYNDING; UF 1370 (2), UF 2700 (32) AND UF 2793 (1) COLL. 13 NOV. 1931 BY T.
ALASWRIG*0001	Alasmidonta wrightiana	Ochlockonee Arc-mussel	GH	SH	N	N	1931-11-13	Blackwater stream.	3 individuals captured. This species is considered by many to be extinct.

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January 2004 | **Leon County Summary** |

Rare Species and Natural Communities Documented or Reported

Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Status
FISH					
Acantharchus pomotis	Mud Sunfish	G5	S3	N	N
Ameiurus serracanthus	Spotted Bullhead	G3	S3	N	N
Cyprinella leedsi	Bannerfin Shiner	G4	S3	N	N
Micropterus notius	Suwannee Bass	G3	S3	N	LS
Notropis cummingsae	Dusky Shiner	G5	S4	N	N
AMPHIBIANS					
Ambystoma tigrinum	Tiger Salamander	G5	S3	N	N
Amphiuma pholeter	One-toed Amphiuma	G3	S3	N	N
Desmognathus apalachicolae	Apalachicola Dusky Salamander	G3G4	S3	N	N
Hemidactylium scutatum	Four-toed Salamander	G5	S2	N	N
Notophthalmus perstriatus	Striped Newt	G2G3	S2S3	N	N
Rana capito	Gopher Frog	G3	S3	N	LS
REPTILES					
Alligator mississippiensis	American Alligator	G5	S4	T(S/A)	LS
Clemmys guttata	Spotted Turtle	G5	S3?	N	N
Crotalus adamanteus	Eastern Diamondback Rattlesnake	G4	S3	N	N
Drymarchon couperi	Eastern Indigo Snake	G3	S3	N	LT
Gopherus polyphemus	Gopher Tortoise	G3	S3	N	LS
Graptemys barbouri	Barbour's Map Turtle	G2	S2	N	LS
Macrochelys temminckii	Alligator Snapping Turtle	G3G4	S3	N	LS
Pituophis melanoleucus mugitus	Florida Pine Snake	G4T3?	S3	N	LS
Pseudemys concinna suwanniensis	Suwannee Cooter	G5T3	S3	N	LS
BIRDS					
Accipiter cooperii	Cooper's Hawk	G5	S3	N	N
Aimophila aestivalis	Bachman's Sparrow	G3	S3	N	N
Aramus guarauna	Limpkin	G5	S3	N	LS
Ardea alba	Great Egret	G5	S4	N	N
Egretta caerulea	Little Blue Heron	G5	S4	N	LS
Egretta thula	Snowy Egret	G5	S3	N	LS
Egretta tricolor	Tricolored Heron	G5	S4	N	LS
Elanoides forficatus	Swallow-tailed Kite	G5	S2	N	N
Eudocimus albus	White Ibis	G5	S4	N	LS
Falco columbarius	Merlin	G5	S2	N	N
Falco peregrinus	Peregrine Falcon	G4	S2	N	LE
Falco sparverius paulus	Southeastern American Kestrel	G5T4	S3	N	LT
Haliaeetus leucocephalus	Bald Eagle	G4	S3	LT	LT
Ixobrychus exilis	Least Bittern	G5	S4	N	N
Laterallus jamaicensis	Black Rail	G4	S2	N	N
Mycteria americana	Wood Stork	G4	S2	LE	LE
Nyctanassa violacea	Yellow-crowned Night-heron	G5	S3	N	N
Nycticorax nycticorax	Black-crowned Night-heron	G5	S3	N	N
Pandion haliaetus	Osprey	G5	S3S4	N	LS*
Picoides borealis	Red-cockaded Woodpecker	G3	S2	LE	LS
Picoides villosus	Hairy Woodpecker	G5	S3	N	N
Plegadis falcinellus	Glossy Ibis	G5	S3	N	N
Seiurus motacilla	Louisiana Waterthrush	G5	S2	N	N
Sitta carolinensis	White-breasted Nuthatch	G5	S2	N	N
Sterna antillarum	Least Tern	G4	S3	N	LT

FLORIDA NATURAL AREAS INVENTORY

Florida Scrub-Jay Survey and Breeding Bird Atlas Data Layers

In addition to our element occurrence database of rare species and natural community locations, the Inventory has additional data layers that have been provided by state and federal agencies.

Florida Scrub-Jay Survey - U.S. Fish and Wildlife Service

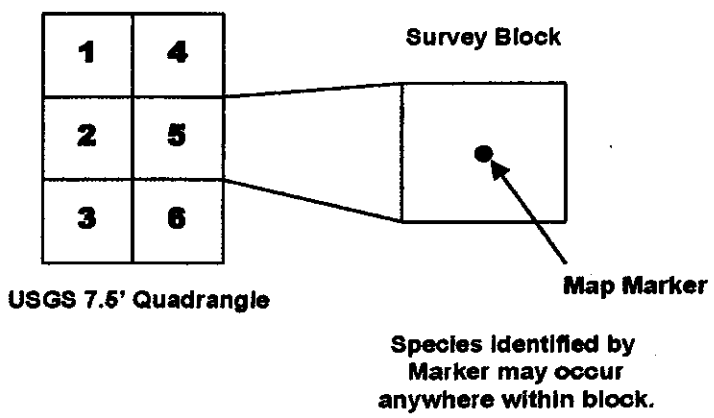
This survey was conducted by staff and associates of the Archbold Biological Station from 1992 to 1996. An attempt was made to record all scrub-jay (*Aphelocoma coerulescens*) groups, although most federal lands were not officially surveyed.

Each map point represents one or more groups.

Florida Breeding Bird Atlas Project - Florida Game and Fresh Water Fish Commission (now Florida Fish and Wildlife Conservation Commission)

This study was conducted from 1986 to 1991, (final report, *An Atlas of Florida's Breeding Birds* by Kale, Pranty, Stith, and Biggs, Nongame Wildlife Program, Florida Game and Fresh Water Fish Commission). The study divided the state into "blocks", with each block representing one-sixth of a U.S. Geological Survey 7.5 minute topographic quadrangle map. Several categories of breeding activity were recorded by observers.

Each map point is located at the center of a block, and represents species listed as Possible or Probable Breeders within the surrounding block (approximately 10 square miles in area).



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GLOBAL AND STATE RANKS

Florida Natural Areas Inventory (FNAI) defines an **element** as any rare or exemplary component of the natural environment, such as a species, natural community, bird rookery, spring, sinkhole, cave, or other ecological feature. FNAI assigns two ranks to each element found in Florida: the **global rank**, which is based on an element's worldwide status, and the **state rank**, which is based on the status of the element within Florida. Element ranks are based on many factors, including estimated number of occurrences, estimated abundance (for species and populations) or area (for natural communities), estimated number of adequately protected occurrences, range, threats, and ecological fragility.

GLOBAL RANK DEFINITIONS

G1	Critically imperiled globally because of extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerability to extinction due to some natural or human factor.
G2	Imperiled globally because of rarity (6 to 20 occurrences or less than 3000 individuals) or because of vulnerability to extinction due to some natural or human factor.
G3	Either very rare and local throughout its range (21-100 occurrences or less than 10,000 individuals), or found locally in a restricted range, or vulnerable to extinction from other factors.
G4	Apparently secure globally (may be rare in parts of range).
G5	Demonstrably secure globally.
GH	Occurred historically throughout its range, but has not been observed for many years.
GX	Believed to be extinct throughout range.
GXC	Extirpated from the wild but still known from captivity or cultivation.
G#?	Rank uncertain (e.g., G2?).
G#G#	Range of rank; insufficient data to assign specific global rank (e.g., G2G3)
G#T#	Rank of a taxonomic subgroup such as a subspecies or variety; the G portion of the rank refers to the entire species, and the T portion refers to the subgroup; T# has same definition as G#.
G#Q	Ranked as species but there is some question as to whether it is a valid species.
G#T#Q	Same as above, but validity as subspecies or variety is questioned.
GU	Global rank unknown; due to lack of information, no rank or range can be assigned.
G?	Temporarily not ranked.

STATE RANK DEFINITIONS

State ranks (S#) follow the same system and have the same definitions as global ranks, except they apply only to Florida, with the following additions:

SA	Accidental in Florida and not part of the established biota.
SE	Exotic species established in Florida (may be native elsewhere in North America).
SX	Believed to be extirpated from state.

Florida Resources
and Environmental
Analysis Center

Institute for Science
and Public Affairs

The Florida State University

FEDERAL AND STATE LEGAL STATUSES

Provided by FNAI for information only.
For official definitions and lists of protected species, consult the relevant state or federal agency.

FEDERAL LEGAL STATUS

Definitions derived from U.S. Endangered Species Act of 1973, Sec. 3. Note that the federal status given by FNAI refers only to Florida populations and that federal status may differ elsewhere.

LE	Endangered: species in danger of extinction throughout all or a significant portion of its range.
LT	Threatened: species likely to become Endangered within the foreseeable future throughout all or a significant portion of its range.
E(S/A)	Endangered due to similarity of appearance to a species which is federally listed such that enforcement personnel have difficulty in attempting to differentiate between the listed and unlisted species.
T(S/A)	Threatened due to similarity of appearance (see above).
PE	Proposed for listing as Endangered species.
PT	Proposed for listing as Threatened species.
C	Candidate species for which federal listing agencies have sufficient information on biological vulnerability and threats to support proposing to list the species as Endangered or Threatened.
XN	Non-essential experimental population.
MC	Not currently listed, but of management concern to USFWS.
N	Not currently listed, nor currently being considered for listing as Endangered or Threatened.

FLORIDA LEGAL STATUSES

Animals: Definitions derived from "Florida's Endangered Species and Species of Special Concern, Official Lists" published by Florida Fish and Wildlife Conservation Commission, 1 August 1997, and subsequent updates.

LE	Endangered: species, subspecies, or isolated population so few or depleted in number or so restricted in range that it is in imminent danger of extinction.
LT	Threatened: species, subspecies, or isolated population facing a very high risk of extinction in the future.
LS	Species of Special Concern is a species, subspecies, or isolated population which is facing a moderate risk of extinction in the future.
PE	Proposed for listing as Endangered.
PT	Proposed for listing as Threatened.
PS	Proposed for listing as Species of Special Concern.
N	Not currently listed, nor currently being considered for listing.

Plants: Definitions derived from Sections 581.011 and 581.185(2), Florida Statutes, and the Preservation of Native Flora of Florida Act, 5B-40.001. FNAI does not track all state-regulated plant species; for a complete list of state-regulated plant species, call Florida Division of Plant Industry, 352-372-3505.

LE	Endangered: species of plants native to Florida that are in imminent danger of extinction within the state, the survival of which is unlikely if the causes of a decline in the number of plants continue; includes all species determined to be endangered or threatened pursuant to the U.S. Endangered Species Act.
LT	Threatened: species native to the state that are in rapid decline in the number of plants within the state, but which have not so decreased in number as to cause them to be Endangered.
PE	Proposed for listing as Endangered.
PT	Proposed for listing as Threatened.
N	Not currently listed, nor currently being considered for listing.

Leon County Summary

Rare Species and Natural Communities Documented or Reported

Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Status
MAMMALS					
Corynorhinus rafinesquii	Rafinesque's Big-eared Bat	G3G4	S2	N	N
Lasiurus cinereus	Hoary Bat	G5	SU	N	N
Mustela frenata olivacea	Southeastern Weasel	G5T4	S3?	N	N
Myotis austroriparius	Southeastern Bat	G3G4	S3	N	N
Myotis grisescens	Gray Bat	G3	S1	LE	LE
Neofiber alleni	Round-tailed Muskrat	G3	S3	N	N
Sciurus niger shermani	Sherman's Fox Squirrel	G5T3	S3	N	LS
Ursus americanus floridanus	Florida Black Bear	G5T2	S2	N	LT*
INVERTEBRATES					
Alasmidonta wrightiana	Ochlockonee Arc-mussel	GH	SH	N	N
Crangonyx hobbsi	Hobbs' Cave Amphipod	G2G3	S2S3	N	N
Elliptoideus sloatianus	Purple Bankclimber	G2	S1S2	LT	N
Lampsilis subangulata	Shiny-rayed Pocketbook	G2	S1S2	LE	N
Medionidus simpsonianus	Ochlockonee Moccasinshell	G1	S1	LE	N
Megalonaias nervosa	Washboard	G5	S3	N	N
Pleurobema pyriforme	Oval Pigtoe	G2	S1S2	LE	N
Procambarus orcinus	Woodville Karst Cave Crayfish	G1	S1	N	N
Procambarus youngi	Florida Longbeak Crayfish	G2	S2	N	N
Utterbackia peggyae	Florida Floater	G3	S3	N	N
PLANTS					
Arnoglossum diversifolium	Variable-leaved Indian-plantain	G2	S2	N	LT
Aster fragilis var. brachypholis	Apalachicola River Aster	G4T1Q	S1	N	N
Baptisia simplicifolia	Scare-weed	G3	S3	N	LT
Brickellia cordifolia	Flyr's Brickell-bush	G2G3	S2	N	LE
Callirhoe papaver	Poppy Mallow	G5	S2	N	LE
Calycanthus floridus	Sweet-shrub	G5	S2	N	LE
Drosera intermedia	Spoon-leaved Sundew	G5	S3	N	LT
Erythronium umbilicatum	Trout Lily	G5	S2	N	LE
Gentiana pennelliana	Wiregrass Gentian	G3	S3	N	LE
Hexastylis arifolia	Heartleaf	G5	S3	N	LT
Kalmia latifolia	Mountain Laurel	G5	S3	N	LT
Lilium superbum	Turk's Cap Lily	G5	S1	N	LE
Litsea aestivalis	Pondspice	G3	S2	N	LE
Macranthera flammea	Hummingbird Flower	G3	S2	N	LE
Magnolia ashei	Ashe's Magnolia	G2	S2	N	LE
Magnolia pyramidata	Pyramid Magnolia	G4	S3	N	LE
Malaxis unifolia	Green Adder's-mouth	G5	S3	N	LE
Medeola virginiana	Indian Cucumber-root	G5	S1	N	LE
Myriophyllum laxum	Piedmont Water-milfoil	G3	S3	N	N
Najas filifolia	Narrowleaf Naiad	G1	S1	N	LT
Pityopsis flexuosa	Bent Golden Aster	G3	S3	N	LE
Polygonum meisnerianum var. beyrichianum	Mexican Tear-thumb	G5T5	S1	N	LE
Pycnanthemum floridanum	Florida Mountain-mint	G3	S3	N	LT
Rhexia salicifolia	Panhandle Meadowbeauty	G2	S2	N	LT
Rhododendron alabamense	Alabama Rhododendron	G4	S2	N	LE
Rhododendron austrinum	Florida Flame Azalea	G3	S3	N	LE
Rhododendron chapmanii	Chapman's Rhododendron	G1	S1	LE	LE
Schwalbea americana	Chaffseed	G2	S1	LE	LE
Stachydeoma graveolens	Mock Pennyroyal	G2	S2	N	LE
Stachys hyssopifolia var. lythroides	Tallahassee Hedge-nettle	G5T1Q	S1	N	N
Uvularia floridana	Florida Merrybells	G3	S1	N	LE
Xyris longisepala	Karst Pond Xyris	G2	S2	N	LE
NATURAL COMMUNITIES					
Alluvial stream		G4	S2	N	N
Aquatic cave		G3	S3	N	N
Blackwater stream		G4	S3	N	N
Clastic upland lake		G3	S2	N	N
Sandhill		G3	S2	N	N

Rare Species and Natural Communities Documented or Reported

Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Status
NATURAL COMMUNITIES					
Sandhill upland lake		G3	S2	N	N
Slope forest		G3	S2	N	N
Terrestrial cave		G3	S2	N	N
Upland hardwood forest		G5	S3	N	N
OTHER ELEMENTS					
Bird rookery		GNR	SNR	N	N
Geological feature		GNR	SNR	N	N

Total count:

Number of tracked elements: 106
Number of distinct occurrences: 300

ATTACHMENT 2
HOPKINS POWER PLANT APRIL 1-2, 2004

PHOTO 1: Beginning of culvert system on south side of property.

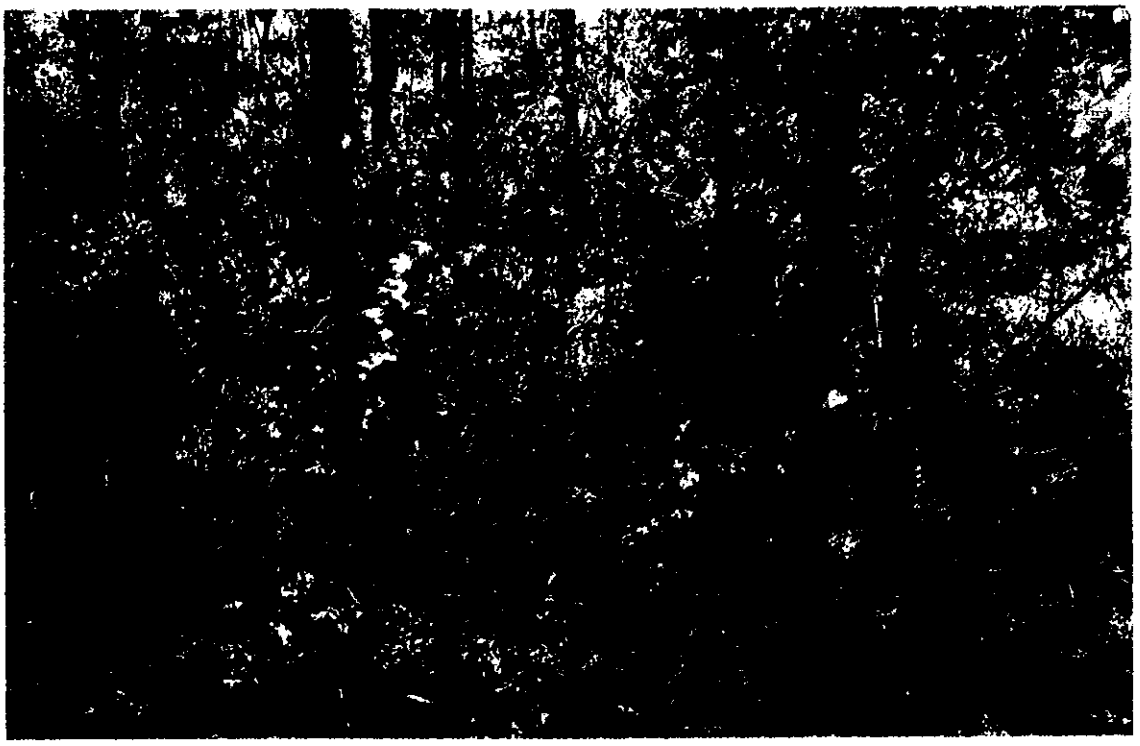

PHOTO 2: Outflow of culvert system to the south of the fenced area.

10.5.6 Reserved

10.5.7 Reserved

10.5.8 Groundwater Quality Data

(Onsite Wells)

Water Quality Laboratory

Analytical Report

3805 Springhill Rd Tallahassee FL 32305
Phone: (850) 891-1200 Fax:(850) 891-1062
Laboratory Certification #E51259
NELAP Accredited

Customer	**Phil Bucci**		
	Electric Dept. - Hopkins	**Report**	**1652**
	Hopkins Power Plant	**Report**	**19-Apr-06**
	Tallahassee, FL 32304	**Projec**	**Hopkins**
	Phon (850) 891-5895		

The test results in this report meet all NELAC requirements unless otherwise noted. Analyses of all solid samples are reported on a dry weight basis. Uncertainty values for reported test analytes may be found in the City of Tallahassee Water Quality Laboratory Quality Manual, which is available upon request.

Jeff Nielsen **Date**

Laboratory Project Manager
Phone (850) 891-1232

Water Quality Laboratory
Laboratory Certification #E51259
NELAP Accredited

Lab#: 06-00885-001
Sample ID: Well #1
Sample Type: Grab
Sample Collection Date / 4/12/200 7:30:00 AM
Sample Receipt Date: 4/12/2006

Report 1652
Report 19-Apr-06
Project Hopkins
Sample Smith

Analysis	Method	Prep Date/Time	Analysis Date/Time	Qualifier / Flag	Result	MDL	PQL	Units	Comments
Carbon, Total Organic	EPA 415.1		4/18/2006 3:00:00	U	**0.80**	0.80	5.00	mg/L	
Fecal Coliform	EPA 600/8		4/12/2006 12:00:00		**<1**	1	1	#/100mL	
Arsenic, Total	EPA 206.2	4/13/2006	4/13/2006 4:10:00		**12.8**	0.52	5.00	ug/L	
Lead, Total	EPA 239.2	4/14/2006	4/13/2006 4:41:00	U	**0.64**	0.64	5.00	ug/L	
Barium, Total	EPA 200.7	4/14/2006	4/14/2006 12:14:00		**5.54**	0.96	5.00	ug/L	
Chromium, Total	EPA 200.7	4/14/2006	4/14/2006 12:14:00	U	**0.56**	0.56	2.50	ug/L	
Copper, Total	EPA 200.7	4/14/2006	4/14/2006 12:14:00	U	**0.34**	0.34	2.50	ug/L	
Iron, Total	EPA 200.7	4/14/2006	4/14/2006 12:14:00	I	**4.70**	4.14	10.00	ug/L	
Manganese, Total	EPA 200.7	4/14/2006	4/14/2006 12:14:00	U	**1.77**	1.77	10.00	ug/L	
Molybdenum, Total	EPA 200.7	4/14/2006	4/14/2006 12:14:00		**74.3**	2.12	10.00	ug/L	
Nickel, Total	EPA 200.7	4/14/2006	4/14/2006 12:14:00	U	**0.97**	0.97	5.00	ug/L	
Nitrogen, Nitrite plus Nitrate	EPA 353.2		4/12/2006 3:07:10	U	**0.014**	0.01	0.040	mg/L as N	
Nitrogen, Total Kjeldahl	EPA 351.2		4/13/2006 12:41:00	U	**0.10**	0.10	0.20	mg/L as N	
Nitrogen, Total Organic	EPA 351.2/35		4/13/2006 12:45:00	U	**0.104**	0.10	0.100	mg/L as N	
Phosphorus, Total	EPA 365.4		4/13/2006 12:28:00	U	**0.04**	0.04	0.10	mg/L as P	

Water Quality Laboratory
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Lab#: 06-00885-001
Sample ID: Well #1
Sample Type: Grab
Sample Collection Date / 4/12/200 7:30:00 AM
Sample Receipt Date: 4/12/2006

Report 1652
Report 19-Apr-06
Project Hopkins
Sample Smith

Analysis	Method	Prep Date/Time	Analysis Date/Time	Qualifier / Flag	Result	MDL	PQL	Units	Comments
1,2,4-Trichlorobenzene	EPA 8270	4/12/2006	4/17/2006 7:53:00	U	**0.830**	0.83	2.000	ug/L	
1,2-Dichlorobenzene	EPA 8270	4/12/2006	4/17/2006 7:53:00	U	**0.810**	0.81	2.000	ug/L	
1,3-Dichlorobenzene	EPA 8270	4/12/2006	4/17/2006 7:53:00	U	**0.830**	0.83	2.000	ug/L	
1,4-Dichlorobenzene	EPA 8270	4/12/2006	4/17/2006 7:53:00	U	**0.840**	0.84	2.000	ug/L	
2,6-Dinitrotoluene	EPA 8270	4/12/2006	4/17/2006 7:53:00	U	**0.610**	0.61	2.000	ug/L	
2-Chloronaphthalene	EPA 8270	4/12/2006	4/17/2006 7:53:00	U	**0.610**	0.61	2.000	ug/L	
3,3-Dichlorbenzidine	EPA 8270	4/12/2006	4/17/2006 7:53:00	U	**0.420**	0.42	2.000	ug/L	
4-Chlorophenylphenyl ether	EPA 8270	4/12/2006	4/17/2006 7:53:00	U	**0.500**	0.5	2.000	ug/L	
Acenaphthene	EPA 8270	4/12/2006	4/17/2006 7:53:00	U	**0.400**	0.4	2.000	ug/L	
Acenaphthylene	EPA 8270	4/12/2006	4/17/2006 7:53:00	U	**0.520**	0.52	2.000	ug/L	
Anthracene	EPA 8270	4/12/2006	4/17/2006 7:53:00	U	**0.400**	0.4	2.000	ug/L	
Benzidiene	EPA 8270	4/12/2006	4/17/2006 7:53:00	U	**1.000**	1	2.000	ug/L	
Benzo(a)anthracene	EPA 8270	4/12/2006	4/17/2006 7:53:00	U	**0.240**	0.24	2.000	ug/L	
Benzo(a)pyrene	EPA 8270	4/12/2006	4/17/2006 7:53:00	U	**0.150**	0.15	2.000	ug/L	
Benzo(b)fluoranthene	EPA 8270	4/12/2006	4/17/2006 7:53:00	U	**0.270**	0.27	2.000	ug/L	
Benzo(ghi)perylene	EPA 8270	4/12/2006	4/17/2006 7:53:00	U	**0.940**	0.94	2.000	ug/L	
Benzo(k)fluoranthene	EPA 8270	4/12/2006	4/17/2006 7:53:00	U	**0.380**	0.38	2.000	ug/L	
Bis(2-chloroethoxy)methane	EPA 8270	4/12/2006	4/17/2006 7:53:00	U	**0.610**	0.61	2.000	ug/L	
Bis(2-chloroethyl)ether	EPA 8270	4/12/2006	4/17/2006 7:53:00	U	**0.510**	0.51	2.000	ug/L	
Bis(2-chloroisopropyl)ether	EPA 8270	4/12/2006	4/17/2006 7:53:00	U	**0.510**	0.51	2.000	ug/L	

Water Quality Laboratory
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Lab#: 06-00885-001
Sample ID: Well #1
Sample Type: Grab
Sample Collection Date / 4/12/200 7:30:00 AM
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Report 1652
Report 19-Apr-06
Project Hopkins
Sample Smith

Analysis	Method	Prep Date/Time	Analysis Date/Time	Qualifier / Flag	Result	MDL	PQL	Units	Comments
Bis(2-ethylhexyl)phthalate	EPA 8270	4/12/2006	4/17/2006 7:53:00	U	**5.000**	5	2.000	ug/L	
Butylbenzylphthalate	EPA 8270	4/12/2006	4/17/2006 7:53:00	U	**0.510**	0.51	2.000	ug/L	
Chrysene	EPA 8270	4/12/2006	4/17/2006 7:53:00	U	**0.250**	0.25	2.000	ug/L	
Dibenzo(ah)anthracene	EPA 8270	4/12/2006	4/17/2006 7:53:00	U	**1.100**	1.1	2.000	ug/L	
Diethylphthalate	EPA 8270	4/12/2006	4/17/2006 7:53:00	U	**0.310**	0.31	2.000	ug/L	
Dimethylphthalate	EPA 8270	4/12/2006	4/17/2006 7:53:00	U	**0.410**	0.41	2.000	ug/L	
Di-n-butylphthalate	EPA 8270	4/12/2006	4/17/2006 7:53:00	U	**0.210**	0.21	2.000	ug/L	
Di-n-octylphthalate	EPA 8270	4/12/2006	4/17/2006 7:53:00	U	**0.320**	0.32	2.000	ug/L	
Fluoranthene	EPA 8270	4/12/2006	4/17/2006 7:53:00	U	**0.400**	0.4	2.000	ug/L	
Fluorene	EPA 8270	4/12/2006	4/17/2006 7:53:00	U	**0.330**	0.33	2.000	ug/L	
Hexachlorobenzene	EPA 8270	4/12/2006	4/17/2006 7:53:00	U	**0.670**	0.67	2.000	ug/L	
Hexachlorobutadiene	EPA 8270	4/12/2006	4/17/2006 7:53:00	U	**0.690**	0.69	2.000	ug/L	
Hexachlorocyclopentadiene	EPA 8270	4/12/2006	4/17/2006 7:53:00	U	**0.990**	0.99	2.000	ug/L	
Hexachloroethane	EPA 8270	4/12/2006	4/17/2006 7:53:00	U	**0.590**	0.59	2.000	ug/L	
Indeno(123cd)pyrene	EPA 8270	4/12/2006	4/17/2006 7:53:00	U	**0.600**	0.6	2.000	ug/L	
Isophorone	EPA 8270	4/12/2006	4/17/2006 7:53:00	U	**0.500**	0.5	2.000	ug/L	
Naphthalene	EPA 8270	4/12/2006	4/17/2006 7:53:00	U	**0.710**	0.71	2.000	ug/L	
Nitrobenzene	EPA 8270	4/12/2006	4/17/2006 7:53:00	U	**0.690**	0.69	2.000	ug/L	
N-nitrosodimethylamine	EPA 8270	4/12/2006	4/17/2006 7:53:00	U	**0.440**	0.44	2.000	ug/L	
N-nitroso-di-n-propylamine	EPA 8270	4/12/2006	4/17/2006 7:53:00	U	**1.300**	1.3	2.000	ug/L	

Water Quality Laboratory
Laboratory Certification #E51259
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Lab#: 06-00885-001
Sample ID: Well #1
Sample Type: Grab
Sample Collection Date / 4/12/200 7:30:00 AM
Sample Receipt Date: 4/12/2006

Report 1652
Report 19-Apr-06
Project Hopkins
Sample Smith

Analysis	Method	Prep Date/Time	Analysis Date/Time	Qualifier / Flag	Result	MDL	PQL	Units	Comments
N-nitrosodiphenylamine	EPA 8270	4/12/2006	4/17/2006 7:53:00	**U**	**1.000**	1	2.000	ug/L	
Phenanthrene	EPA 8270	4/12/2006	4/17/2006 7:53:00	**U**	**0.500**	0.5	2.000	ug/L	
Pyrene	EPA 8270	4/12/2006	4/17/2006 7:53:00	**U**	**0.520**	0.52	2.000	ug/L	
Total Oil (HEM)	EPA 1664		4/14/2006 11:37:00	**U**	**1.7**	1.7	5	mg/L	

Notes

*Special sampling for a site certification modification to facilitate the construction of a new frame 7FA combined cycle unit at tha Hopkins site to replace unit 2

Water Quality Laboratory
Laboratory Certification #E51259
NELAP Accredited

Lab#: 06-00885-002
Sample ID: Well #2
Sample Type: Grab
Sample Collection Date / 4/12/200 7:50:00 AM
Sample Receipt Date: 4/12/2006

Report 1652
Report 19-Apr-06
Project Hopkins
Sample Smith

Analysis	Method	Prep Date/Time	Analysis Date/Time	Qualifier / Flag	Result	MDL	PQL	Units	Comments
Carbon, Total Organic	EPA 415.1		4/18/2006 3:00:00	U	**0.80**	0.80	5.00	mg/L	
Fecal Coliform	EPA 600/8		4/12/2006 12:00:00		**<1**	1	1	#/100mL	
Arsenic, Total	EPA 206.2	4/13/2006	4/13/2006 4:10:00		**9.51**	0.52	5.00	ug/L	
Lead, Total	EPA 239.2	4/14/2006	4/13/2006 4:41:00	U	**0.64**	0.64	5.00	ug/L	
Barium, Total	EPA 200.7	4/14/2006	4/14/2006 12:14:00	I	**4.64**	0.96	5.00	ug/L	
Chromium, Total	EPA 200.7	4/14/2006	4/14/2006 12:14:00	U	**0.56**	0.56	2.50	ug/L	
Copper, Total	EPA 200.7	4/14/2006	4/14/2006 12:14:00	U	**0.34**	0.34	2.50	ug/L	
Iron, Total	EPA 200.7	4/14/2006	4/14/2006 12:14:00	U	**4.14**	4.14	10.00	ug/L	
Manganese, Total	EPA 200.7	4/14/2006	4/14/2006 12:14:00	U	**1.77**	1.77	10.00	ug/L	
Molybdenum, Total	EPA 200.7	4/14/2006	4/14/2006 12:14:00		**38.6**	2.12	10.00	ug/L	
Nickel, Total	EPA 200.7	4/14/2006	4/14/2006 12:14:00	U	**0.97**	0.97	5.00	ug/L	
Nitrogen, Nitrite plus Nitrate	EPA 353.2		4/12/2006 3:08:07	U	**0.014**	0.01	0.040	mg/L as N	
Nitrogen, Total Kjeldahl	EPA 351.2		4/13/2006 12:41:00	U	**0.10**	0.10	0.20	mg/L as N	
Nitrogen, Total Organic	EPA 351.2/35		4/13/2006 12:45:00	U	**0.104**	0.10	0.100	mg/L as N	
Phosphorus, Total	EPA 365.4		4/13/2006 12:28:00	U	**0.04**	0.04	0.10	mg/L as P	

Water Quality Laboratory
Laboratory Certification #E51259
NELAP Accredited

Lab#: 06-00885-002
Sample ID: Well #2
Sample Type: Grab
Sample Collection Date / 4/12/200 7:50:00 AM
Sample Receipt Date: 4/12/2006

Report 1652
Report 19-Apr-06
Project Hopkins
Sample Smith

Analysis	Method	Prep Date/Time	Analysis Date/Time	Qualifier / Flag	Result	MDL	PQL	Units	Comments
1,2,4-Trichlorobenzene	EPA 8270	4/12/2006	4/17/2006 8:24:00	U	**0.830**	0.83	2.000	ug/L	
1,2-Dichlorobenzene	EPA 8270	4/12/2006	4/17/2006 8:24:00	U	**0.810**	0.81	2.000	ug/L	
1,3-Dichlorobenzene	EPA 8270	4/12/2006	4/17/2006 8:24:00	U	**0.830**	0.83	2.000	ug/L	
1,4-Dichlorobenzene	EPA 8270	4/12/2006	4/17/2006 8:24:00	U	**0.840**	0.84	2.000	ug/L	
2,6-Dinitrotoluene	EPA 8270	4/12/2006	4/17/2006 8:24:00	U	**0.610**	0.61	2.000	ug/L	
2-Chloronaphthalene	EPA 8270	4/12/2006	4/17/2006 8:24:00	U	**0.610**	0.61	2.000	ug/L	
3,3-Dichlorbenzidine	EPA 8270	4/12/2006	4/17/2006 8:24:00	U	**0.420**	0.42	2.000	ug/L	
4-Chlorophenylphenyl ether	EPA 8270	4/12/2006	4/17/2006 8:24:00	U	**0.500**	0.5	2.000	ug/L	
Acenaphthene	EPA 8270	4/12/2006	4/17/2006 8:24:00	U	**0.400**	0.4	2.000	ug/L	
Acenaphthylene	EPA 8270	4/12/2006	4/17/2006 8:24:00	U	**0.520**	0.52	2.000	ug/L	
Anthracene	EPA 8270	4/12/2006	4/17/2006 8:24:00	U	**0.400**	0.4	2.000	ug/L	
Benzidiene	EPA 8270	4/12/2006	4/17/2006 8:24:00	U	**1.000**	1	2.000	ug/L	
Benzo(a)anthracene	EPA 8270	4/12/2006	4/17/2006 8:24:00	U	**0.240**	0.24	2.000	ug/L	
Benzo(a)pyrene	EPA 8270	4/12/2006	4/17/2006 8:24:00	U	**0.150**	0.15	2.000	ug/L	
Benzo(b)fluoranthene	EPA 8270	4/12/2006	4/17/2006 8:24:00	U	**0.270**	0.27	2.000	ug/L	
Benzo(ghi)perylene	EPA 8270	4/12/2006	4/17/2006 8:24:00	U	**0.940**	0.94	2.000	ug/L	
Benzo(k)fluoranthene	EPA 8270	4/12/2006	4/17/2006 8:24:00	U	**0.380**	0.38	2.000	ug/L	
Bis(2-chloroethoxy)methane	EPA 8270	4/12/2006	4/17/2006 8:24:00	U	**0.610**	0.61	2.000	ug/L	
Bis(2-chloroethyl)ether	EPA 8270	4/12/2006	4/17/2006 8:24:00	U	**0.510**	0.51	2.000	ug/L	
Bis(2-chloroisopropyl)ether	EPA 8270	4/12/2006	4/17/2006 8:24:00	U	**0.510**	0.51	2.000	ug/L	

Water Quality Laboratory
Laboratory Certification #E51259
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Lab#: 06-00885-002
Sample ID: Well #2
Sample Type: Grab
Sample Collection Date / 4/12/200 7:50:00 AM
Sample Receipt Date: 4/12/2006

Report 1652
Report 19-Apr-06
Project Hopkins
Sample Smith

Analysis	Method	Prep Date/Time	Analysis Date/Time	Qualifier / Flag	Result	MDL	PQL	Units	Comments
Bis(2-ethylhexyl)phthalate	EPA 8270	4/12/2006	4/17/2006 8:24:00	U	**5.000**	5	2.000	ug/L	
Butylbenzylphthalate	EPA 8270	4/12/2006	4/17/2006 8:24:00	U	**0.510**	0.51	2.000	ug/L	
Chrysene	EPA 8270	4/12/2006	4/17/2006 8:24:00	U	**0.250**	0.25	2.000	ug/L	
Dibenzo(ah)anthracene	EPA 8270	4/12/2006	4/17/2006 8:24:00	U	**1.100**	1.1	2.000	ug/L	
Diethylphthalate	EPA 8270	4/12/2006	4/17/2006 8:24:00	U	**0.310**	0.31	2.000	ug/L	
Dimethylphthalate	EPA 8270	4/12/2006	4/17/2006 8:24:00	U	**0.410**	0.41	2.000	ug/L	
Di-n-butylphthalate	EPA 8270	4/12/2006	4/17/2006 8:24:00	U	**0.210**	0.21	2.000	ug/L	
Di-n-octylphthalate	EPA 8270	4/12/2006	4/17/2006 8:24:00	U	**0.320**	0.32	2.000	ug/L	
Fluoranthene	EPA 8270	4/12/2006	4/17/2006 8:24:00	U	**0.400**	0.4	2.000	ug/L	
Fluorene	EPA 8270	4/12/2006	4/17/2006 8:24:00	U	**0.330**	0.33	2.000	ug/L	
Hexachlorobenzene	EPA 8270	4/12/2006	4/17/2006 8:24:00	U	**0.670**	0.67	2.000	ug/L	
Hexachlorobutadiene	EPA 8270	4/12/2006	4/17/2006 8:24:00	U	**0.690**	0.69	2.000	ug/L	
Hexachlorocyclopentadiene	EPA 8270	4/12/2006	4/17/2006 8:24:00	U	**0.990**	0.99	2.000	ug/L	
Hexachloroethane	EPA 8270	4/12/2006	4/17/2006 8:24:00	U	**0.590**	0.59	2.000	ug/L	
Indeno(123cd)pyrene	EPA 8270	4/12/2006	4/17/2006 8:24:00	U	**0.600**	0.6	2.000	ug/L	
Isophorone	EPA 8270	4/12/2006	4/17/2006 8:24:00	U	**0.500**	0.5	2.000	ug/L	
Naphthalene	EPA 8270	4/12/2006	4/17/2006 8:24:00	U	**0.710**	0.71	2.000	ug/L	
Nitrobenzene	EPA 8270	4/12/2006	4/17/2006 8:24:00	U	**0.690**	0.69	2.000	ug/L	
N-nitrosodimethylamine	EPA 8270	4/12/2006	4/17/2006 8:24:00	U	**0.440**	0.44	2.000	ug/L	
N-nitroso-di-n-propylamine	EPA 8270	4/12/2006	4/17/2006 8:24:00	U	**1.300**	1.3	2.000	ug/L	

Water Quality Laboratory
Laboratory Certification #E51259
NELAP Accredited

Lab#: 06-00885-002
Sample ID: Well #2
Sample Type: Grab
Sample Collection Date / 4/12/200 7:50:00 AM
Sample Receipt Date: 4/12/2006

Report 1652
Report 19-Apr-06
Project Hopkins
Sample Smith

Analysis	Method	Prep Date/Time	Analysis Date/Time	Qualifier / Flag	Result	MDL	PQL	Units	Comments
N-nitrosodiphenylamine	EPA 8270	4/12/2006	4/17/2006 8:24:00	**U**	**1.000**	1	2.000	ug/L	
Phenanthrene	EPA 8270	4/12/2006	4/17/2006 8:24:00	**U**	**0.500**	0.5	2.000	ug/L	
Pyrene	EPA 8270	4/12/2006	4/17/2006 8:24:00	**U**	**0.520**	0.52	2.000	ug/L	
Total Oil (HEM)	EPA 1664		4/14/2006 11:37:00	**U**	**1.7**	1.7	5	mg/L	

Notes
*Special sampling for a site certification modification to facilitate the construction of a new frame 7FA combined cycle unit at tha Hopkins site to replace unit 2

Water Quality Laboratory
Laboratory Certification #E51259
NELAP Accredited

Lab#: 06-00885-003
Sample ID: Well #3
Sample Type: Grab
Sample Collection Date / 4/12/200 8:00:00 AM
Sample Receipt Date: 4/12/2006

Report 1652
Report 19-Apr-06
Project Hopkins
Sample Smith

Analysis	Method	Prep Date/Time	Analysis Date/Time	Qualifier / Flag	Result	MDL	PQL	Units	Comments
Carbon, Total Organic	EPA 415.1		4/18/2006 3:00:00	U	**0.80**	0.80	5.00	mg/L	
Fecal Coliform	EPA 600/8		4/12/2006 12:00:00		**<1**	1	1	#/100mL	
Arsenic, Total	EPA 206.2	4/13/2006	4/13/2006 4:10:00	I	**2.12**	0.52	5.00	ug/L	
Lead, Total	EPA 239.2	4/14/2006	4/13/2006 4:41:00	U	**0.64**	0.64	5.00	ug/L	
Barium, Total	EPA 200.7	4/14/2006	4/14/2006 12:14:00		**25.7**	0.96	5.00	ug/L	
Chromium, Total	EPA 200.7	4/14/2006	4/14/2006 12:14:00	U	**0.56**	0.56	2.50	ug/L	
Copper, Total	EPA 200.7	4/14/2006	4/14/2006 12:14:00	I	**0.38**	0.34	2.50	ug/L	
Iron, Total	EPA 200.7	4/14/2006	4/14/2006 12:14:00		**30.2**	4.14	10.00	ug/L	
Manganese, Total	EPA 200.7	4/14/2006	4/14/2006 12:14:00	I	**1.88**	1.77	10.00	ug/L	
Molybdenum, Total	EPA 200.7	4/14/2006	4/14/2006 12:14:00	I	**5.40**	2.12	10.00	ug/L	
Nickel, Total	EPA 200.7	4/14/2006	4/14/2006 12:14:00	U	**0.97**	0.97	5.00	ug/L	
Nitrogen, Nitrite plus Nitrate	EPA 353.2		4/12/2006 3:09:04	U	**0.014**	0.01	0.040	mg/L as N	
Nitrogen, Total Kjeldahl	EPA 351.2		4/13/2006 12:41:00	U	**0.10**	0.10	0.20	mg/L as N	
Nitrogen, Total Organic	EPA 351.2/35		4/13/2006 12:45:00	U	**0.104**	0.10	0.100	mg/L as N	
Phosphorus, Total	EPA 365.4		4/13/2006 12:28:00	U	**0.04**	0.04	0.10	mg/L as P	

Water Quality Laboratory
Laboratory Certification #E51259
NELAP Accredited

Lab#: 06-00885-003
Sample ID: Well #3
Sample Type: Grab
Sample Collection Date / 4/12/200 8:00:00 AM
Sample Receipt Date: 4/12/2006

Report 1652
Report 19-Apr-06
Project Hopkins
Sample Smith

Analysis	Method	Prep Date/Time	Analysis Date/Time	Qualifier / Flag	Result	MDL	PQL	Units	Comments
1,2,4-Trichlorobenzene	EPA 8270	4/12/2006	4/17/2006 8:56:00	U	**0.830**	0.83	2.000	ug/L	
1,2-Dichlorobenzene	EPA 8270	4/12/2006	4/17/2006 8:56:00	U	**0.810**	0.81	2.000	ug/L	
1,3-Dichlorobenzene	EPA 8270	4/12/2006	4/17/2006 8:56:00	U	**0.830**	0.83	2.000	ug/L	
1,4-Dichlorobenzene	EPA 8270	4/12/2006	4/17/2006 8:56:00	U	**0.840**	0.84	2.000	ug/L	
2,6-Dinitrotoluene	EPA 8270	4/12/2006	4/17/2006 8:56:00	U	**0.610**	0.61	2.000	ug/L	
2-Chloronaphthalene	EPA 8270	4/12/2006	4/17/2006 8:56:00	U	**0.610**	0.61	2.000	ug/L	
3,3-Dichlorbenzidine	EPA 8270	4/12/2006	4/17/2006 8:56:00	U	**0.420**	0.42	2.000	ug/L	
4-Chlorophenylphenyl ether	EPA 8270	4/12/2006	4/17/2006 8:56:00	U	**0.500**	0.5	2.000	ug/L	
Acenaphthene	EPA 8270	4/12/2006	4/17/2006 8:56:00	U	**0.400**	0.4	2.000	ug/L	
Acenaphthylene	EPA 8270	4/12/2006	4/17/2006 8:56:00	U	**0.520**	0.52	2.000	ug/L	
Anthracene	EPA 8270	4/12/2006	4/17/2006 8:56:00	U	**0.400**	0.4	2.000	ug/L	
Benzidiene	EPA 8270	4/12/2006	4/17/2006 8:56:00	U	**1.000**	1	2.000	ug/L	
Benzo(a)anthracene	EPA 8270	4/12/2006	4/17/2006 8:56:00	U	**0.240**	0.24	2.000	ug/L	
Benzo(a)pyrene	EPA 8270	4/12/2006	4/17/2006 8:56:00	U	**0.150**	0.15	2.000	ug/L	
Benzo(b)fluoranthene	EPA 8270	4/12/2006	4/17/2006 8:56:00	U	**0.270**	0.27	2.000	ug/L	
Benzo(ghi)perylene	EPA 8270	4/12/2006	4/17/2006 8:56:00	U	**0.940**	0.94	2.000	ug/L	
Benzo(k)fluoranthene	EPA 8270	4/12/2006	4/17/2006 8:56:00	U	**0.380**	0.38	2.000	ug/L	
Bis(2-chloroethoxy)methane	EPA 8270	4/12/2006	4/17/2006 8:56:00	U	**0.610**	0.61	2.000	ug/L	
Bis(2-chloroethyl)ether	EPA 8270	4/12/2006	4/17/2006 8:56:00	U	**0.510**	0.51	2.000	ug/L	
Bis(2-chloroisopropyl)ether	EPA 8270	4/12/2006	4/17/2006 8:56:00	U	**0.510**	0.51	2.000	ug/L	

Water Quality Laboratory
Laboratory Certification #E51259
NELAP Accredited

Lab#: 06-00885-003
Sample ID: Well #3
Sample Type: Grab
Sample Collection Date / 4/12/200 8:00:00 AM
Sample Receipt Date: 4/12/2006

Report 1652
Report 19-Apr-06
Project Hopkins
Sample Smith

Analysis	Method	Prep Date/Time	Analysis Date/Time	Qualifier / Flag	Result	MDL	PQL	Units	Comments
Bis(2-ethylhexyl)phthalate	EPA 8270	4/12/2006	4/17/2006 8:56:00	**U**	**5.000**	5	2.000	ug/L	
Butylbenzylphthalate	EPA 8270	4/12/2006	4/17/2006 8:56:00	**U**	**0.510**	0.51	2.000	ug/L	
Chrysene	EPA 8270	4/12/2006	4/17/2006 8:56:00	**U**	**0.250**	0.25	2.000	ug/L	
Dibenzo(ah)anthracene	EPA 8270	4/12/2006	4/17/2006 8:56:00	**U**	**1.100**	1.1	2.000	ug/L	
Diethylphthalate	EPA 8270	4/12/2006	4/17/2006 8:56:00	**U**	**0.310**	0.31	2.000	ug/L	
Dimethylphthalate	EPA 8270	4/12/2006	4/17/2006 8:56:00	**U**	**0.410**	0.41	2.000	ug/L	
Di-n-butylphthalate	EPA 8270	4/12/2006	4/17/2006 8:56:00	**U**	**0.210**	0.21	2.000	ug/L	
Di-n-octylphthalate	EPA 8270	4/12/2006	4/17/2006 8:56:00	**U**	**0.320**	0.32	2.000	ug/L	
Fluoranthene	EPA 8270	4/12/2006	4/17/2006 8:56:00	**U**	**0.400**	0.4	2.000	ug/L	
Fluorene	EPA 8270	4/12/2006	4/17/2006 8:56:00	**U**	**0.330**	0.33	2.000	ug/L	
Hexachlorobenzene	EPA 8270	4/12/2006	4/17/2006 8:56:00	**U**	**0.670**	0.67	2.000	ug/L	
Hexachlorobutadiene	EPA 8270	4/12/2006	4/17/2006 8:56:00	**U**	**0.690**	0.69	2.000	ug/L	
Hexachlorocyclopentadiene	EPA 8270	4/12/2006	4/17/2006 8:56:00	**U**	**0.990**	0.99	2.000	ug/L	
Hexachloroethane	EPA 8270	4/12/2006	4/17/2006 8:56:00	**U**	**0.590**	0.59	2.000	ug/L	
Indeno(123cd)pyrene	EPA 8270	4/12/2006	4/17/2006 8:56:00	**U**	**0.600**	0.6	2.000	ug/L	
Isophorone	EPA 8270	4/12/2006	4/17/2006 8:56:00	**U**	**0.500**	0.5	2.000	ug/L	
Naphthalene	EPA 8270	4/12/2006	4/17/2006 8:56:00	**U**	**0.710**	0.71	2.000	ug/L	
Nitrobenzene	EPA 8270	4/12/2006	4/17/2006 8:56:00	**U**	**0.690**	0.69	2.000	ug/L	
N-nitrosodimethylamine	EPA 8270	4/12/2006	4/17/2006 8:56:00	**U**	**0.440**	0.44	2.000	ug/L	
N-nitroso-di-n-propylamine	EPA 8270	4/12/2006	4/17/2006 8:56:00	**U**	**1.300**	1.3	2.000	ug/L	

Water Quality Laboratory
Laboratory Certification #E51259
NELAP Accredited

Lab#: 06-00885-003
Sample ID: Well #3
Sample Type: Grab
Sample Collection Date / 4/12/200 8:00:00 AM
Sample Receipt Date: 4/12/2006

Report 1652
Report 19-Apr-06
Project Hopkins
Sample Smith

Analysis	Method	Prep Date/Time	Analysis Date/Time	Qualifier / Flag	Result	MDL	PQL	Units	Comments
N-nitrosodiphenylamine	EPA 8270	4/12/2006	4/17/2006 8:56:00	**U**	**1.000**	1	2.000	ug/L	
Phenanthrene	EPA 8270	4/12/2006	4/17/2006 8:56:00	**U**	**0.500**	0.5	2.000	ug/L	
Pyrene	EPA 8270	4/12/2006	4/17/2006 8:56:00	**U**	**0.520**	0.52	2.000	ug/L	
Total Oil (HEM)	EPA 1664		4/14/2006 11:37:00	**U**	**1.7**	1.7	5	mg/L	

Notes
*Special sampling for a site certification modification to facilitate the construction of a new frame 7FA combined cycle unit at tha Hopkins site to replace unit 2

Water Quality Laboratory
Laboratory Certification #E51259
NELAP Accredited

Lab#: 06-00885-004
Sample ID: Well #4
Sample Type: Grab
Sample Collection Date / 4/12/200 7:40:00 AM
Sample Receipt Date: 4/12/2006

Report 1652
Report 19-Apr-06
Project Hopkins
Sample Smith

Analysis	Method	Prep Date/Time	Analysis Date/Time	Qualifier / Flag	Result	MDL	PQL	Units	Comments
Carbon, Total Organic	EPA 415.1		4/18/2006 3:00:00	I	**1.93**	0.80	5.00	mg/L	
Fecal Coliform	EPA 600/8		4/12/2006 12:00:00		**<1**	1	1	#/100mL	
Arsenic, Total	EPA 206.2	4/13/2006	4/13/2006 4:10:00	I	**2.69**	0.52	5.00	ug/L	
Lead, Total	EPA 239.2	4/14/2006	4/13/2006 4:41:00	U	**0.64**	0.64	5.00	ug/L	
Barium, Total	EPA 200.7	4/14/2006	4/14/2006 12:14:00		**30.3**	0.96	5.00	ug/L	
Chromium, Total	EPA 200.7	4/14/2006	4/14/2006 12:14:00	U	**0.56**	0.56	2.50	ug/L	
Copper, Total	EPA 200.7	4/14/2006	4/14/2006 12:14:00	U	**0.34**	0.34	2.50	ug/L	
Iron, Total	EPA 200.7	4/14/2006	4/14/2006 12:14:00	I	**6.01**	4.14	10.00	ug/L	
Manganese, Total	EPA 200.7	4/14/2006	4/14/2006 12:14:00	U	**1.77**	1.77	10.00	ug/L	
Molybdenum, Total	EPA 200.7	4/14/2006	4/14/2006 12:14:00	I	**7.49**	2.12	10.00	ug/L	
Nickel, Total	EPA 200.7	4/14/2006	4/14/2006 12:14:00	U	**0.97**	0.97	5.00	ug/L	
Nitrogen, Nitrite plus Nitrate	EPA 353.2		4/12/2006 3:10:02	U	**0.014**	0.01	0.040	mg/L as N	
Nitrogen, Total Kjeldahl	EPA 351.2		4/13/2006 12:41:00	U	**0.10**	0.10	0.20	mg/L as N	
Nitrogen, Total Organic	EPA 351.2/35		4/13/2006 12:45:00	U	**0.104**	0.10	0.100	mg/L as N	
Phosphorus, Total	EPA 365.4		4/13/2006 12:28:00	U	**0.04**	0.04	0.10	mg/L as P	

Water Quality Laboratory
Laboratory Certification #E51259
NELAP Accredited

Lab#: 06-00885-004
Sample ID: Well #4
Sample Type: Grab
Sample Collection Date / 4/12/200 7:40:00 AM
Sample Receipt Date: 4/12/2006

Report 1652
Report 19-Apr-06
Project Hopkins
Sample Smith

Analysis	Method	Prep Date/Time	Analysis Date/Time	Qualifier / Flag	Result	MDL	PQL	Units	Comments
1,2,4-Trichlorobenzene	EPA 8270	4/12/2006	4/17/2006 9:27:00	**U**	**0.830**	0.83	2.000	ug/L	
1,2-Dichlorobenzene	EPA 8270	4/12/2006	4/17/2006 9:27:00	**U**	**0.810**	0.81	2.000	ug/L	
1,3-Dichlorobenzene	EPA 8270	4/12/2006	4/17/2006 9:27:00	**U**	**0.830**	0.83	2.000	ug/L	
1,4-Dichlorobenzene	EPA 8270	4/12/2006	4/17/2006 9:27:00	**U**	**0.840**	0.84	2.000	ug/L	
2,6-Dinitrotoluene	EPA 8270	4/12/2006	4/17/2006 9:27:00	**U**	**0.610**	0.61	2.000	ug/L	
2-Chloronaphthalene	EPA 8270	4/12/2006	4/17/2006 9:27:00	**U**	**0.610**	0.61	2.000	ug/L	
3,3-Dichlorbenzidine	EPA 8270	4/12/2006	4/17/2006 9:27:00	**U**	**0.420**	0.42	2.000	ug/L	
4-Chlorophenylphenyl ether	EPA 8270	4/12/2006	4/17/2006 9:27:00	**U**	**0.500**	0.5	2.000	ug/L	
Acenaphthene	EPA 8270	4/12/2006	4/17/2006 9:27:00	**U**	**0.400**	0.4	2.000	ug/L	
Acenaphthylene	EPA 8270	4/12/2006	4/17/2006 9:27:00	**U**	**0.520**	0.52	2.000	ug/L	
Anthracene	EPA 8270	4/12/2006	4/17/2006 9:27:00	**U**	**0.400**	0.4	2.000	ug/L	
Benzidiene	EPA 8270	4/12/2006	4/17/2006 9:27:00	**U**	**1.000**	1	2.000	ug/L	
Benzo(a)anthracene	EPA 8270	4/12/2006	4/17/2006 9:27:00	**U**	**0.240**	0.24	2.000	ug/L	
Benzo(a)pyrene	EPA 8270	4/12/2006	4/17/2006 9:27:00	**U**	**0.150**	0.15	2.000	ug/L	
Benzo(b)fluoranthene	EPA 8270	4/12/2006	4/17/2006 9:27:00	**U**	**0.270**	0.27	2.000	ug/L	
Benzo(ghi)perylene	EPA 8270	4/12/2006	4/17/2006 9:27:00	**U**	**0.940**	0.94	2.000	ug/L	
Benzo(k)fluoranthene	EPA 8270	4/12/2006	4/17/2006 9:27:00	**U**	**0.380**	0.38	2.000	ug/L	
Bis(2-chloroethoxy)methane	EPA 8270	4/12/2006	4/17/2006 9:27:00	**U**	**0.610**	0.61	2.000	ug/L	
Bis(2-chloroethyl)ether	EPA 8270	4/12/2006	4/17/2006 9:27:00	**U**	**0.510**	0.51	2.000	ug/L	
Bis(2-chloroisopropyl)ether	EPA 8270	4/12/2006	4/17/2006 9:27:00	**U**	**0.510**	0.51	2.000	ug/L	

Water Quality Laboratory
Laboratory Certification #E51259
NELAP Accredited

Lab#: 06-00885-004
Sample ID: Well #4
Sample Type: Grab
Sample Collection Date / 4/12/200 7:40:00 AM
Sample Receipt Date: 4/12/2006

Report 1652
Report 19-Apr-06
Project Hopkins
Sample Smith

Analysis	Method	Prep Date/Time	Analysis Date/Time	Qualifier / Flag	Result	MDL	PQL	Units	Comments
Bis(2-ethylhexyl)phthalate	EPA 8270	4/12/2006	4/17/2006 9:27:00	U	**5.000**	5	2.000	ug/L	
Butylbenzylphthalate	EPA 8270	4/12/2006	4/17/2006 9:27:00	U	**0.510**	0.51	2.000	ug/L	
Chrysene	EPA 8270	4/12/2006	4/17/2006 9:27:00	U	**0.250**	0.25	2.000	ug/L	
Dibenzo(ah)anthracene	EPA 8270	4/12/2006	4/17/2006 9:27:00	U	**1.100**	1.1	2.000	ug/L	
Diethylphthalate	EPA 8270	4/12/2006	4/17/2006 9:27:00	U	**0.310**	0.31	2.000	ug/L	
Dimethylphthalate	EPA 8270	4/12/2006	4/17/2006 9:27:00	U	**0.410**	0.41	2.000	ug/L	
Di-n-butylphthalate	EPA 8270	4/12/2006	4/17/2006 9:27:00	U	**0.210**	0.21	2.000	ug/L	
Di-n-octylphthalate	EPA 8270	4/12/2006	4/17/2006 9:27:00	U	**0.320**	0.32	2.000	ug/L	
Fluoranthene	EPA 8270	4/12/2006	4/17/2006 9:27:00	U	**0.400**	0.4	2.000	ug/L	
Fluorene	EPA 8270	4/12/2006	4/17/2006 9:27:00	U	**0.330**	0.33	2.000	ug/L	
Hexachlorobenzene	EPA 8270	4/12/2006	4/17/2006 9:27:00	U	**0.670**	0.67	2.000	ug/L	
Hexachlorobutadiene	EPA 8270	4/12/2006	4/17/2006 9:27:00	U	**0.690**	0.69	2.000	ug/L	
Hexachlorocyclopentadiene	EPA 8270	4/12/2006	4/17/2006 9:27:00	U	**0.990**	0.99	2.000	ug/L	
Hexachloroethane	EPA 8270	4/12/2006	4/17/2006 9:27:00	U	**0.590**	0.59	2.000	ug/L	
Indeno(123cd)pyrene	EPA 8270	4/12/2006	4/17/2006 9:27:00	U	**0.600**	0.6	2.000	ug/L	
Isophorone	EPA 8270	4/12/2006	4/17/2006 9:27:00	U	**0.500**	0.5	2.000	ug/L	
Naphthalene	EPA 8270	4/12/2006	4/17/2006 9:27:00	U	**0.710**	0.71	2.000	ug/L	
Nitrobenzene	EPA 8270	4/12/2006	4/17/2006 9:27:00	U	**0.690**	0.69	2.000	ug/L	
N-nitrosodimethylamine	EPA 8270	4/12/2006	4/17/2006 9:27:00	U	**0.440**	0.44	2.000	ug/L	
N-nitroso-di-n-propylamine	EPA 8270	4/12/2006	4/17/2006 9:27:00	U	**1.300**	1.3	2.000	ug/L	

Water Quality Laboratory
Laboratory Certification #E51259
NELAP Accredited

Lab#: 06-00885-004
Sample ID: Well #4
Sample Type: Grab
Sample Collection Date / 4/12/200 7:40:00 AM
Sample Receipt Date: 4/12/2006

Report 1652
Report 19-Apr-06
Project Hopkins
Sample Smith

Analysis	Method	Prep Date/Time	Analysis Date/Time	Qualifier / Flag	Result	MDL	PQL	Units	Comments
N-nitrosodiphenylamine	EPA 8270	4/12/2006	4/17/2006 9:27:00	**U**	**1.000**	1	2.000	ug/L	
Phenanthrene	EPA 8270	4/12/2006	4/17/2006 9:27:00	**U**	**0.500**	0.5	2.000	ug/L	
Pyrene	EPA 8270	4/12/2006	4/17/2006 9:27:00	**U**	**0.520**	0.52	2.000	ug/L	
Total Oil (HEM)	EPA 1664		4/14/2006 11:37:00	**U**	**1.7**	1.7	5	mg/L	

Notes

*Special sampling for a site certification modification to facilitate the construction of a new frame 7FA combined cycle unit at tha Hopkins site to replace unit 2

Qualifier

B	Results based on colony counts outside the acceptable range.
I	The reported value is between the MDL and PQL.
K	Off-scale low. The value is less than the lowest calibration point.
N	Presumptive evidence of presence of material.
Q	Sample held beyond acceptable holding time.
U	Undetected.
Y	Analysis performed on improperly preserved sample.
E	Extra samples were taken at composite stations.
J	Estimated value. See explanation.
L	Off-scale high. The value is above the highest point of the calibration curve.
O	Sample not analyzed. See explanation.
T	Value is less than Detection Limit.
V	Analyte was detected in both the sample and Method Blank.

Legend:

OOS = Out of Service

DRY = Insufficient Volume to

REJ = Data Rejected

Quanti / Total

<1.0 = Absence

Total Coliform TCMF

<	Absence - No Colonies
+	1-50 Non Coliform Colonies
++	51-100 Non Coliform Colonies
+++	101-150 Non Coliform Colonies
CONFL	Confluent >150 Non Coliform

E. Coli

A =	Absence (No Gas)
P =	Presence (Gas)

10.5.9 Hopkins Station Wastewater Discharge Quality Data

Part 1 – 2000 – 2005 Analytical Data

A.B. HOPKINS GENERATING STATION
SITE CERTIFICATION MONITORING PROGRAM
QUARTERLY CHEMICAL MONITORING REPORT
POINT OF DISCHARGE (D001) AND MIXING ZONE

MONTH/YR: MARCH/01
ANALYST: Mike Schnelling
LAB: City of Tallahassee
Water Quality LAB

QUARTERLY ANALYSIS	UNIT	POD (D001)	MZ (1037X10979)
TOTAL IRON	ug/l Fe	81.2	XXXX
TOTAL MERCURY DETECTION LIMIT (0.52 ug/l)	ug/l Hg	BDL	XXXX
TOTAL CHROMIUM DETECTION LIMIT (0.78 ug/l)	ug/l Cr	1.6	XXXX
TOTAL COPPER	ug/l Cu	XXXX	12.8
TOTAL LEAD DETECTION LIMIT (0.50 ug/l)	ug/l Pb	BDL	XXXX

Comments:

POD (Point of Discharge - D001 - Discharge canal located at property line on State Road 1585.)

Mixing Zone - Beaver Creek approximately 800 meters downstream of Hopkins Plant POD.

BDL - Below Detection Limit.

A.B. HOPKINS GENERATING STATION
SITE CERTIFICATION MONITORING PROGRAM
QUARTERLY CHEMICAL MONITORING REPORT
POINT OF DISCHARGE (D001) AND MIXING ZONE

MONTH/YR: APRIL-JUNE/01
ANALYST: Mike Schnelling
LAB: City of Tallahassee
Water Quality LAB

QUARTERLY ANALYSIS	UNIT	POD (D001)	MZ (1037X10979)
TOTAL IRON	ug/l Fe	67.2	XXXX
TOTAL MERCURY DETECTION LIMIT (0.52 ug/l)	ug/1 Hg	BDL	XXXX
TOTAL CHROMIUM DETECTION LIMIT (0.78 ug/l)	ug/l Cr	BDL	XXXX
TOTAL COPPER	ug/l Cu	XXXX	8.0
TOTAL LEAD DETECTION LIMIT (0.50 ug/l)	ug/l Pb	BDL	XXXX

Comments:

POD (Point of Discharge - D001 - Discharge canal located at property line on State Road 1585.)

Mixing Zone - Beaver Creek approximately 800 meters downstream of Hopkins Plant POD.

BDL - Below Detection Limit.

A.B. HOPKINS GENERATING STATION
SITE CERTIFICATION MONITORING PROGRAM
QUARTERLY CHEMICAL MONITORING REPORT
POINT OF DISCHARGE (D001) AND MIXING ZONE

MONTH/YR: SEPTEMBER/01
ANALYST: Mike Schnelling
LAB: City of Tallahassee
Water Quality LAB

QUARTERLY ANALYSIS	UNIT	POD (D001)	MZ (1037X10979)
TOTAL IRON	ug/l Fe	90.4	XXXX
TOTAL MERCURY DETECTION LIMIT (0.52 ug/l)	ug/l Hg	BDL	XXXX
TOTAL CHROMIUM DETECTION LIMIT (0.78 ug/l)	ug/l Cr	1.0	XXXX
TOTAL COPPER	ug/l Cu	XXXX	6.8
TOTAL LEAD DETECTION LIMIT (0.50 ug/l)	ug/l Pb	BDL	XXXX

Comments:

POD (Point of Discharge - D001 - Discharge canal located at property line on State Road 1585.)

Mixing Zone - Beaver Creek approximately 800 meters downstream of Hopkins Plant POD.

BDL - Below Detection Limit.

A.B. HOPKINS GENERATING STATION
SITE CERTIFICATION MONITORING PROGRAM
QUARTERLY CHEMICAL MONITORING REPORT
POINT OF DISCHARGE (D001) AND MIXING ZONE

MONTH/YR: DECEMBER/01
ANALYST: Mike Schnelling
LAB: City of Tallahassee
Water Quality LAB

QUARTERLY ANALYSIS	UNIT	POD (D001)	MZ (1037X10979)
TOTAL IRON	ug/l Fe	18.4	XXXX
TOTAL MERCURY DETECTION LIMIT (0.52 ug/l)	ug/l Hg	BDL	XXXX
TOTAL CHROMIUM DETECTION LIMIT (0.78 ug/l)	ug/l Cr	BDL	XXXX
TOTAL COPPER	ug/l Cu	XXXX	7.4
TOTAL LEAD DETECTION LIMIT (0.50 ug/l)	ug/l Pb	BDL	XXXX

Comments:

POD (Point of Discharge - D001 - Discharge canal located at property line on State Road 1585.)

Mixing Zone - Beaver Creek approximately 800 meters downstream of Hopkins Plant POD.

BDL - Below Detection Limit.

A.B. HOPKINS GENERATING STATION
SITE CERTIFICATION MONITORING PROGRAM
QUARTERLY CHEMICAL MONITORING REPORT
POINT OF DISCHARGE (D001) AND MIXING ZONE

MONTH/YR: MAR/03
ANALYST: Mike Schnelling
LAB: City of Tallahassee
Water Quality LAB

QUARTERLY ANALYSIS	UNIT	POD (D001)	MZ (1037X10979)
TOTAL IRON	ug/l Fe	79.6	XXXX
TOTAL MERCURY DETECTION LIMIT (0.52 ug/l)	ug/l Hg	BDL	XXXX
TOTAL CHROMIUM DETECTION LIMIT (0.78 ug/l)	ug/l Cr	1.9	XXXX
TOTAL COPPER	ug/l Cu	XXXX	18.5
TOTAL LEAD DETECTION LIMIT (0.50 ug/l)	ug/l Pb	BDL	XXXX

Comments:

POD (Point of Discharge - D001 - Discharge canal located at property line on State Road 1585.)

Mixing Zone - Beaver Creek approximately 800 meters downstream of Hopkins Plant POD.

BDL - Below Detection Limit.

A.B. HOPKINS GENERATING STATION
SITE CERTIFICATION MONITORING PROGRAM
QUARTERLY CHEMICAL MONITORING REPORT
POINT OF DISCHARGE (D001) AND MIXING ZONE

MONTH/YR: JUNE/03
ANALYST: Mike Schnelling
LAB: City of Tallahassee
Water Quality LAB

QUARTERLY ANALYSIS	UNIT	POD (D001)	MZ (1037X10979)
TOTAL IRON	ug/l Fe	0.0	XXXX
TOTAL MERCURY DETECTION LIMIT (0.52 ug/l)	ug/l Hg	0.0	XXXX
TOTAL CHROMIUM DETECTION LIMIT (0.78 ug/l)	ug/l Cr	0.0	XXXX
TOTAL COPPER	ug/l Cu	XXXX	10.5
TOTAL LEAD DETECTION LIMIT (0.50 ug/l)	ug/l Pb	0.0	XXXX

Comments:

POD (Point of Discharge - D001 - Discharge canal located at property line on State Road 1585.)

Mixing Zone - Beaver Creek approximately 800 meters downstream of Hopkins Plant POD.

BDL - Below Detection Limit.

A.B. HOPKINS GENERATING STATION
SITE CERTIFICATION MONITORING PROGRAM
QUARTERLY CHEMICAL MONITORING REPORT
POINT OF DISCHARGE (D001) AND MIXING ZONE

MONTH/YR: JULY - SEPT/03
ANALYST: Mike Schnelling
LAB: City of Tallahassee
Water Quality LAB

QUARTERLY ANALYSIS	UNIT	POD (D001)	MZ (1037X10979)
TOTAL IRON	ug/l Fe	85.4	XXXX
TOTAL MERCURY DETECTION LIMIT (0.52 ug/l)	ug/l Hg	BDL	XXXX
TOTAL CHROMIUM DETECTION LIMIT (0.78 ug/l)	ug/l Cr	BDL	XXXX
TOTAL COPPER	ug/l Cu	XXXX	13.3
TOTAL LEAD DETECTION LIMIT (0.50 ug/l)	ug/l Pb	BDL	XXXX

Comments:

POD (Point of Discharge - D001 - Discharge canal located at property line on State Road 1585.)

Mixing Zone - Beaver Creek approximately 800 meters downstream of Hopkins Plant POD.

BDL - Below Detection Limit.

A.B. HOPKINS GENERATING STATION
SITE CERTIFICATION MONITORING PROGRAM
QUARTERLY CHEMICAL MONITORING REPORT
POINT OF DISCHARGE (D001) AND MIXING ZONE

MONTH/YR: OCT-DEC/03
ANALYST: Mike Schnelling
LAB: City of Tallahassee
Water Quality LAB

QUARTERLY ANALYSIS	UNIT	POD (D001)	MZ (1037X10979)
TOTAL IRON	ug/l Fe	49.6	XXXX
TOTAL MERCURY DETECTION LIMIT (0.52 ug/l)	ug/l Hg	BDL	XXXX
TOTAL CHROMIUM DETECTION LIMIT (0.78 ug/l)	ug/l Cr		XXXX
TOTAL COPPER	ug/l Cu	XXXX	23.6
TOTAL LEAD DETECTION LIMIT (0.50 ug/l)	ug/l Pb	BDL	XXXX

Comments:

POD (Point of Discharge - D001 - Discharge canal located at property line on State Road 1585.)

Mixing Zone - Beaver Creek approximately 800 meters downstream of Hopkins Plant POD.

BDL - Below Detection Limit.

A.B. HOPKINS GENERATING STATION
SITE CERTIFICATION MONITORING PROGRAM
QUARTERLY CHEMICAL MONITORING REPORT
POINT OF DISCHARGE (D001) AND MIXING ZONE

MONTH/YR: 1st QTR/04
ANALYST: Mike Schnelling
LAB: City of Tallahassee
Water Quality LAB

QUARTERLY ANALYSIS	UNIT	POD (D001)	MZ (1037X10979)
TOTAL IRON	ug/l Fe	66.2	XXXX
TOTAL MERCURY DETECTION LIMIT (0.52 ug/l)	ug/1 Hg	BDL	XXXX
TOTAL CHROMIUM DETECTION LIMIT (0.78 ug/l)	ug/l Cr	1.6	XXXX
TOTAL COPPER	ug/l Cu	XXXX	13.9
TOTAL LEAD DETECTION LIMIT (0.50 ug/l)	ug/l Pb	BDL	XXXX

Comments:

POD (Point of Discharge - D001 - Discharge canal located at property line on State Road 1585.)

Mixing Zone - Beaver Creek approximately 800 meters downstream of Hopkins Plant POD.

BDL - Below Detection Limit.

A.B. HOPKINS GENERATING STATION
SITE CERTIFICATION MONITORING PROGRAM
QUARTERLY CHEMICAL MONITORING REPORT
POINT OF DISCHARGE (D001) AND MIXING ZONE

MONTH/YR: 3rdQTR /04
ANALYST: Mike Schnelling
LAB: City of Tallahassee
Water Quality LAB

QUARTERLY ANALYSIS	UNIT	POD (D001)	MZ (1037X10979)
TOTAL IRON	ug/l Fe	53.6	XXXX
TOTAL MERCURY DETECTION LIMIT (0.52 ug/l)	ug/1 Hg	BDL	XXXX
TOTAL CHROMIUM DETECTION LIMIT (0.78 ug/l)	ug/l Cr	BDL	XXXX
TOTAL COPPER	ug/l Cu	XXXX	15.4
TOTAL LEAD DETECTION LIMIT (0.50 ug/l)	ug/l Pb	BDL	XXXX

Comments:

POD (Point of Discharge - D001 - Discharge canal located at property line on State Road 1585.)

Mixing Zone - Beaver Creek approximately 800 meters downstream of Hopkins Plant POD.

BDL - Below Detection Limit.

A.B. HOPKINS GENERATING STATION
SITE CERTIFICATION MONITORING PROGRAM
QUARTERLY CHEMICAL MONITORING REPORT
POINT OF DISCHARGE (D001) AND MIXING ZONE

MONTH/YR: 4th QTR /04
ANALYST: Mike Schnelling
LAB: City of Tallahassee
Water Quality LAB

QUARTERLY ANALYSIS	UNIT	POD (D001)	MZ (1037X10979)
TOTAL IRON	ug/l Fe	164	XXXX
TOTAL MERCURY DETECTION LIMIT (0.52 ug/l)	ug/l Hg	BDL	XXXX
TOTAL CHROMIUM DETECTION LIMIT (0.78 ug/l)	ug/l Cr	BDL	XXXX
TOTAL COPPER	ug/l Cu	XXXX	9.41
TOTAL LEAD DETECTION LIMIT (0.50 ug/l)	ug/l Pb	BDL	XXXX

Comments:

POD (Point of Discharge - D001 - Discharge canal located at property line on State Road 1585.)

Mixing Zone - Beaver Creek approximately 800 meters downstream of Hopkins Plant POD.

BDL - Below Detection Limit.

A.B. HOPKINS GENERATING STATION
SITE CERTIFICATION MONITORING PROGRAM
QUARTERLY CHEMICAL MONITORING REPORT
POINT OF DISCHARGE (D001) AND MIXING ZONE

MONTH/YR: MARCH/05
ANALYST: Mike Schnelling
LAB: City of Tallahassee
Water Quality LAB

QUARTERLY ANALYSIS	UNIT	POD (D001)	MZ (1037X10979)
TOTAL IRON	ug/l Fe	69.6	XXXX
TOTAL MERCURY DETECTION LIMIT (0.52 ug/l)	ug/l Hg	0.52	XXXX
TOTAL CHROMIUM DETECTION LIMIT (0.56 ug/l)	ug/l Cr	5.18	XXXX
TOTAL COPPER	ug/l Cu	XXXX	18.2
TOTAL LEAD DETECTION LIMIT (0.50 ug/l)	ug/l Pb	0.50	XXXX

Comments:

POD (Point of Discharge - D001 - Discharge canal located at property line on State Road 1585.)

Mixing Zone - Beaver Creek approximately 800 meters downstream of Hopkins Plant POD.

BDL - Below Detection Limit.

A.B. HOPKINS GENERATING STATION
SITE CERTIFICATION MONITORING PROGRAM
QUARTERLY CHEMICAL MONITORING REPORT
POINT OF DISCHARGE (D001) AND MIXING ZONE

MONTH/YR: APR-JUN/05
ANALYST: Mike Schnelling
LAB: City of Tallahassee
Water Quality LAB

QUARTERLY ANALYSIS	UNIT	POD (D001)	MZ (1037X10979)
TOTAL IRON	ug/l Fe	50.1	XXXX
TOTAL MERCURY DETECTION LIMIT (0.52 ug/l)	ug/l Hg	0.52	XXXX
TOTAL CHROMIUM DETECTION LIMIT (0.78 ug/l)	ug/l Cr	0.78	XXXX
TOTAL COPPER	ug/l Cu	XXXX	18.0
TOTAL LEAD DETECTION LIMIT (0.50 ug/l)	ug/l Pb	0.50	XXXX

Comments:

POD (Point of Discharge - D001 - Discharge canal located at property line on State Road 1585.)

Mixing Zone - Beaver Creek approximately 800 meters downstream of Hopkins Plant POD.

BDL - Below Detection Limit.

A.B. HOPKINS GENERATING STATION
SITE CERTIFICATION MONITORING PROGRAM
QUARTERLY CHEMICAL MONITORING REPORT
POINT OF DISCHARGE (D001) AND MIXING ZONE

MONTH/YR: 3rd QTR
ANALYST: Mike Schnelling
LAB: City of Tallahassee
Water Quality LAB

QUARTERLY ANALYSIS	UNIT	POD (D001)	MZ (1037X10979)
TOTAL IRON	ug/l Fe	60.8	XXXX
TOTAL MERCURY DETECTION LIMIT (0.52 ug/l)	ug/l Hg	0.52	XXXX
TOTAL CHROMIUM DETECTION LIMIT (0.78 ug/l)	ug/l Cr	0.78	XXXX
TOTAL COPPER	ug/l Cu	XXXX	28.0
TOTAL LEAD DETECTION LIMIT (0.50 ug/l)	ug/l Pb	0.64	XXXX

Comments:

POD (Point of Discharge - D001 - Discharge canal located at property line on State Road 1585.)

Mixing Zone - Beaver Creek approximately 800 meters downstream of Hopkins Plant POD.

BDL - Below Detection Limit.

A.B. HOPKINS GENERATING STATION
SITE CERTIFICATION MONITORING PROGRAM
QUARTERLY CHEMICAL MONITORING REPORT
POINT OF DISCHARGE (D001) AND MIXING ZONE

MONTH/YR: 4THQTR/05
ANALYST: Mike Schnelling
LAB: City of Tallahassee
Water Quality LAB

QUARTERLY ANALYSIS	UNIT	POD (D001)	MZ (1037X10979)
TOTAL IRON	ug/l Fe	37.3	XXXX
TOTAL MERCURY DETECTION LIMIT (0.03 ug/l)	ug/l Hg	0.03	XXXX
TOTAL CHROMIUM DETECTION LIMIT (0.56 ug/l)	ug/l Cr	0.56	XXXX
TOTAL COPPER	ug/l Cu	XXXX	13.6
TOTAL LEAD DETECTION LIMIT (0.64 ug/l)	ug/l Pb	0.64	XXXX

Comments:

POD (Point of Discharge - D001 - Discharge canal located at property line on State Road 1585.)

Mixing Zone - Beaver Creek approximately 800 meters downstream of Hopkins Plant POD.

BDL - Below Detection Limit.

Part 2 – 2006 Analytical Data

CITY OF TALLAHASSEE

Water Quality Division
3805 Springhill Rd.
Tallahassee, FL. 32310
850 891 1200 voice
850 891 1062 fax

NELAP Accredited
Laboratory Certification # E51259

Customer Information:
Electric T&D
Electric Department
City of Tallahasse
2602 Jackson Bluff Rd.
Tallahassee
(850) 891-5007

Sample # **02-03065**
Group # **0032739**
Sample Matrix Type: **Aqueous / GRAB**

Sample ID **POD D001**
Sample Site **Hopkins**
Sampled **4/15/02 8:10 am**

PLANT DISCHARGE

Parameter	Method	Results/Units		Det. Limit/Units		Preparation Date/Time	Date/Time Analyzed	Analyst
Alkalinity	ALK-EPA 310.1	RM	mg/L CaCO3	1.00	mg/L CaCO3		4/15/02 3:00:00PM	sharon
Arsenic, Total by Furnace	As-EPA 206.2/SM3113B	5.41	ug/L	1.20	ug/L	4/16/02 2:30:20PM	4/22/02 10:02:51AM	mike
BOD, Carbonaceous 5 Day @ 20C	CBOD5	<3	mg/L	2.00	mg/L		4/22/02 11:30:51AM	rusty
Cadmium, Total	Cd-EPA 213.2/SM3113B	<0.06	ug/L	0.29	ug/L	4/16/02 2:30:20PM	4/24/02 11:16:18AM	mike
Cyanide, Total	CN	pending	mg/L	2.00	mg/L			
Chemical Oxygen Demand	COD	<20	mg/L	19.00	mg/L		5/1/02 12:00:00AM	rusty
Cobalt, Total	Co-EPA 219.2/SM3113B	<0.64	ug/L	1.40	ug/L	4/16/02 11:51:55AM	4/30/02 1:04:04PM	mike
Fecal Coliform MF	FCMF	61	#/100mL	1.00	#/100mL		4/17/02 11:30:47AM	joni
Fluoride	FLUORIDE	RM	mg/L	0.02	mg/L		4/16/02 4:00:00PM	sharon
Hardness	Hardness-EPA 130.2	RM	mg/L CaCO3	5.70	mg/L CaCO3		4/15/02 3:00:00PM	sharon
Mercury, Total	Hg-CV-EPA 245.1	<0.18	ug/L	0.52	ug/L		4/22/02 1:37:35PM	mike
Silver, Total by ICP	ICP-EPA 200.7/6010	<0.0	ug/L	5.00	ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Aluminum, Total by ICP	ICP-EPA 200.7/6010	<8.3	ug/L	10.00	ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Barium, Total by ICP	ICP-EPA 200.7/6010	78.7	ug/L	10.00	ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Beryllium, Total by ICP	ICP-EPA 200.7/6010	<0.0	ug/L	1.00	ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Cobalt, Total by ICP	ICP-EPA 200.7/6010	RM	ug/L	4.00	ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Chromium, Total by ICP	ICP-EPA 200.7/6010	3.2	ug/L	2.50	ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Copper, Total by ICP	ICP-EPA 200.7/6010	23.1	ug/L	3.40	ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Iron, Total by ICP	ICP-EPA 200.7/6010	128	ug/L	10.00	ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Manganese, Total by ICP	ICP-EPA 200.7/6010	<2.3	ug/L	1.00	ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Molybdenum, Total by ICP	ICP-EPA 200.7/6010	RM	ug/L	5.00	ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Nickel, Total by ICP	ICP-EPA 200.7/6010	3.2	ug/L	6.00	ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Zinc, Total by ICP	ICP-EPA 200.7/6010	9.6	ug/L	5.00	ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Molybdenum, Total	Mo-EPA 246.2/SM3113B	17.7	ug/L	1.20	ug/L	4/16/02 11:51:55AM	4/29/02 10:16:04AM	mike

CITY OF TALLAHASSEE

Water Quality Division
3805 Springhill Rd.
Tallahassee, FL. 32310
850 891 1200 voice
850 891 1062 fax

NELAP Accredited
Laboratory Certification # E51259

Customer Information:

Electric T&D
Electric Department
City of Tallahasse
2602 Jackson Bluff Rd.
Tallahassee
(850) 891-5007

Sample # **02-03065**
Group # **0032739**
Sample Matrix Type: **Aqueous / GRAB**

Sample ID **POD D001**
Sample Site **Hopkins**
Sampled **4/15/02 8:10 am**

Parameter	Method	Results/Units		Det. Limit/Units		Preparation Date/Time	Date/Time Analyzed	Analyst
Nitrogen, Ammonia	NH3	<0.008	mg/L as N	0.01	mg/L as N		4/19/02 2:06:20PM	susan
Nitrogen, Nitrite plus Nitrate	NO2/NO3	0.077	mg/L as N	0.01	mg/L as N		4/17/02 2:51:40PM	susan
Odor, Threshold	ODOR-EPA 140.1	RM	T.O.N.	0.00	T.O.N.		4/16/02 4:00:00PM	sharon
Lead, Total	Pb-EPA 239.2/SM3113B	<0.16	ug/L	0.50	ug/L	4/16/02 2:30:20PM	4/22/02 1:13:52PM	mike
Antimony, Total	Sb-EPA 204.2/SM3113B	<1.14	ug/L	0.86	ug/L	4/16/02 2:30:20PM	4/25/02 3:50:23PM	mike
Selenium, Total by Furnace	Se-EPA 270.2/SM3113B	<0.08	ug/L	1.80	ug/L	4/16/02 2:30:20PM	4/19/02 3:44:25PM	mike
Tin, Total	Sn-EPA 282.2/SM3113B	<0.7	ug/L	7.18	ug/L	4/16/02 2:30:20PM	4/29/02 3:58:55PM	mike
2,4,6-Trichlorophenol	SV-EPA 8270-AF	<4.0J	ug/L	0.43	ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
2,4-Dichlorophenol	SV-EPA 8270-AF	<4.0J	ug/L	0.90	ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
2,4-dimethylphenol	SV-EPA 8270-AF	<4.0J	ug/L	0.48	ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
2,4-dimethylphenol	SV-EPA 8270-AF	<2.0	ug/L	0.65	ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
2-Chlorophenol	SV-EPA 8270-AF	<2.0	ug/L	0.45	ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
2-methyl-4,6-dinitrophenol	SV-EPA 8270-AF	<2.0	ug/L	0.64	ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
2-nitrophenol	SV-EPA 8270-AF	<4.0J	ug/L	0.47	ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
4-chloro-3-methylphenol	SV-EPA 8270-AF	<2.0	ug/L	0.77	ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
4-nitrophenol	SV-EPA 8270-AF	<2.0	ug/L	0.44	ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
Pentachlorophenol	SV-EPA 8270-AF	<2.0	ug/L	0.80	ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
Phenol	SV-EPA 8270-AF	<2.0	ug/L	0.10	ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
1,2,4-trichlorobenzene	SV-EPA 8270-BN	<20J	ug/L	1.90	ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
1,2-Dichlorobenzene	SV-EPA 8270-BN	<20J	ug/L	1.90	ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
1,3-Dichlorobenzene	SV-EPA 8270-BN	<20J	ug/L	1.90	ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
1,4-Dichlorobenzene	SV-EPA 8270-BN	<20J	ug/L	2.00	ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
2,4-Dinitrotoluene	SV-EPA 8270-BN	<2.0	ug/L	2.00	ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
2,6-dinitrotoluene	SV-EPA 8270-BN	<2.0	ug/L	1.90	ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL

CITY OF TALLAHASSEE

Water Quality Division
3805 Springhill Rd.
Tallahassee, FL. 32310
850 891 1200 voice
850 891 1062 fax

NELAP Accredited
Laboratory Certification # E51259

Customer Information:

Electric T&D
Electric Department
City of Tallahasse
2602 Jackson Bluff Rd.
Tallahassee
(850) 891-5007

Sample # 02-03065
Group # 0032739
Sample Matrix Type: Aqueous / GRAB

Sample ID POD D001
Sample Site Hopkins
Sampled 4/15/02 8:10 am

Parameter	Method	Results/Units	Det. Limit/Units	Preparation Date/Time	Date/Time Analyzed	Analyst
2-Chloronaphthalene	SV-EPA 8270-BN	<8.0J ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
3,3-Dichlorbenzidine	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
4-Bromophenylphenyl ether	SV-EPA 8270-BN	<2.0 ug/L	1.90 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
4-Chlorophenylphenyl ether	SV-EPA 8270-BN	<4.0J ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Acenaphthene	SV-EPA 8270-BN	<4.0J ug/L	1.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Acenaphthylene	SV-EPA 8270-BN	<4.0J ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Anthracene	SV-EPA 8270-BN	<2.0 ug/L	1.90 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Benzidine	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Benzo(a)anthracene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Benzo(a)pyrene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Benzo(b)fluoranthene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Benzo(ghi)perylene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Benzo(k)fluoranthene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Bis(2-chloroethoxy)methane	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Bis(2-chloroethyl)ether	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Bis(2-chloroisopropyl)ether	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Bis(2-ethylhexyl)phthalate	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Butylbenzylphthalate	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Chrysene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Dibenzo(ah)anthracene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Diethylphthalate	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Dimethylphthalate	SV-EPA 8270-BN	<2.0 ug/L	1.60 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Di-n-butylphthalate	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Di-n-octylphthalate	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL

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Customer Information:

Electric T&D
Electric Department
City of Tallahasse
2602 Jackson Bluff Rd.
Tallahassee
(850) 891-5007

Sample # **02-03065**
Group # **0032739**
Sample Matrix Type: **Aqueous / GRAB**

Sample ID **POD D001**
Sample Site **Hopkins**
Sampled **4/15/02 8:10 am**

Parameter	Method	Results/Units	Det. Limit/Units	Preparation Date/Time	Date/Time Analyzed	Analyst
Fluoranthene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Fluorene	SV-EPA 8270-BN	<4.0J ug/L	1.90 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Hexachlorobenzene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Hexachlorobutadiene	SV-EPA 8270-BN	<40J ug/L	0.90 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Hexachlorocyclopentadiene	SV-EPA 8270-BN	<40J ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Hexachloroethane	SV-EPA 8270-BN	<40J ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Indeno(123cd)pyrene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Isophorone	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Naphthalene	SV-EPA 8270-BN	<8.0J ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Nitrobenzene	SV-EPA 8270-BN	<4.0J ug/L	1.90 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
N-nitrosodimethylamine	SV-EPA 8270-BN	<4.0J ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
N-nitroso-di-n-propylamine	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
N-nitrosodiphenylamine	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Phenanthrene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Pyrene	SV-EPA 8270-BN	<2.0 ug/L	1.90 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
4,4'-DDD	SV-EPA 8270-CP	<2.0 ug/L	0.51 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
4,4'-DDE	SV-EPA 8270-CP	<2.0 ug/L	0.56 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
4,4'-DDT	SV-EPA 8270-CP	<2.0 ug/L	0.38 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
A-BHC	SV-EPA 8270-CP	<2.0 ug/L	0.28 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Aldrin	SV-EPA 8270-CP	<2.0 ug/L	0.59 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Aroclor 1016	SV-EPA 8270-CP	<10 ug/L	2.00 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Aroclor 1221	SV-EPA 8270-CP	<10 ug/L	2.00 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Aroclor 1232	SV-EPA 8270-CP	<10 ug/L	2.00 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Aroclor 1242	SV-EPA 8270-CP	<10 ug/L	2.00 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL

CITY OF TALLAHASSEE

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Customer Information:

Electric T&D
Electric Department
City of Tallahasse
2602 Jackson Bluff Rd.
Tallahassee
(850) 891-5007

Sample # 02-03065
Group # 0032739
Sample Matrix Type: Aqueous / GRAB

Sample ID POD D001
Sample Site Hopkins
Sampled 4/15/02 8:10 am

Parameter	Method	Results/Units	Det. Limit/Units	Preparation Date/Time	Date/Time Analyzed	Analyst
Aroclor 1248	SV-EPA 8270-CP	<10 ug/L	2.00 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Aroclor 1254	SV-EPA 8270-CP	<10 ug/L	2.00 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Aroclor 1260	SV-EPA 8270-CP	<10 ug/L	2.00 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
B-BHC	SV-EPA 8270-CP	<2.0 ug/L	0.36 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Chlordane	SV-EPA 8270-CP	<10 ug/L	2.00 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
D-BHC	SV-EPA 8270-CP	<2.0 ug/L	0.23 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Dieldrin	SV-EPA 8270-CP	<10 ug/L	0.65 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Endosulfan I	SV-EPA 8270-CP	<2.0 ug/L	0.85 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Endosulfan II	SV-EPA 8270-CP	<2.0 ug/L	0.76 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Endosulfan Sulfate	SV-EPA 8270-CP	<2.0 ug/L	0.42 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Endrin	SV-EPA 8270-CP	<2.0 ug/L	0.64 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Endrin Aldehyde	SV-EPA 8270-CP	<2.0 ug/L	0.50 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
G-BHC(lindane)	SV-EPA 8270-CP	<2.0 ug/L	0.37 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Heptachlor	SV-EPA 8270-CP	<2.0 ug/L	0.41 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Heptachlor epoxide	SV-EPA 8270-CP	<2.0 ug/L	0.34 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Methoxychlor	SV-EPA 8270-CP	<2.0 ug/L	0.32 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Toxaphene	SV-EPA 8270-CP	<10 ug/L	10.80 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Residue,Total Filterable @180C	TDS	RM mg/L	13.70 mg/L		4/15/02 3:00:00PM	susan
Nitrogen, Total Kjeldahl	TKN	0.30 mg/L as N	0.18 mg/L as N		4/30/02 3:01:13PM	susan
Thallium, Total	Tl-EPA 279.2/SM3113B	<0.49 ug/L	0.62 ug/L	4/16/02 2:30:20PM	4/26/02 3:53:21PM	mike
Carbon, Total Organic	TOC	6.82 mg/L	0.80 mg/L		4/18/02 2:30:07PM	june
Total Oil1 (HEM)	TOG1664	8.67 mg/L	1.40 mg/L		4/23/02 9:44:36AM	JOE
Nitrogen, Total Organic	TON	0.292 mg/L	0.07 mg/L		4/30/02 3:10:03PM	susan
Phosphorus, Total	TP	0.37 mg/L as P	0.04 mg/L as P		4/22/02 10:48:21AM	susan

CITY OF TALLAHASSEE

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Customer Information:

Electric T&D
Electric Department
City of Tallahasse
2602 Jackson Bluff Rd.
Tallahassee
(850) 891-5007

Sample # 02-03065
Group # 0032739
Sample Matrix Type: Aqueous / GRAB

Sample ID POD D001
Sample Site Hopkins
Sampled 4/15/02 8:10 am

Parameter	Method	Results/Units	Det. Limit/Units	Preparation Date/Time	Date/Time Analyzed	Analyst
Total Phenolics	TPHENOLS	pending mg/L	0.00 mg/L			
Residue,Total Nonfilt @103-105	TSS-EPA 160.1	<5 mg/L	10.00 mg/L		4/18/02 11:00:00AM	sharon
1,1,1,2-Tetrachloroethane	VOC-EPA 8260	<0.50 ug/L	0.09 ug/L		4/22/02 3:35:07PM	andy
1,1,1-Trichloroethane	VOC-EPA 8260	<0.50 ug/L	0.08 ug/L		4/22/02 3:35:07PM	andy
1,1,2,2-Tetrachloroethane	VOC-EPA 8260	<0.50 ug/L	0.18 ug/L		4/22/02 3:35:07PM	andy
1,1,2-Trichloroethane	VOC-EPA 8260	<0.50 ug/L	0.13 ug/L		4/22/02 3:35:07PM	andy
1,1-Dichloroethane	VOC-EPA 8260	<0.50 ug/L	0.04 ug/L		4/22/02 3:35:07PM	andy
1,1-Dichloroethylene	VOC-EPA 8260	<0.50 ug/L	0.05 ug/L		4/22/02 3:35:07PM	andy
1,1-Dichloropropene	VOC-EPA 8260	<0.50 ug/L	0.12 ug/L		4/22/02 3:35:07PM	andy
1,2,3-Trichlorobenzene	VOC-EPA 8260	<0.50 ug/L	0.18 ug/L		4/22/02 3:35:07PM	andy
1,2,3-Trichloropropane	VOC-EPA 8260	<0.50 ug/L	0.09 ug/L		4/22/02 3:35:07PM	andy
1,2,4-Trichlorobenzene	VOC-EPA 8260	<0.50 ug/L	0.30 ug/L		4/22/02 3:35:07PM	andy
1,2,4-Trimethylbenzene	VOC-EPA 8260	<0.50 ug/L	0.10 ug/L		4/22/02 3:35:07PM	andy
1,2-Dibromo-3-chloropropane	VOC-EPA 8260	<0.50 ug/L	0.88 ug/L		4/22/02 3:35:07PM	andy
1,2-Dibromoethane	VOC-EPA 8260	<0.50 ug/L	0.15 ug/L		4/22/02 3:35:07PM	andy
1,2-Dichlorobenzene	VOC-EPA 8260	<0.50 ug/L	0.06 ug/L		4/22/02 3:35:07PM	andy
1,2-Dichloroethane	VOC-EPA 8260	<0.50 ug/L	0.07 ug/L		4/22/02 3:35:07PM	andy
1,2-Dichloropropane	VOC-EPA 8260	<0.50 ug/L	0.08 ug/L		4/22/02 3:35:07PM	andy
1,3,5-Trimethylbenzene	VOC-EPA 8260	<0.50 ug/L	0.13 ug/L		4/22/02 3:35:07PM	andy
1,3-Dichlorobenzene	VOC-EPA 8260	<0.50 ug/L	0.07 ug/L		4/22/02 3:35:07PM	andy
1,3-Dichloropropane	VOC-EPA 8260	<0.50 ug/L	0.08 ug/L		4/22/02 3:35:07PM	andy
1,4-Dichlorobenzene	VOC-EPA 8260	<0.50 ug/L	0.10 ug/L		4/22/02 3:35:07PM	andy
2,2-Dichloropropane	VOC-EPA 8260	<0.50 ug/L	0.06 ug/L		4/22/02 3:35:07PM	andy
2-Chlorotoluene	VOC-EPA 8260	<0.50 ug/L	0.06 ug/L		4/22/02 3:35:07PM	andy

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Sample # 02-03065
Group # 0032739
Sample Matrix Type: Aqueous / GRAB

Sample ID POD D001
Sample Site Hopkins
Sampled 4/15/02 8:10 am

Parameter	Method	Results/Units	Det. Limit/Units	Preparation Date/Time	Date/Time Analyzed	Analyst
4-Chlorotoluene	VOC-EPA 8260	<0.50 ug/L	0.08 ug/L		4/22/02 3:35:07PM	andy
Benzene	VOC-EPA 8260	<0.50 ug/L	0.04 ug/L		4/22/02 3:35:07PM	andy
Bromobenzene	VOC-EPA 8260	<0.50 ug/L	0.07 ug/L		4/22/02 3:35:07PM	andy
Bromochloromethane	VOC-EPA 8260	<0.50 ug/L	0.10 ug/L		4/22/02 3:35:07PM	andy
Bromodichloromethane	VOC-EPA 8260	<0.50 ug/L	0.11 ug/L		4/22/02 3:35:07PM	andy
Bromoform	VOC-EPA 8260	<0.50 ug/L	0.21 ug/L		4/22/02 3:35:07PM	andy
Bromomethane	VOC-EPA 8260	<0.50 ug/L	0.16 ug/L		4/22/02 3:35:07PM	andy
Carbon tetrachloride	VOC-EPA 8260	<0.50 ug/L	0.11 ug/L		4/22/02 3:35:07PM	andy
Chlorobenzene	VOC-EPA 8260	<0.50 ug/L	0.07 ug/L		4/22/02 3:35:07PM	andy
Chloroethane	VOC-EPA 8260	<0.50 ug/L	0.11 ug/L		4/22/02 3:35:07PM	andy
Chloroform	VOC-EPA 8260	<0.50 ug/L	0.04 ug/L		4/22/02 3:35:07PM	andy
Chloromethane	VOC-EPA 8260	<0.50 ug/L	0.07 ug/L		4/22/02 3:35:07PM	andy
cis-1,2-Dichloroethylene	VOC-EPA 8260	<0.50 ug/L	0.10 ug/L		4/22/02 3:35:07PM	andy
cis-1,3-Dichloropropylene	VOC-EPA 8260	<0.50 ug/L	0.13 ug/L		4/22/02 3:35:07PM	andy
Dibromochloromethane	VOC-EPA 8260	<0.50 ug/L	0.12 ug/L		4/22/02 3:35:07PM	andy
Dibromomethane	VOC-EPA 8260	<0.50 ug/L	0.13 ug/L		4/22/02 3:35:07PM	andy
Dichlorodifluoromethane	VOC-EPA 8260	<0.50 ug/L	0.12 ug/L		4/22/02 3:35:07PM	andy
Ethylbenzene	VOC-EPA 8260	<0.50 ug/L	0.06 ug/L		4/22/02 3:35:07PM	andy
Hexachlorobutadiene	VOC-EPA 8260	<0.50 ug/L	0.40 ug/L		4/22/02 3:35:07PM	andy
Isopropylbenzene	VOC-EPA 8260	<0.50 ug/L	0.05 ug/L		4/22/02 3:35:07PM	andy
Methylene chloride	VOC-EPA 8260	<0.50 ug/L	0.11 ug/L		4/22/02 3:35:07PM	andy
MTBE	VOC-EPA 8260	<0.50 ug/L	0.09 ug/L		4/22/02 3:35:07PM	andy
Naphthalene	VOC-EPA 8260	<0.50 ug/L	0.15 ug/L		4/22/02 3:35:07PM	andy
n-Butylbenzene	VOC-EPA 8260	<0.50 ug/L	0.11 ug/L		4/22/02 3:35:07PM	andy

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Sample # 02-03065
Group # 0032739
Sample Matrix Type: Aqueous / GRAB

Sample ID POD D001
Sample Site Hopkins
Sampled 4/15/02 8:10 am

Parameter	Method	Results/Units	Det. Limit/Units	Preparation Date/Time	Date/Time Analyzed	Analyst
n-Propylbenzene	VOC-EPA 8260	<0.50 ug/L	0.06 ug/L		4/22/02 3:35:07PM	andy
o-Xylene	VOC-EPA 8260	<0.50 ug/L	0.05 ug/L		4/22/02 3:35:07PM	andy
p,m-Xylene	VOC-EPA 8260	<1.00 ug/L	0.08 ug/L		4/22/02 3:35:07PM	andy
p-Isopropyltoluene	VOC-EPA 8260	<0.50 ug/L	0.08 ug/L		4/22/02 3:35:07PM	andy
s-Butylbenzene	VOC-EPA 8260	<0.50 ug/L	0.06 ug/L		4/22/02 3:35:07PM	andy
Styrene	VOC-EPA 8260	<0.50 ug/L	0.08 ug/L		4/22/02 3:35:07PM	andy
t-Butylbenzene	VOC-EPA 8260	<0.50 ug/L	0.10 ug/L		4/22/02 3:35:07PM	andy
Tetrachloroethylene	VOC-EPA 8260	<0.50 ug/L	0.08 ug/L		4/22/02 3:35:07PM	andy
Toluene	VOC-EPA 8260	<0.50 ug/L	0.07 ug/L		4/22/02 3:35:07PM	andy
trans-1,2-Dichloroethylene	VOC-EPA 8260	<0.50 ug/L	0.10 ug/L		4/22/02 3:35:07PM	andy
trans-1,3-Dichloropropylene	VOC-EPA 8260	<0.50 ug/L	0.08 ug/L		4/22/02 3:35:07PM	andy
Trichloroethylene	VOC-EPA 8260	<0.50 ug/L	0.10 ug/L		4/22/02 3:35:07PM	andy
Trichlorofluoromethane	VOC-EPA 8260	<0.50 ug/L	0.11 ug/L		4/22/02 3:35:07PM	andy
Vinyl chloride	VOC-EPA 8260	<0.50 ug/L	0.07 ug/L		4/22/02 3:35:07PM	andy

Sampled by : C.Smith

pH = pH Units Temperature = Degrees C
Conductivity = uS DO = mg/L

Total Cl2 = mg/L

Qualifiers
< or T = Less than Detection Limit
U = Undetected
RM = Requested by mistake
NG = Not Given

CITY OF TALLAHASSEE

Water Quality Division
3805 Springhill Rd.
Tallahassee, FL. 32310
850 891 1200 voice
850 891 1062 fax

NELAP Accredited
Laboratory Certification # E51259

Customer Information:

Electric T&D
Electric Department
City of Tallahasse
2602 Jackson Bluff Rd.
Tallahassee
(850) 891-5007

Sample # 02-03066
Group # 0032739
Sample Matrix Type: Aqueous / GRAB

Sample ID #2CT D0172 UNIT 2 BLOWDOWN
Sample Site Hopkins
Sampled 4/15/02 9:12 am

Parameter	Method	Results/Units		Det. Limit/Units		Preparation Date/Time	Date/Time Analyzed	Analyst
Alkalinity	ALK-EPA 310.1	RM	mg/L CaCO3	1.00	mg/L CaCO3		4/15/02 3:00:00PM	sharon
Arsenic, Total by Furnace	As-EPA 206.2/SM3113B	4.81	ug/L	1.20	ug/L	4/16/02 2:30:20PM	4/22/02 10:02:51AM	mike
BOD, Carbonaceous 5 Day @ 20C	CBOD5	<3	mg/L	2.00	mg/L		4/22/02 11:30:51AM	rusty
Cadmium, Total	Cd-EPA 213.2/SM3113B	<0.01	ug/L	0.29	ug/L	4/16/02 2:30:20PM	4/24/02 11:16:18AM	mike
Cyanide, Total	CN	pending	mg/L	2.00	mg/L			
Chemical Oxygen Demand	COD	<20	mg/L	19.00	mg/L		5/1/02 12:00:00AM	rusty
Cobalt, Total	Co-EPA 219.2/SM3113B	<0.30	ug/L	1.40	ug/L	4/16/02 11:51:55AM	4/30/02 1:04:04PM	mike
Fecal Coliform MF	FCMF	60	#/100mL	1.00	#/100mL		4/17/02 11:30:47AM	joni
Fluoride	FLUORIDE	RM	mg/L	0.02	mg/L		4/16/02 4:00:00PM	sharon
Hardness	Hardness-EPA 130.2	RM	mg/L CaCO3	5.70	mg/L CaCO3		4/15/02 3:00:00PM	sharon
Mercury, Total	Hg-CV-EPA 245.1	<0.19	ug/L	0.52	ug/L		4/22/02 1:37:35PM	mike
Silver, Total by ICP	ICP-EPA 200.7/6010	<0.0	ug/L	5.00	ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Aluminum, Total by ICP	ICP-EPA 200.7/6010	<0.0	ug/L	10.00	ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Barium, Total by ICP	ICP-EPA 200.7/6010	89.5	ug/L	10.00	ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Beryllium, Total by ICP	ICP-EPA 200.7/6010	<0.0	ug/L	1.00	ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Cobalt, Total by ICP	ICP-EPA 200.7/6010	RM	ug/L	4.00	ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Chromium, Total by ICP	ICP-EPA 200.7/6010	3.3	ug/L	2.50	ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Copper, Total by ICP	ICP-EPA 200.7/6010	29.9	ug/L	3.40	ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Iron, Total by ICP	ICP-EPA 200.7/6010	137	ug/L	10.00	ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Manganese, Total by ICP	ICP-EPA 200.7/6010	3.4	ug/L	1.00	ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Molybdenum, Total by ICP	ICP-EPA 200.7/6010	RM	ug/L	5.00	ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Nickel, Total by ICP	ICP-EPA 200.7/6010	6.1	ug/L	6.00	ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Zinc, Total by ICP	ICP-EPA 200.7/6010	<0.0	ug/L	5.00	ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Molybdenum, Total	Mo-EPA 246.2/SM3113B	14.3	ug/L	1.20	ug/L	4/16/02 11:51:55AM	4/29/02 10:16:04AM	mike

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Electric Department
City of Tallahasse
2602 Jackson Bluff Rd.
Tallahassee
(850) 891-5007

Sample # 02-03066
Group # 0032739
Sample Matrix Type: Aqueous / GRAB

Sample ID #2CT D017
Sample Site Hopkins
Sampled 4/15/02 9:12 am

Parameter	Method	Results/Units	Det. Limit/Units	Preparation Date/Time	Date/Time Analyzed	Analyst
Nitrogen, Ammonia	NH3	<0.00 mg/L as N	0.01 mg/L as N		4/19/02 2:06:20PM	susan
Nitrogen, Nitrite plus Nitrate	NO2/NO3	0.054 mg/L as N	0.01 mg/L as N		4/17/02 2:51:40PM	susan
Odor, Threshold	ODOR-EPA 140.1	RM T.O.N.	0.00 T.O.N.		4/16/02 4:00:00PM	sharon
Lead, Total	Pb-EPA 239.2/SM3113B	0.58 ug/L	0.50 ug/L	4/16/02 2:30:20PM	4/22/02 1:13:52PM	mike
Antimony, Total	Sb-EPA 204.2/SM3113B	<1.15 ug/L	0.86 ug/L	4/16/02 2:30:20PM	4/25/02 3:50:23PM	mike
Selenium, Total by Furnace	Se-EPA 270.2/SM3113B	<0.26 ug/L	1.80 ug/L	4/16/02 2:30:20PM	4/19/02 3:44:25PM	mike
Tin, Total	Sn-EPA 282.2/SM3113B	<0.4 ug/L	7.18 ug/L	4/16/02 2:30:20PM	4/29/02 3:58:55PM	mike
2,4,6-Trichlorophenol	SV-EPA 8270-AF	<4.0J ug/L	0.43 ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
2,4-Dichlorophenol	SV-EPA 8270-AF	<4.0J ug/L	0.90 ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
2,4-dimethylphenol	SV-EPA 8270-AF	<4.0J ug/L	0.48 ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
2,4-dimethylphenol	SV-EPA 8270-AF	<2.0 ug/L	0.65 ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
2-Chlorophenol	SV-EPA 8270-AF	<2.0 ug/L	0.45 ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
2-methyl-4,6-dinitrophenol	SV-EPA 8270-AF	<2.0 ug/L	0.64 ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
2-nitrophenol	SV-EPA 8270-AF	<4.0J ug/L	0.47 ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
4-chloro-3-methylphenol	SV-EPA 8270-AF	<2.0 ug/L	0.77 ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
4-nitrophenol	SV-EPA 8270-AF	<2.0 ug/L	0.44 ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
Pentachlorophenol	SV-EPA 8270-AF	<2.0 ug/L	0.80 ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
Phenol	SV-EPA 8270-AF	<2.0 ug/L	0.10 ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
1,2,4-trichlorobenzene	SV-EPA 8270-BN	<20J ug/L	1.90 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
1,2-Dichlorobenzene	SV-EPA 8270-BN	<20J ug/L	1.90 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
1,3-Dichlorobenzene	SV-EPA 8270-BN	<20J ug/L	1.90 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
1,4-Dichlorobenzene	SV-EPA 8270-BN	<20J ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
2,4-Dinitrotoluene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
2,6-dinitrotoluene	SV-EPA 8270-BN	<2.0 ug/L	1.90 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL

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Customer Information:

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Electric Department
City of Tallahasse
2602 Jackson Bluff Rd.
Tallahassee
(850) 891-5007

Sample # 02-03066
Group # 0032739
Sample Matrix Type: Aqueous / GRAB

Sample ID #2CT D017
Sample Site Hopkins
Sampled 4/15/02 9:12 am

Parameter	Method	Results/Units	Det. Limit/Units	Preparation Date/Time	Date/Time Analyzed	Analyst
2-Chloronaphthalene	SV-EPA 8270-BN	<4.0J ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
3,3-Dichlorbenzidine	SV-EPA 8270-BN	<4.0J ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
4-Bromophenylphenyl ether	SV-EPA 8270-BN	<4.0J ug/L	1.90 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
4-Chlorophenylphenyl ether	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Acenaphthene	SV-EPA 8270-BN	<2.0 ug/L	1.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Acenaphthylene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Anthracene	SV-EPA 8270-BN	<2.0 ug/L	1.90 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Benzidine	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Benzo(a)anthracene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Benzo(a)pyrene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Benzo(b)fluoranthene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Benzo(ghi)perylene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Benzo(k)fluoranthene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Bis(2-chloroethoxy)methane	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Bis(2-chloroethyl)ether	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Bis(2-chloroisopropyl)ether	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Bis(2-ethylhexyl)phthalate	SV-EPA 8270-BN	3.65 ~~<2.0 ug/L~~	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Butylbenzylphthalate	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Chrysene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Dibenzo(ah)anthracene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Diethylphthalate	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Dimethylphthalate	SV-EPA 8270-BN	<2.0 ug/L	1.60 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Di-n-butylphthalate	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Di-n-octylphthalate	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL

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(850) 891-5007

Sample # 02-03066
Group # 0032739
Sample Matrix Type: Aqueous / GRAB

Sample ID #2CT D017
Sample Site Hopkins
Sampled 4/15/02 9:12 am

Parameter	Method	Results/Units	Det. Limit/Units	Preparation Date/Time	Date/Time Analyzed	Analyst
Fluoranthene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Fluorene	SV-EPA 8270-BN	<4.0J ug/L	1.90 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Hexachlorobenzene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Hexachlorobutadiene	SV-EPA 8270-BN	<40J ug/L	0.90 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Hexachlorocyclopentadiene	SV-EPA 8270-BN	<40J ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Hexachloroethane	SV-EPA 8270-BN	<40J ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Indeno(123cd)pyrene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Isophorone	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Naphthalene	SV-EPA 8270-BN	<8.0J ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Nitrobenzene	SV-EPA 8270-BN	<4.0J ug/L	1.90 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
N-nitrosodimethylamine	SV-EPA 8270-BN	<4.0J ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
N-nitroso-di-n-propylamine	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
N-nitrosodiphenylamine	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Phenanthrene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Pyrene	SV-EPA 8270-BN	<2.0 ug/L	1.90 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
4,4'-DDD	SV-EPA 8270-CP	<2.0 ug/L	0.51 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
4,4'-DDE	SV-EPA 8270-CP	<2.0 ug/L	0.56 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
4,4'-DDT	SV-EPA 8270-CP	<2.0 ug/L	0.38 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
A-BHC	SV-EPA 8270-CP	<2.0 ug/L	0.28 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Aldrin	SV-EPA 8270-CP	<2.0 ug/L	0.59 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Aroclor 1016	SV-EPA 8270-CP	<10 ug/L	2.00 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Aroclor 1221	SV-EPA 8270-CP	<10 ug/L	2.00 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Aroclor 1232	SV-EPA 8270-CP	<10 ug/L	2.00 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Aroclor 1242	SV-EPA 8270-CP	<10 ug/L	2.00 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL

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Sample # 02-03066
Group # 0032739
Sample Matrix Type: Aqueous / GRAB

Sample ID #2CT D017
Sample Site Hopkins
Sampled 4/15/02 9:12 am

Parameter	Method	Results/Units	Det. Limit/Units	Preparation Date/Time	Date/Time Analyzed	Analyst
Aroclor 1248	SV-EPA 8270-CP	<10 ug/L	2.00 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Aroclor 1254	SV-EPA 8270-CP	<10 ug/L	2.00 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Aroclor 1260	SV-EPA 8270-CP	<10 ug/L	2.00 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
B-BHC	SV-EPA 8270-CP	<2.0 ug/L	0.36 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Chlordane	SV-EPA 8270-CP	<10 ug/L	2.00 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
D-BHC	SV-EPA 8270-CP	<2.0 ug/L	0.23 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Dieldrin	SV-EPA 8270-CP	<10 ug/L	0.65 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Endosulfan I	SV-EPA 8270-CP	<2.0 ug/L	0.85 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Endosulfan II	SV-EPA 8270-CP	<2.0 ug/L	0.76 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Endosulfan Sulfate	SV-EPA 8270-CP	<2.0 ug/L	0.42 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Endrin	SV-EPA 8270-CP	<2.0 ug/L	0.64 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Endrin Aldehyde	SV-EPA 8270-CP	<2.0 ug/L	0.50 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
G-BHC(lindane)	SV-EPA 8270-CP	<2.0 ug/L	0.37 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Heptachlor	SV-EPA 8270-CP	<2.0 ug/L	0.41 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Heptachlor epoxide	SV-EPA 8270-CP	<2.0 ug/L	0.34 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Methoxychlor	SV-EPA 8270-CP	<2.0 ug/L	0.32 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Toxaphene	SV-EPA 8270-CP	<10 ug/L	10.80 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Residue,Total Filterable @180C	TDS	RM mg/L	13.70 mg/L		4/15/02 3:00:00PM	susan
Nitrogen, Total Kjeldahl	TKN	0.37 mg/L as N	0.18 mg/L as N		4/30/02 3:01:13PM	susan
Thallium, Total	Tl-EPA 279.2/SM3113B	<0.36 ug/L	0.62 ug/L	4/16/02 2:30:20PM	4/26/02 3:53:21PM	mike
Carbon, Total Organic	TOC	7.03 mg/L	0.80 mg/L		4/25/02 4:42:30AM	june
Total Oil1 (HEM)	TOG1664	7.11 mg/L	1.40 mg/L		4/23/02 9:44:36AM	JOE
Nitrogen, Total Organic	TON	0.37 mg/L	0.07 mg/L		4/30/02 3:10:03PM	susan
Phosphorus, Total	TP	0.44 mg/L as P	0.04 mg/L as P		4/30/02 2:34:56PM	susan

CITY OF TALLAHASSEE

Water Quality Division
3805 Springhill Rd.
Tallahassee, FL. 32310
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NELAP Accredited
Laboratory Certification # E51259

Customer Information:

Electric T&D
Electric Department
City of Tallahasse
2602 Jackson Bluff Rd.
Tallahassee
(850) 891-5007

Sample # **02-03066**
Group # **0032739**
Sample Matrix Type: **Aqueous / GRAB**

Sample ID **#2CT D017**
Sample Site **Hopkins**
Sampled **4/15/02 9:12 am**

Parameter	Method	Results/Units	Det. Limit/Units	Preparation Date/Time	Date/Time Analyzed	Analyst
Total Phenolics	TPHENOLS	pending mg/L	0.00 mg/L			
Residue,Total Nonfilt @103-105	TSS-EPA 160.1	<3 mg/L	10.00 mg/L		4/18/02 11:00:00AM	sharon
1,1,1,2-Tetrachloroethane	VOC-EPA 8260	<0.50 ug/L	0.09 ug/L		4/22/02 3:41:08PM	andy
1,1,1-Trichloroethane	VOC-EPA 8260	<0.50 ug/L	0.08 ug/L		4/22/02 3:41:08PM	andy
1,1,2,2-Tetrachloroethane	VOC-EPA 8260	<0.50 ug/L	0.18 ug/L		4/22/02 3:41:08PM	andy
1,1,2-Trichloroethane	VOC-EPA 8260	<0.50 ug/L	0.13 ug/L		4/22/02 3:41:08PM	andy
1,1-Dichloroethane	VOC-EPA 8260	<0.50 ug/L	0.04 ug/L		4/22/02 3:41:08PM	andy
1,1-Dichloroethylene	VOC-EPA 8260	<0.50 ug/L	0.05 ug/L		4/22/02 3:41:08PM	andy
1,1-Dichloropropene	VOC-EPA 8260	<0.50 ug/L	0.12 ug/L		4/22/02 3:41:08PM	andy
1,2,3-Trichlorobenzene	VOC-EPA 8260	<0.50 ug/L	0.18 ug/L		4/22/02 3:41:08PM	andy
1,2,3-Trichloropropane	VOC-EPA 8260	<0.50 ug/L	0.09 ug/L		4/22/02 3:41:08PM	andy
1,2,4-Trichlorobenzene	VOC-EPA 8260	<0.50 ug/L	0.30 ug/L		4/22/02 3:41:08PM	andy
1,2,4-Trimethylbenzene	VOC-EPA 8260	<0.50 ug/L	0.10 ug/L		4/22/02 3:41:08PM	andy
1,2-Dibromo-3-chloropropane	VOC-EPA 8260	<0.50 ug/L	0.88 ug/L		4/22/02 3:41:08PM	andy
1,2-Dibromoethane	VOC-EPA 8260	<0.50 ug/L	0.15 ug/L		4/22/02 3:41:08PM	andy
1,2-Dichlorobenzene	VOC-EPA 8260	<0.50 ug/L	0.06 ug/L		4/22/02 3:41:08PM	andy
1,2-Dichloroethane	VOC-EPA 8260	<0.50 ug/L	0.07 ug/L		4/22/02 3:41:08PM	andy
1,2-Dichloropropane	VOC-EPA 8260	<0.50 ug/L	0.08 ug/L		4/22/02 3:41:08PM	andy
1,3,5-Trimethylbenzene	VOC-EPA 8260	<0.50 ug/L	0.13 ug/L		4/22/02 3:41:08PM	andy
1,3-Dichlorobenzene	VOC-EPA 8260	<0.50 ug/L	0.07 ug/L		4/22/02 3:41:08PM	andy
1,3-Dichloropropane	VOC-EPA 8260	<0.50 ug/L	0.08 ug/L		4/22/02 3:41:08PM	andy
1,4-Dichlorobenzene	VOC-EPA 8260	<0.50 ug/L	0.10 ug/L		4/22/02 3:41:08PM	andy
2,2-Dichloropropane	VOC-EPA 8260	<0.50 ug/L	0.06 ug/L		4/22/02 3:41:08PM	andy
2-Chlorotoluene	VOC-EPA 8260	<0.50 ug/L	0.06 ug/L		4/22/02 3:41:08PM	andy

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2602 Jackson Bluff Rd.
Tallahassee
(850) 891-5007

Sample # 02-03066
Group # 0032739
Sample Matrix Type: Aqueous / GRAB

Sample ID #2CT D017
Sample Site Hopkins
Sampled 4/15/02 9:12 am

Parameter	Method	Results/Units	Det. Limit/Units	Preparation Date/Time	Date/Time Analyzed	Analyst
4-Chlorotoluene	VOC-EPA 8260	<0.50 ug/L	0.08 ug/L		4/22/02 3:41:08PM	andy
Benzene	VOC-EPA 8260	<0.50 ug/L	0.04 ug/L		4/22/02 3:41:08PM	andy
Bromobenzene	VOC-EPA 8260	<0.50 ug/L	0.07 ug/L		4/22/02 3:41:08PM	andy
Bromochloromethane	VOC-EPA 8260	<0.50 ug/L	0.10 ug/L		4/22/02 3:41:08PM	andy
Bromodichloromethane	VOC-EPA 8260	<0.50 ug/L	0.11 ug/L		4/22/02 3:41:08PM	andy
Bromoform	VOC-EPA 8260	<0.50 ug/L	0.21 ug/L		4/22/02 3:41:08PM	andy
Bromomethane	VOC-EPA 8260	<0.50 ug/L	0.16 ug/L		4/22/02 3:41:08PM	andy
Carbon tetrachloride	VOC-EPA 8260	<0.50 ug/L	0.11 ug/L		4/22/02 3:41:08PM	andy
Chlorobenzene	VOC-EPA 8260	<0.50 ug/L	0.07 ug/L		4/22/02 3:41:08PM	andy
Chloroethane	VOC-EPA 8260	<0.50 ug/L	0.11 ug/L		4/22/02 3:41:08PM	andy
Chloroform	VOC-EPA 8260	<0.50 ug/L	0.04 ug/L		4/22/02 3:41:08PM	andy
Chloromethane	VOC-EPA 8260	<0.50 ug/L	0.07 ug/L		4/22/02 3:41:08PM	andy
cis-1,2-Dichloroethylene	VOC-EPA 8260	<0.50 ug/L	0.10 ug/L		4/22/02 3:41:08PM	andy
cis-1,3-Dichloropropylene	VOC-EPA 8260	<0.50 ug/L	0.13 ug/L		4/22/02 3:41:08PM	andy
Dibromochloromethane	VOC-EPA 8260	<0.50 ug/L	0.12 ug/L		4/22/02 3:41:08PM	andy
Dibromomethane	VOC-EPA 8260	<0.50 ug/L	0.13 ug/L		4/22/02 3:41:08PM	andy
Dichlorodifluoromethane	VOC-EPA 8260	<0.50 ug/L	0.12 ug/L		4/22/02 3:41:08PM	andy
Ethylbenzene	VOC-EPA 8260	<0.50 ug/L	0.06 ug/L		4/22/02 3:41:08PM	andy
Hexachlorobutadiene	VOC-EPA 8260	<0.50 ug/L	0.40 ug/L		4/22/02 3:41:08PM	andy
Isopropylbenzene	VOC-EPA 8260	<0.50 ug/L	0.05 ug/L		4/22/02 3:41:08PM	andy
Methylene chloride	VOC-EPA 8260	<0.50 ug/L	0.11 ug/L		4/22/02 3:41:08PM	andy
MTBE	VOC-EPA 8260	<0.50 ug/L	0.09 ug/L		4/22/02 3:41:08PM	andy
Naphthalene	VOC-EPA 8260	<0.50 ug/L	0.15 ug/L		4/22/02 3:41:08PM	andy
n-Butylbenzene	VOC-EPA 8260	<0.50 ug/L	0.11 ug/L		4/22/02 3:41:08PM	andy

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Electric Department
City of Tallahasse
2602 Jackson Bluff Rd.
Tallahassee
(850) 891-5007

Sample # 02-03066
Group # 0032739
Sample Matrix Type: Aqueous / GRAB

Sample ID #2CT D017
Sample Site Hopkins
Sampled 4/15/02 9:12 am

Parameter	Method	Results/Units	Det. Limit/Units	Preparation Date/Time	Date/Time Analyzed	Analyst
n-Propylbenzene	VOC-EPA 8260	<0.50 ug/L	0.06 ug/L		4/22/02 3:41:08PM	andy
o-Xylene	VOC-EPA 8260	<0.50 ug/L	0.05 ug/L		4/22/02 3:41:08PM	andy
p,m-Xylene	VOC-EPA 8260	<1.00 ug/L	0.08 ug/L		4/22/02 3:41:08PM	andy
p-Isopropyltoluene	VOC-EPA 8260	<0.50 ug/L	0.08 ug/L		4/22/02 3:41:08PM	andy
s-Butylbenzene	VOC-EPA 8260	<0.50 ug/L	0.06 ug/L		4/22/02 3:41:08PM	andy
Styrene	VOC-EPA 8260	<0.50 ug/L	0.08 ug/L		4/22/02 3:41:08PM	andy
t-Butylbenzene	VOC-EPA 8260	<0.50 ug/L	0.10 ug/L		4/22/02 3:41:08PM	andy
Tetrachloroethylene	VOC-EPA 8260	<0.50 ug/L	0.08 ug/L		4/22/02 3:41:08PM	andy
Toluene	VOC-EPA 8260	<0.50 ug/L	0.07 ug/L		4/22/02 3:41:08PM	andy
trans-1,2-Dichloroethylene	VOC-EPA 8260	<0.50 ug/L	0.10 ug/L		4/22/02 3:41:08PM	andy
trans-1,3-Dichloropropylene	VOC-EPA 8260	<0.50 ug/L	0.08 ug/L		4/22/02 3:41:08PM	andy
Trichloroethylene	VOC-EPA 8260	<0.50 ug/L	0.10 ug/L		4/22/02 3:41:08PM	andy
Trichlorofluoromethane	VOC-EPA 8260	<0.50 ug/L	0.11 ug/L		4/22/02 3:41:08PM	andy
Vinyl chloride	VOC-EPA 8260	<0.50 ug/L	0.07 ug/L		4/22/02 3:41:08PM	andy

Sampled by : C.Smith

pH = pH Units Temperature = Degrees C
Conductivity = uS DO = mg/L

Total Cl2 = mg/L

Qualifiers
< or T = Less than Detection Limit
U = Undetected
RM = Requested by mistake
NG = Not Given

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Customer Information:

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City of Tallahasse
2602 Jackson Bluff Rd.
Tallahassee
(850) 891-5007

Sample # 02-03067
Group # 0032739
Sample Matrix Type: Aqueous / GRAB

Sample ID #1CT D017/ UNIT 1 Blowdown
Sample Site Hopkins
Sampled 4/16/02 8:00 am

Parameter	Method	Results/Units		Det. Limit/Units		Preparation Date/Time	Date/Time Analyzed	Analyst
Alkalinity	ALK-EPA 310.1	RM	mg/L CaCO3	1.00	mg/L CaCO3		4/15/02 3:00:00PM	sharon
Arsenic, Total by Furnace	As-EPA 206.2/SM3113B	8.61	ug/L	1.20	ug/L	4/16/02 2:30:20PM	4/22/02 10:02:51AM	mike
BOD, Carbonaceous 5 Day @ 20C	CBOD5	<3	mg/L	2.00	mg/L		4/22/02 11:30:51AM	rusty
Cadmium, Total	Cd-EPA 213.2/SM3113B	<0.03	ug/L	0.29	ug/L	4/16/02 2:30:20PM	4/24/02 11:16:18AM	mike
Cyanide, Total	CN	pending	mg/L	2.00	mg/L			
Chemical Oxygen Demand	COD	<20	mg/L	19.00	mg/L		5/1/02 12:00:00AM	rusty
Cobalt, Total	Co-EPA 219.2/SM3113B	<0.46	ug/L	1.40	ug/L	4/16/02 11:51:55AM	4/30/02 1:04:04PM	mike
Fecal Coliform MF	FCMF	11	#/100mL	1.00	#/100mL		4/17/02 11:30:47AM	joni
Fluoride	FLUORIDE	RM	mg/L	0.02	mg/L		4/16/02 4:00:00PM	sharon
Hardness	Hardness-EPA 130.2	RM	mg/L CaCO3	5.70	mg/L CaCO3		4/15/02 3:00:00PM	sharon
Mercury, Total	Hg-CV-EPA 245.1	<0.16	ug/L	0.52	ug/L		4/22/02 1:37:35PM	mike
Silver, Total by ICP	ICP-EPA 200.7/6010	<4.3	ug/L	5.00	ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Aluminum, Total by ICP	ICP-EPA 200.7/6010	<0.0	ug/L	10.00	ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Barium, Total by ICP	ICP-EPA 200.7/6010	55.1	ug/L	10.00	ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Beryllium, Total by ICP	ICP-EPA 200.7/6010	<0.0	ug/L	1.00	ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Cobalt, Total by ICP	ICP-EPA 200.7/6010	RM	ug/L	4.00	ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Chromium, Total by ICP	ICP-EPA 200.7/6010	<2.3	ug/L	2.50	ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Copper, Total by ICP	ICP-EPA 200.7/6010	31.1	ug/L	3.40	ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Iron, Total by ICP	ICP-EPA 200.7/6010	103	ug/L	10.00	ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Manganese, Total by ICP	ICP-EPA 200.7/6010	<1.8	ug/L	1.00	ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Molybdenum, Total by ICP	ICP-EPA 200.7/6010	RM	ug/L	5.00	ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Nickel, Total by ICP	ICP-EPA 200.7/6010	<4.0	ug/L	6.00	ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Zinc, Total by ICP	ICP-EPA 200.7/6010	<2.1	ug/L	5.00	ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Molybdenum, Total	Mo-EPA 246.2/SM3113B	34.1	ug/L	1.20	ug/L	4/16/02 11:51:55AM	4/29/02 10:16:04AM	mike

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Customer Information:

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City of Tallahasse
2602 Jackson Bluff Rd.
Tallahassee
(850) 891-5007

Sample # 02-03067
Group # 0032739
Sample Matrix Type: Aqueous / GRAB

Sample ID #1CT D017
Sample Site Hopkins
Sampled 4/16/02 8:00 am

Parameter	Method	Results/Units	Det. Limit/Units	Preparation Date/Time	Date/Time Analyzed	Analyst
Nitrogen, Ammonia	NH3	<0.008 mg/L as N	0.01 mg/L as N		4/19/02 2:06:20PM	susan
Nitrogen, Nitrite plus Nitrate	NO2/NO3	0.160 mg/L as N	0.01 mg/L as N		4/17/02 2:51:40PM	susan
Odor, Threshold	ODOR-EPA 140.1	RM T.O.N.	0.00 T.O.N.		4/16/02 4:00:00PM	sharon
Lead, Total	Pb-EPA 239.2/SM3113B	0.93 ug/L	0.50 ug/L	4/16/02 2:30:20PM	4/22/02 1:13:52PM	mike
Antimony, Total	Sb-EPA 204.2/SM3113B	<0.95 ug/L	0.86 ug/L	4/16/02 2:30:20PM	4/25/02 3:50:23PM	mike
Selenium, Total by Furnace	Se-EPA 270.2/SM3113B	<0.67 ug/L	1.80 ug/L	4/16/02 2:30:20PM	4/19/02 3:44:25PM	mike
Tin, Total	Sn-EPA 282.2/SM3113B	<0.0 ug/L	7.18 ug/L	4/16/02 2:30:20PM	4/29/02 3:58:55PM	mike
2,4,6-Trichlorophenol	SV-EPA 8270-AF	<4.0J ug/L	0.43 ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
2,4-Dichlorophenol	SV-EPA 8270-AF	<4.0J ug/L	0.90 ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
2,4-dimethylphenol	SV-EPA 8270-AF	<4.0J ug/L	0.48 ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
2,4-dimethylphenol	SV-EPA 8270-AF	<2.0 ug/L	0.65 ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
2-Chlorophenol	SV-EPA 8270-AF	<2.0 ug/L	0.45 ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
2-methyl-4,6-dinitrophenol	SV-EPA 8270-AF	<2.0 ug/L	0.64 ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
2-nitrophenol	SV-EPA 8270-AF	<4.0J ug/L	0.47 ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
4-chloro-3-methylphenol	SV-EPA 8270-AF	<2.0 ug/L	0.77 ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
4-nitrophenol	SV-EPA 8270-AF	<2.0 ug/L	0.44 ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
Pentachlorophenol	SV-EPA 8270-AF	<2.0 ug/L	0.80 ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
Phenol	SV-EPA 8270-AF	<2.0 ug/L	0.10 ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
1,2,4-trichlorobenzene	SV-EPA 8270-BN	<20J ug/L	1.90 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
1,2-Dichlorobenzene	SV-EPA 8270-BN	<20J ug/L	1.90 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
1,3-Dichlorobenzene	SV-EPA 8270-BN	<20J ug/L	1.90 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
1,4-Dichlorobenzene	SV-EPA 8270-BN	<20J ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
2,4-Dinitrotoluene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
2,6-dinitrotoluene	SV-EPA 8270-BN	<2.0 ug/L	1.90 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL

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Sample # 02-03067
Group # 0032739
Sample Matrix Type: Aqueous / GRAB

Sample ID #1CT D017
Sample Site Hopkins
Sampled 4/16/02 8:00 am

Parameter	Method	Results/Units	Det. Limit/Units	Preparation Date/Time	Date/Time Analyzed	Analyst
2-Chloronaphthalene	SV-EPA 8270-BN	<8.0J ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
3,3-Dichlorbenzidine	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
4-Bromophenylphenyl ether	SV-EPA 8270-BN	<2.0 ug/L	1.90 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
4-Chlorophenylphenyl ether	SV-EPA 8270-BN	<4.0J ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Acenaphthene	SV-EPA 8270-BN	<4.0J ug/L	1.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Acenaphthylene	SV-EPA 8270-BN	<4.0J ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Anthracene	SV-EPA 8270-BN	<2.0 ug/L	1.90 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Benzidine	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Benzo(a)anthracene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Benzo(a)pyrene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Benzo(b)fluoranthene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Benzo(ghi)perylene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Benzo(k)fluoranthene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Bis(2-chloroethoxy)methane	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Bis(2-chloroethyl)ether	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Bis(2-chloroisopropyl)ether	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Bis(2-ethylhexyl)phthalate	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Butylbenzylphthalate	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Chrysene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Dibenzo(ah)anthracene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Diethylphthalate	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Dimethylphthalate	SV-EPA 8270-BN	<2.0 ug/L	1.60 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Di-n-butylphthalate	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Di-n-octylphthalate	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL

CITY OF TALLAHASSEE

Water Quality Division
3805 Springhill Rd.
Tallahassee, FL. 32310
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NELAP Accredited
Laboratory Certification # E51259

Customer Information:

Electric T&D
Electric Department
City of Tallahasse
2602 Jackson Bluff Rd.
Tallahassee
(850) 891-5007

Sample # 02-03067
Group # 0032739
Sample Matrix Type: Aqueous / GRAB

Sample ID #1CT D017
Sample Site Hopkins
Sampled 4/16/02 8:00 am

Parameter	Method	Results/Units	Det. Limit/Units	Preparation Date/Time	Date/Time Analyzed	Analyst
Fluoranthene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Fluorene	SV-EPA 8270-BN	<4.0J ug/L	1.90 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Hexachlorobenzene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Hexachlorobutadiene	SV-EPA 8270-BN	<40J ug/L	0.90 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Hexachlorocyclopentadiene	SV-EPA 8270-BN	<40J ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Hexachloroethane	SV-EPA 8270-BN	<40J ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Indeno(123cd)pyrene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Isophorone	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Naphthalene	SV-EPA 8270-BN	<8.0J ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Nitrobenzene	SV-EPA 8270-BN	<4.0J ug/L	1.90 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
N-nitrosodimethylamine	SV-EPA 8270-BN	<4.0J ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
N-nitroso-di-n-propylamine	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
N-nitrosodiphenylamine	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Phenanthrene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Pyrene	SV-EPA 8270-BN	<2.0 ug/L	1.90 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
4,4'-DDD	SV-EPA 8270-CP	<2.0 ug/L	0.51 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
4,4'-DDE	SV-EPA 8270-CP	<2.0 ug/L	0.56 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
4,4'-DDT	SV-EPA 8270-CP	<2.0 ug/L	0.38 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
A-BHC	SV-EPA 8270-CP	<2.0 ug/L	0.28 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Aldrin	SV-EPA 8270-CP	<2.0 ug/L	0.59 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Aroclor 1016	SV-EPA 8270-CP	<10 ug/L	2.00 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Aroclor 1221	SV-EPA 8270-CP	<10 ug/L	2.00 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Aroclor 1232	SV-EPA 8270-CP	<10 ug/L	2.00 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Aroclor 1242	SV-EPA 8270-CP	<10 ug/L	2.00 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL

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Customer Information:

Electric T&D
Electric Department
City of Tallahasse
2602 Jackson Bluff Rd.
Tallahassee
(850) 891-5007

Sample # 02-03067
Group # 0032739
Sample Matrix Type: Aqueous / GRAB

Sample ID #1CT D017
Sample Site Hopkins
Sampled 4/16/02 8:00 am

Parameter	Method	Results/Units	Det. Limit/Units	Preparation Date/Time	Date/Time Analyzed	Analyst
Aroclor 1248	SV-EPA 8270-CP	<10 ug/L	2.00 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Aroclor 1254	SV-EPA 8270-CP	<10 ug/L	2.00 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Aroclor 1260	SV-EPA 8270-CP	<10 ug/L	2.00 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
B-BHC	SV-EPA 8270-CP	<2.0 ug/L	0.36 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Chlordane	SV-EPA 8270-CP	<10 ug/L	2.00 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
D-BHC	SV-EPA 8270-CP	<2.0 ug/L	0.23 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Dieldrin	SV-EPA 8270-CP	<10 ug/L	0.65 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Endosulfan I	SV-EPA 8270-CP	<2.0 ug/L	0.85 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Endosulfan II	SV-EPA 8270-CP	<2.0 ug/L	0.76 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Endosulfan Sulfate	SV-EPA 8270-CP	<2.0 ug/L	0.42 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Endrin	SV-EPA 8270-CP	<2.0 ug/L	0.64 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Endrin Aldehyde	SV-EPA 8270-CP	<2.0 ug/L	0.50 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
G-BHC(lindane)	SV-EPA 8270-CP	<2.0 ug/L	0.37 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Heptachlor	SV-EPA 8270-CP	<2.0 ug/L	0.41 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Heptachlor epoxide	SV-EPA 8270-CP	<2.0 ug/L	0.34 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Methoxychlor	SV-EPA 8270-CP	<2.0 ug/L	0.32 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Toxaphene	SV-EPA 8270-CP	<10 ug/L	10.80 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Residue,Total Filterable @180C	TDS	RM mg/L	13.70 mg/L		4/15/02 3:00:00PM	susan
Nitrogen, Total Kjeldahl	TKN	0.30 mg/L as N	0.18 mg/L as N		4/30/02 3:01:13PM	susan
Thallium, Total	Tl-EPA 279.2/SM3113B	<0.20 ug/L	0.62 ug/L	4/16/02 2:30:20PM	4/26/02 3:53:21PM	mike
Carbon, Total Organic	TOC	6.33 mg/L	0.80 mg/L		4/25/02 4:42:30AM	june
Total Oil1 (HEM)	TOG1664	6.22 mg/L	1.40 mg/L		4/23/02 9:44:36AM	JOE
Nitrogen, Total Organic	TON	0.292 mg/L	0.07 mg/L		4/30/02 3:10:03PM	susan
Phosphorus, Total	TP	0.54 mg/L as P	0.04 mg/L as P		4/30/02 2:34:56PM	susan

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Customer Information:

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Electric Department
City of Tallahasse
2602 Jackson Bluff Rd.
Tallahassee
(850) 891-5007

Sample # 02-03067
Group # 0032739
Sample Matrix Type: Aqueous / GRAB

Sample ID #1CT D017
Sample Site Hopkins
Sampled 4/16/02 8:00 am

Parameter	Method	Results/Units	Det. Limit/Units	Preparation Date/Time	Date/Time Analyzed	Analyst
Total Phenolics	TPHENOLS	pending mg/L	0.00 mg/L			
Residue,Total Nonfilt @103-105	TSS-EPA 160.1	<2 mg/L	10.00 mg/L		4/18/02 11:00:00AM	sharon
1,1,1,2-Tetrachloroethane	VOC-EPA 8260	<0.50 ug/L	0.09 ug/L		4/22/02 3:41:08PM	andy
1,1,1-Trichloroethane	VOC-EPA 8260	<0.50 ug/L	0.08 ug/L		4/22/02 3:41:08PM	andy
1,1,2,2-Tetrachloroethane	VOC-EPA 8260	<0.50 ug/L	0.18 ug/L		4/22/02 3:41:08PM	andy
1,1,2-Trichloroethane	VOC-EPA 8260	<0.50 ug/L	0.13 ug/L		4/22/02 3:41:08PM	andy
1,1-Dichloroethane	VOC-EPA 8260	<0.50 ug/L	0.04 ug/L		4/22/02 3:41:08PM	andy
1,1-Dichloroethylene	VOC-EPA 8260	<0.50 ug/L	0.05 ug/L		4/22/02 3:41:08PM	andy
1,1-Dichloropropene	VOC-EPA 8260	<0.50 ug/L	0.12 ug/L		4/22/02 3:41:08PM	andy
1,2,3-Trichlorobenzene	VOC-EPA 8260	<0.50 ug/L	0.18 ug/L		4/22/02 3:41:08PM	andy
1,2,3-Trichloropropane	VOC-EPA 8260	<0.50 ug/L	0.09 ug/L		4/22/02 3:41:08PM	andy
1,2,4-Trichlorobenzene	VOC-EPA 8260	<0.50 ug/L	0.30 ug/L		4/22/02 3:41:08PM	andy
1,2,4-Trimethylbenzene	VOC-EPA 8260	<0.50 ug/L	0.10 ug/L		4/22/02 3:41:08PM	andy
1,2-Dibromo-3-chloropropane	VOC-EPA 8260	<0.50 ug/L	0.88 ug/L		4/22/02 3:41:08PM	andy
1,2-Dibromoethane	VOC-EPA 8260	<0.50 ug/L	0.15 ug/L		4/22/02 3:41:08PM	andy
1,2-Dichlorobenzene	VOC-EPA 8260	<0.50 ug/L	0.06 ug/L		4/22/02 3:41:08PM	andy
1,2-Dichloroethane	VOC-EPA 8260	<0.50 ug/L	0.07 ug/L		4/22/02 3:41:08PM	andy
1,2-Dichloropropane	VOC-EPA 8260	<0.50 ug/L	0.08 ug/L		4/22/02 3:41:08PM	andy
1,3,5-Trimethylbenzene	VOC-EPA 8260	<0.50 ug/L	0.13 ug/L		4/22/02 3:41:08PM	andy
1,3-Dichlorobenzene	VOC-EPA 8260	<0.50 ug/L	0.07 ug/L		4/22/02 3:41:08PM	andy
1,3-Dichloropropane	VOC-EPA 8260	<0.50 ug/L	0.08 ug/L		4/22/02 3:41:08PM	andy
1,4-Dichlorobenzene	VOC-EPA 8260	<0.50 ug/L	0.10 ug/L		4/22/02 3:41:08PM	andy
2,2-Dichloropropane	VOC-EPA 8260	<0.50 ug/L	0.06 ug/L		4/22/02 3:41:08PM	andy
2-Chlorotoluene	VOC-EPA 8260	<0.50 ug/L	0.06 ug/L		4/22/02 3:41:08PM	andy

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Customer Information:

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Electric Department
City of Tallahasse
2602 Jackson Bluff Rd.
Tallahassee
(850) 891-5007

Sample # 02-03067
Group # 0032739
Sample Matrix Type: Aqueous / GRAB

Sample ID #1CT D017
Sample Site Hopkins
Sampled 4/16/02 8:00 am

Parameter	Method	Results/Units	Det. Limit/Units	Preparation Date/Time	Date/Time Analyzed	Analyst
4-Chlorotoluene	VOC-EPA 8260	<0.50 ug/L	0.08 ug/L		4/22/02 3:41:08PM	andy
Benzene	VOC-EPA 8260	<0.50 ug/L	0.04 ug/L		4/22/02 3:41:08PM	andy
Bromobenzene	VOC-EPA 8260	<0.50 ug/L	0.07 ug/L		4/22/02 3:41:08PM	andy
Bromochloromethane	VOC-EPA 8260	<0.50 ug/L	0.10 ug/L		4/22/02 3:41:08PM	andy
Bromodichloromethane	VOC-EPA 8260	<0.50 ug/L	0.11 ug/L		4/22/02 3:41:08PM	andy
Bromoform	VOC-EPA 8260	<0.50 ug/L	0.21 ug/L		4/22/02 3:41:08PM	andy
Bromomethane	VOC-EPA 8260	<0.50 ug/L	0.16 ug/L		4/22/02 3:41:08PM	andy
Carbon tetrachloride	VOC-EPA 8260	<0.50 ug/L	0.11 ug/L		4/22/02 3:41:08PM	andy
Chlorobenzene	VOC-EPA 8260	<0.50 ug/L	0.07 ug/L		4/22/02 3:41:08PM	andy
Chloroethane	VOC-EPA 8260	<0.50 ug/L	0.11 ug/L		4/22/02 3:41:08PM	andy
Chloroform	VOC-EPA 8260	<0.50 ug/L	0.04 ug/L		4/22/02 3:41:08PM	andy
Chloromethane	VOC-EPA 8260	<0.50 ug/L	0.07 ug/L		4/22/02 3:41:08PM	andy
cis-1,2-Dichloroethylene	VOC-EPA 8260	<0.50 ug/L	0.10 ug/L		4/22/02 3:41:08PM	andy
cis-1,3-Dichloropropylene	VOC-EPA 8260	<0.50 ug/L	0.13 ug/L		4/22/02 3:41:08PM	andy
Dibromochloromethane	VOC-EPA 8260	<0.50 ug/L	0.12 ug/L		4/22/02 3:41:08PM	andy
Dibromomethane	VOC-EPA 8260	<0.50 ug/L	0.13 ug/L		4/22/02 3:41:08PM	andy
Dichlorodifluoromethane	VOC-EPA 8260	<0.50 ug/L	0.12 ug/L		4/22/02 3:41:08PM	andy
Ethylbenzene	VOC-EPA 8260	<0.50 ug/L	0.06 ug/L		4/22/02 3:41:08PM	andy
Hexachlorobutadiene	VOC-EPA 8260	<0.50 ug/L	0.40 ug/L		4/22/02 3:41:08PM	andy
Isopropylbenzene	VOC-EPA 8260	<0.50 ug/L	0.05 ug/L		4/22/02 3:41:08PM	andy
Methylene chloride	VOC-EPA 8260	<0.50 ug/L	0.11 ug/L		4/22/02 3:41:08PM	andy
MTBE	VOC-EPA 8260	<0.50 ug/L	0.09 ug/L		4/22/02 3:41:08PM	andy
Naphthalene	VOC-EPA 8260	<0.50 ug/L	0.15 ug/L		4/22/02 3:41:08PM	andy
n-Butylbenzene	VOC-EPA 8260	<0.50 ug/L	0.11 ug/L		4/22/02 3:41:08PM	andy

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Customer Information:

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Tallahassee
(850) 891-5007

Sample # 02-03067
Group # 0032739
Sample Matrix Type: Aqueous / GRAB

Sample ID #1CT D017
Sample Site Hopkins
Sampled 4/16/02 8:00 am

Parameter	Method	Results/Units	Det. Limit/Units	Preparation Date/Time	Date/Time Analyzed	Analys
n-Propylbenzene	VOC-EPA 8260	<0.50 ug/L	0.06 ug/L		4/22/02 3:41:08PM	andy
o-Xylene	VOC-EPA 8260	<0.50 ug/L	0.05 ug/L		4/22/02 3:41:08PM	andy
p,m-Xylene	VOC-EPA 8260	<1.00 ug/L	0.08 ug/L		4/22/02 3:41:08PM	andy
p-Isopropyltoluene	VOC-EPA 8260	<0.50 ug/L	0.08 ug/L		4/22/02 3:41:08PM	andy
s-Butylbenzene	VOC-EPA 8260	<0.50 ug/L	0.06 ug/L		4/22/02 3:41:08PM	andy
Styrene	VOC-EPA 8260	<0.50 ug/L	0.08 ug/L		4/22/02 3:41:08PM	andy
t-Butylbenzene	VOC-EPA 8260	<0.50 ug/L	0.10 ug/L		4/22/02 3:41:08PM	and
Tetrachloroethylene	VOC-EPA 8260	<0.50 ug/L	0.08 ug/L		4/22/02 3:41:08PM	and
Toluene	VOC-EPA 8260	<0.50 ug/L	0.07 ug/L		4/22/02 3:41:08PM	an
trans-1,2-Dichloroethylene	VOC-EPA 8260	<0.50 ug/L	0.10 ug/L		4/22/02 3:41:08PM	ar
trans-1,3-Dichloropropylene	VOC-EPA 8260	<0.50 ug/L	0.08 ug/L		4/22/02 3:41:08PM	a
Trichloroethylene	VOC-EPA 8260	<0.50 ug/L	0.10 ug/L		4/22/02 3:41:08PM	a
Trichlorofluoromethane	VOC-EPA 8260	<0.50 ug/L	0.11 ug/L		4/22/02 3:41:08PM	
Vinyl chloride	VOC-EPA 8260	<0.50 ug/L	0.07 ug/L		4/22/02 3:41:08PM	

Sampled by : C.Smith

pH = pH Units Temperature = Degrees C
Conductivity = uS DO = mg/L

Qualifiers < or T = Less than Detection Limit
U = Undetected
RM = Requested by mistake
NG = Not Given

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Tallahassee
(850) 891-5007

Sample # 02-03068
Group # 0032739
Sample Matrix Type: Aqueous / GRAB

Sample ID LVW D013
Sample Site Hopkins
Sampled 4/15/02 7:40 am

LOW VOLUME WASTE

Parameter	Method	Results/Units		Det. Limit/Units		Preparation Date/Time	Date/Time Analyzed	Analyst
Alkalinity	ALK-EPA 310.1	RM	mg/L CaCO3	1.00	mg/L CaCO3		4/15/02 3:00:00PM	sharon
Arsenic, Total by Furnace	As-EPA 206.2/SM3113B	4.84	ug/L	1.20	ug/L	4/16/02 2:30:20PM	4/22/02 10:02:51AM	mike
BOD, Carbonaceous 5 Day @ 20C	CBOD5	<4	mg/L	2.00	mg/L		4/22/02 11:30:51AM	rusty
Cadmium, Total	Cd-EPA 213.2/SM3113B	<0.03	ug/L	0.29	ug/L	4/16/02 2:30:20PM	4/24/02 11:16:18AM	mike
Cyanide, Total	CN	pending	mg/L	2.00	mg/L			
Chemical Oxygen Demand	COD	66	mg/L	19.00	mg/L		5/1/02 12:00:00AM	rusty
Cobalt, Total	Co-EPA 219.2/SM3113B	0.73	ug/L	1.40	ug/L	4/16/02 11:51:55AM	4/30/02 1:04:04PM	mike
Fecal Coliform MF	FCMF	75	#/100mL	1.00	#/100mL		4/17/02 11:30:47AM	joni
Fluoride	FLUORIDE	RM	mg/L	0.02	mg/L		4/16/02 4:00:00PM	sharon
Hardness	Hardness-EPA 130.2	RM	mg/L CaCO3	5.70	mg/L CaCO3		4/15/02 3:00:00PM	sharon
Mercury, Total	Hg-CV-EPA 245.1	<0.17	ug/L	0.52	ug/L		4/22/02 1:37:35PM	mike
Silver, Total by ICP	ICP-EPA 200.7/6010	<1.2	ug/L	5.00	ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Aluminum, Total by ICP	ICP-EPA 200.7/6010	<40	ug/L	10.00	ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Barium, Total by ICP	ICP-EPA 200.7/6010	18.0	ug/L	10.00	ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Beryllium, Total by ICP	ICP-EPA 200.7/6010	<0.0	ug/L	1.00	ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Cobalt, Total by ICP	ICP-EPA 200.7/6010	RM	ug/L	4.00	ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Chromium, Total by ICP	ICP-EPA 200.7/6010	<2.4	ug/L	2.50	ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Copper, Total by ICP	ICP-EPA 200.7/6010	39.6	ug/L	3.40	ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Iron, Total by ICP	ICP-EPA 200.7/6010	435	ug/L	10.00	ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Manganese, Total by ICP	ICP-EPA 200.7/6010	9.5	ug/L	1.00	ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Molybdenum, Total by ICP	ICP-EPA 200.7/6010	RM	ug/L	5.00	ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Nickel, Total by ICP	ICP-EPA 200.7/6010	13.3	ug/L	6.00	ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Zinc, Total by ICP	ICP-EPA 200.7/6010	<2.4	ug/L	5.00	ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Molybdenum, Total	Mo-EPA 246.2/SM3113B	75.5	ug/L	1.20	ug/L	4/16/02 11:51:55AM	4/29/02 10:16:04AM	mike

CITY OF TALLAHASSEE

Water Quality Division
3805 Springhill Rd.
Tallahassee, FL. 32310
850 891 1200 voice
850 891 1062 fax

NELAP Accredited
Laboratory Certification # E51259

Customer Information:

Electric T&D
Electric Department
City of Tallahasse
2602 Jackson Bluff Rd.
Tallahassee
(850) 891-5007

Sample # 02-03068
Group # 0032739
Sample Matrix Type: Aqueous / GRAB

Sample ID LVW D013
Sample Site Hopkins
Sampled 4/15/02 7:40 am

Parameter	Method	Results/Units	Det. Limit/Units	Preparation Date/Time	Date/Time Analyzed	Analyst
Nitrogen, Ammonia	NH3	0.079 mg/L as N	0.01 mg/L as N		4/19/02 2:06:20PM	susan
Nitrogen, Nitrite plus Nitrate	NO2/NO3	<0.012 mg/L as N	0.01 mg/L as N		4/17/02 2:51:40PM	susan
Odor, Threshold	ODOR-EPA 140.1	RM T.O.N.	0.00 T.O.N.		4/16/02 4:00:00PM	sharon
Lead, Total	Pb-EPA 239.2/SM3113B	1.71 ug/L	0.50 ug/L	4/16/02 2:30:20PM	4/22/02 1:13:52PM	mike
Antimony, Total	Sb-EPA 204.2/SM3113B	<1.16 ug/L	0.86 ug/L	4/16/02 2:30:20PM	4/25/02 3:50:23PM	mike
Selenium, Total by Furnace	Se-EPA 270.2/SM3113B	<1.15 ug/L	1.80 ug/L	4/16/02 2:30:20PM	4/19/02 3:44:25PM	mike
Tin, Total	Sn-EPA 282.2/SM3113B	<0.3 ug/L	7.18 ug/L	4/16/02 2:30:20PM	4/29/02 3:58:55PM	mike
2,4,6-Trichlorophenol	SV-EPA 8270-AF	<4.0J ug/L	0.43 ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
2,4-Dichlorophenol	SV-EPA 8270-AF	<4.0J ug/L	0.90 ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
2,4-dimethylphenol	SV-EPA 8270-AF	<4.0J ug/L	0.48 ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
2,4-dimethylphenol	SV-EPA 8270-AF	<2.0 ug/L	0.65 ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
2-Chlorophenol	SV-EPA 8270-AF	<2.0 ug/L	0.45 ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
2-methyl-4,6-dinitrophenol	SV-EPA 8270-AF	<2.0 ug/L	0.64 ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
2-nitrophenol	SV-EPA 8270-AF	<4.0J ug/L	0.47 ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
4-chloro-3-methylphenol	SV-EPA 8270-AF	<2.0 ug/L	0.77 ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
4-nitrophenol	SV-EPA 8270-AF	<2.0 ug/L	0.44 ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
Pentachlorophenol	SV-EPA 8270-AF	<2.0 ug/L	0.80 ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
Phenol	SV-EPA 8270-AF	<2.0 ug/L	0.10 ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
1,2,4-trichlorobenzene	SV-EPA 8270-BN	<20J ug/L	1.90 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
1,2-Dichlorobenzene	SV-EPA 8270-BN	<20J ug/L	1.90 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
1,3-Dichlorobenzene	SV-EPA 8270-BN	<20J ug/L	1.90 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
1,4-Dichlorobenzene	SV-EPA 8270-BN	<20J ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
2,4-Dinitrotoluene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
2,6-dinitrotoluene	SV-EPA 8270-BN	<2.0 ug/L	1.90 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL

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2602 Jackson Bluff Rd.
Tallahassee
(850) 891-5007

Sample # 02-03068
Group # 0032739
Sample Matrix Type: Aqueous / GRAB

Sample ID LVW D013
Sample Site Hopkins
Sampled 4/15/02 7:40 am

Parameter	Method	Results/Units	Det. Limit/Units	Preparation Date/Time	Date/Time Analyzed	Analyst
2-Chloronaphthalene	SV-EPA 8270-BN	<4.0J ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
3,3-Dichlorbenzidine	SV-EPA 8270-BN	<4.0J ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
4-Bromophenylphenyl ether	SV-EPA 8270-BN	<4.0J ug/L	1.90 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
4-Chlorophenylphenyl ether	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Acenaphthene	SV-EPA 8270-BN	<2.0 ug/L	1.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Acenaphthylene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Anthracene	SV-EPA 8270-BN	<2.0 ug/L	1.90 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Benzidine	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Benzo(a)anthracene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Benzo(a)pyrene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Benzo(b)fluoranthene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Benzo(ghi)perylene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Benzo(k)fluoranthene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Bis(2-chloroethoxy)methane	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Bis(2-chloroethyl)ether	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Bis(2-chloroisopropyl)ether	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Bis(2-ethylhexyl)phthalate	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Butylbenzylphthalate	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Chrysene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Dibenzo(ah)anthracene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Diethylphthalate	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Dimethylphthalate	SV-EPA 8270-BN	<2.0 ug/L	1.60 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Di-n-butylphthalate	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Di-n-octylphthalate	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL

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Customer Information:

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Electric Department
City of Tallahasse
2602 Jackson Bluff Rd.
Tallahassee
(850) 891-5007

Sample # 02-03068
Group # 0032739
Sample Matrix Type: Aqueous / GRAB

Sample ID LVW D013
Sample Site Hopkins
Sampled 4/15/02 7:40 am

Parameter	Method	Results/Units	Det. Limit/Units	Preparation Date/Time	Date/Time Analyzed	Analyst
Fluoranthene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Fluorene	SV-EPA 8270-BN	<4.0J ug/L	1.90 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Hexachlorobenzene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Hexachlorobutadiene	SV-EPA 8270-BN	<40J ug/L	0.90 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Hexachlorocyclopentadiene	SV-EPA 8270-BN	<40J ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Hexachloroethane	SV-EPA 8270-BN	<40J ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Indeno(123cd)pyrene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Isophorone	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Naphthalene	SV-EPA 8270-BN	<8.0J ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Nitrobenzene	SV-EPA 8270-BN	<4.0J ug/L	1.90 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
N-nitrosodimethylamine	SV-EPA 8270-BN	<4.0J ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
N-nitroso-di-n-propylamine	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
N-nitrosodiphenylamine	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Phenanthrene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Pyrene	SV-EPA 8270-BN	<2.0 ug/L	1.90 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
4,4'-DDD	SV-EPA 8270-CP	<2.0 ug/L	0.51 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
4,4'-DDE	SV-EPA 8270-CP	<2.0 ug/L	0.56 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
4,4'-DDT	SV-EPA 8270-CP	<2.0 ug/L	0.38 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
A-BHC	SV-EPA 8270-CP	<2.0 ug/L	0.28 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Aldrin	SV-EPA 8270-CP	<2.0 ug/L	0.59 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Aroclor 1016	SV-EPA 8270-CP	<10 ug/L	2.00 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Aroclor 1221	SV-EPA 8270-CP	<10 ug/L	2.00 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Aroclor 1232	SV-EPA 8270-CP	<10 ug/L	2.00 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Aroclor 1242	SV-EPA 8270-CP	<10 ug/L	2.00 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL

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City of Tallahasse
2602 Jackson Bluff Rd.
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(850) 891-5007

Sample # 02-03068
Group # 0032739
Sample Matrix Type: Aqueous / GRAB

Sample ID LVW D013
Sample Site Hopkins
Sampled 4/15/02 7:40 am

Parameter	Method	Results/Units	Det. Limit/Units	Preparation Date/Time	Date/Time Analyzed	Analyst
Aroclor 1248	SV-EPA 8270-CP	<10 ug/L	2.00 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Aroclor 1254	SV-EPA 8270-CP	<10 ug/L	2.00 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Aroclor 1260	SV-EPA 8270-CP	<10 ug/L	2.00 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
B-BHC	SV-EPA 8270-CP	<2.0 ug/L	0.36 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Chlordane	SV-EPA 8270-CP	<10 ug/L	2.00 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
D-BHC	SV-EPA 8270-CP	<2.0 ug/L	0.23 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Dieldrin	SV-EPA 8270-CP	<10 ug/L	0.65 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Endosulfan I	SV-EPA 8270-CP	<2.0 ug/L	0.85 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Endosulfan II	SV-EPA 8270-CP	<2.0 ug/L	0.76 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Endosulfan Sulfate	SV-EPA 8270-CP	<2.0 ug/L	0.42 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Endrin	SV-EPA 8270-CP	<2.0 ug/L	0.64 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Endrin Aldehyde	SV-EPA 8270-CP	<2.0 ug/L	0.50 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
G-BHC(lindane)	SV-EPA 8270-CP	<2.0 ug/L	0.37 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Heptachlor	SV-EPA 8270-CP	<2.0 ug/L	0.41 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Heptachlor epoxide	SV-EPA 8270-CP	<2.0 ug/L	0.34 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Methoxychlor	SV-EPA 8270-CP	<2.0 ug/L	0.32 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Toxaphene	SV-EPA 8270-CP	<10 ug/L	10.80 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Residue,Total Filterable @180C	TDS	RM mg/L	13.70 mg/L		4/15/02 3:00:00PM	susan
Nitrogen, Total Kjeldahl	TKN	0.78 mg/L as N	0.18 mg/L as N		4/30/02 3:01:13PM	susan
Thallium, Total	Tl-EPA 279.2/SM3113B	<0.17 ug/L	0.62 ug/L	4/16/02 2:30:20PM	4/26/02 3:53:21PM	mike
Carbon, Total Organic	TOC	5.45 mg/L	0.80 mg/L		4/25/02 4:42:30AM	june
Total Oil1 (HEM)	TOG1664	6.22 mg/L	1.40 mg/L		4/23/02 9:44:36AM	JOE
Nitrogen, Total Organic	TON	0.701 mg/L	0.07 mg/L		4/30/02 3:10:03PM	susan
Phosphorus, Total	TP	0.38 mg/L as P	0.04 mg/L as P		4/30/02 2:34:56PM	susan

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Sample # 02-03068
Group # 0032739
Sample Matrix Type: Aqueous / GRAB

Sample ID LVW D013
Sample Site Hopkins
Sampled 4/15/02 7:40 am

Parameter	Method	Results/Units	Det. Limit/Units	Preparation Date/Time	Date/Time Analyzed	Analyst
Total Phenolics	TPHENOLS	pending mg/L	0.00 mg/L			
Residue,Total Nonfilt @103-105	TSS-EPA 160.1	<9 mg/L	10.00 mg/L		4/18/02 11:00:00AM	sharon
1,1,1,2-Tetrachloroethane	VOC-EPA 8260	<0.50 ug/L	0.09 ug/L		4/22/02 3:41:08PM	andy
1,1,1-Trichloroethane	VOC-EPA 8260	<0.50 ug/L	0.08 ug/L		4/22/02 3:41:08PM	andy
1,1,2,2-Tetrachloroethane	VOC-EPA 8260	<0.50 ug/L	0.18 ug/L		4/22/02 3:41:08PM	andy
1,1,2-Trichloroethane	VOC-EPA 8260	<0.50 ug/L	0.13 ug/L		4/22/02 3:41:08PM	andy
1,1-Dichloroethane	VOC-EPA 8260	<0.50 ug/L	0.04 ug/L		4/22/02 3:41:08PM	andy
1,1-Dichloroethylene	VOC-EPA 8260	<0.50 ug/L	0.05 ug/L		4/22/02 3:41:08PM	andy
1,1-Dichloropropene	VOC-EPA 8260	<0.50 ug/L	0.12 ug/L		4/22/02 3:41:08PM	andy
1,2,3-Trichlorobenzene	VOC-EPA 8260	<0.50 ug/L	0.18 ug/L		4/22/02 3:41:08PM	andy
1,2,3-Trichloropropane	VOC-EPA 8260	<0.50 ug/L	0.09 ug/L		4/22/02 3:41:08PM	andy
1,2,4-Trichlorobenzene	VOC-EPA 8260	<0.50 ug/L	0.30 ug/L		4/22/02 3:41:08PM	andy
1,2,4-Trimethylbenzene	VOC-EPA 8260	<0.50 ug/L	0.10 ug/L		4/22/02 3:41:08PM	andy
1,2-Dibromo-3-chloropropane	VOC-EPA 8260	<0.50 ug/L	0.88 ug/L		4/22/02 3:41:08PM	andy
1,2-Dibromoethane	VOC-EPA 8260	<0.50 ug/L	0.15 ug/L		4/22/02 3:41:08PM	andy
1,2-Dichlorobenzene	VOC-EPA 8260	<0.50 ug/L	0.06 ug/L		4/22/02 3:41:08PM	andy
1,2-Dichloroethane	VOC-EPA 8260	0.61 ug/L	0.07 ug/L		4/22/02 3:41:08PM	andy
1,2-Dichloropropane	VOC-EPA 8260	<0.50 ug/L	0.08 ug/L		4/22/02 3:41:08PM	andy
1,3,5-Trimethylbenzene	VOC-EPA 8260	<0.50 ug/L	0.13 ug/L		4/22/02 3:41:08PM	andy
1,3-Dichlorobenzene	VOC-EPA 8260	<0.50 ug/L	0.07 ug/L		4/22/02 3:41:08PM	andy
1,3-Dichloropropane	VOC-EPA 8260	<0.50 ug/L	0.08 ug/L		4/22/02 3:41:08PM	andy
1,4-Dichlorobenzene	VOC-EPA 8260	<0.50 ug/L	0.10 ug/L		4/22/02 3:41:08PM	andy
2,2-Dichloropropane	VOC-EPA 8260	<0.50 ug/L	0.06 ug/L		4/22/02 3:41:08PM	andy
2-Chlorotoluene	VOC-EPA 8260	<0.50 ug/L	0.06 ug/L		4/22/02 3:41:08PM	andy

CITY OF TALLAHASSEE

Water Quality Division
3805 Springhill Rd.
Tallahassee, FL. 32310
850 891 1200 voice
850 891 1062 fax

NELAP Accredited
Laboratory Certification # E51259

Customer Information:

Electric T&D
Electric Department
City of Tallahasse
2602 Jackson Bluff Rd.
Tallahassee
(850) 891-5007

Sample # 02-03068
Group # 0032739
Sample Matrix Type: Aqueous / GRAB

Sample ID LVW D013
Sample Site Hopkins
Sampled 4/15/02 7:40 am

Parameter	Method	Results/Units	Det. Limit/Units	Preparation Date/Time	Date/Time Analyzed	Analyst
4-Chlorotoluene	VOC-EPA 8260	<0.50 ug/L	0.08 ug/L		4/22/02 3:41:08PM	andy
Benzene	VOC-EPA 8260	<0.50 ug/L	0.04 ug/L		4/22/02 3:41:08PM	andy
Bromobenzene	VOC-EPA 8260	<0.50 ug/L	0.07 ug/L		4/22/02 3:41:08PM	andy
Bromochloromethane	VOC-EPA 8260	<0.50 ug/L	0.10 ug/L		4/22/02 3:41:08PM	andy
Bromodichloromethane	VOC-EPA 8260	<0.50 ug/L	0.11 ug/L		4/22/02 3:41:08PM	andy
Bromoform	VOC-EPA 8260	<0.50 ug/L	0.21 ug/L		4/22/02 3:41:08PM	andy
Bromomethane	VOC-EPA 8260	<0.50 ug/L	0.16 ug/L		4/22/02 3:41:08PM	andy
Carbon tetrachloride	VOC-EPA 8260	<0.50 ug/L	0.11 ug/L		4/22/02 3:41:08PM	andy
Chlorobenzene	VOC-EPA 8260	<0.50 ug/L	0.07 ug/L		4/22/02 3:41:08PM	andy
Chloroethane	VOC-EPA 8260	<0.50 ug/L	0.11 ug/L		4/22/02 3:41:08PM	andy
Chloroform	VOC-EPA 8260	<0.50 ug/L	0.04 ug/L		4/22/02 3:41:08PM	andy
Chloromethane	VOC-EPA 8260	<0.50 ug/L	0.07 ug/L		4/22/02 3:41:08PM	andy
cis-1,2-Dichloroethylene	VOC-EPA 8260	<0.50 ug/L	0.10 ug/L		4/22/02 3:41:08PM	andy
cis-1,3-Dichloropropylene	VOC-EPA 8260	<0.50 ug/L	0.13 ug/L		4/22/02 3:41:08PM	andy
Dibromochloromethane	VOC-EPA 8260	<0.50 ug/L	0.12 ug/L		4/22/02 3:41:08PM	andy
Dibromomethane	VOC-EPA 8260	<0.50 ug/L	0.13 ug/L		4/22/02 3:41:08PM	andy
Dichlorodifluoromethane	VOC-EPA 8260	<0.50 ug/L	0.12 ug/L		4/22/02 3:41:08PM	andy
Ethylbenzene	VOC-EPA 8260	<0.50 ug/L	0.06 ug/L		4/22/02 3:41:08PM	andy
Hexachlorobutadiene	VOC-EPA 8260	<0.50 ug/L	0.40 ug/L		4/22/02 3:41:08PM	andy
Isopropylbenzene	VOC-EPA 8260	<0.50 ug/L	0.05 ug/L		4/22/02 3:41:08PM	andy
Methylene chloride	VOC-EPA 8260	<0.50 ug/L	0.11 ug/L		4/22/02 3:41:08PM	andy
MTBE	VOC-EPA 8260	<0.50 ug/L	0.09 ug/L		4/22/02 3:41:08PM	andy
Naphthalene	VOC-EPA 8260	<0.50 ug/L	0.15 ug/L		4/22/02 3:41:08PM	andy
n-Butylbenzene	VOC-EPA 8260	<0.50 ug/L	0.11 ug/L		4/22/02 3:41:08PM	andy

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Customer Information:

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Electric Department
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2602 Jackson Bluff Rd.
Tallahassee
(850) 891-5007

Sample # 02-03068
Group # 0032739
Sample Matrix Type: Aqueous / GRAB

Sample ID LVW D013
Sample Site Hopkins
Sampled 4/15/02 7:40 am

Parameter	Method	Results/Units	Det. Limit/Units	Preparation Date/Time	Date/Time Analyzed	Analyst
n-Propylbenzene	VOC-EPA 8260	<0.50 ug/L	0.06 ug/L		4/22/02 3:41:08PM	andy
o-Xylene	VOC-EPA 8260	<0.50 ug/L	0.05 ug/L		4/22/02 3:41:08PM	andy
p,m-Xylene	VOC-EPA 8260	<1.00 ug/L	0.08 ug/L		4/22/02 3:41:08PM	andy
p-Isopropyltoluene	VOC-EPA 8260	<0.50 ug/L	0.08 ug/L		4/22/02 3:41:08PM	andy
s-Butylbenzene	VOC-EPA 8260	<0.50 ug/L	0.06 ug/L		4/22/02 3:41:08PM	andy
Styrene	VOC-EPA 8260	<0.50 ug/L	0.08 ug/L		4/22/02 3:41:08PM	andy
t-Butylbenzene	VOC-EPA 8260	<0.50 ug/L	0.10 ug/L		4/22/02 3:41:08PM	andy
Tetrachloroethylene	VOC-EPA 8260	<0.50 ug/L	0.08 ug/L		4/22/02 3:41:08PM	andy
Toluene	VOC-EPA 8260	<0.50 ug/L	0.07 ug/L		4/22/02 3:41:08PM	andy
trans-1,2-Dichloroethylene	VOC-EPA 8260	<0.50 ug/L	0.10 ug/L		4/22/02 3:41:08PM	andy
trans-1,3-Dichloropropylene	VOC-EPA 8260	<0.50 ug/L	0.08 ug/L		4/22/02 3:41:08PM	andy
Trichloroethylene	VOC-EPA 8260	<0.50 ug/L	0.10 ug/L		4/22/02 3:41:08PM	andy
Trichlorofluoromethane	VOC-EPA 8260	<0.50 ug/L	0.11 ug/L		4/22/02 3:41:08PM	andy
Vinyl chloride	VOC-EPA 8260	<0.50 ug/L	0.07 ug/L		4/22/02 3:41:08PM	andy

Sampled by : C.Smith

pH = pH Units Temperature = Degrees C
Conductivity = uS DO = mg/L

Total Cl2 = mg/L

Qualifiers
< or T = Less than Detection Limit
U = Undetected
RM = Requested by mistake
NG = Not Given

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Customer Information:

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City of Tallahasse
2602 Jackson Bluff Rd.
Tallahassee
(850) 891-5007

Sample # 02-03069
Group # 0032739
Sample Matrix Type: Aqueous / GRAB

Sample ID MCW D015
Sample Site Hopkins
Sampled 4/15/02 8:35 am

METAL CLEANING WASTE

Parameter	Method	Results/Units	Det. Limit/Units	Preparation Date/Time	Date/Time Analyzed	Analyst
Alkalinity	ALK-EPA 310.1	RM mg/L CaCO3	1.00 mg/L CaCO3		4/15/02 3:00:00PM	sharon
Arsenic, Total by Furnace	As-EPA 206.2/SM3113B	2.70 ug/L	1.20 ug/L	4/16/02 2:30:20PM	4/22/02 10:02:51AM	mike
BOD, Carbonaceous 5 Day @ 20C	CBOD5	<4 mg/L	2.00 mg/L		4/22/02 11:30:51AM	rusty
Cadmium, Total	Cd-EPA 213.2/SM3113B	8.8 ug/L	0.29 ug/L	4/16/02 2:30:20PM	4/24/02 11:16:18AM	mike
Cyanide, Total	CN	pending mg/L	2.00 mg/L			
Chemical Oxygen Demand	COD	38 mg/L	19.00 mg/L		5/1/02 12:00:00AM	rusty
Cobalt, Total	Co-EPA 219.2/SM3113B	393 ug/L	1.40 ug/L	4/16/02 11:51:55AM	4/30/02 1:04:04PM	mike
Fecal Coliform MF	FCMF	<2 #/100mL	1.00 #/100mL		4/17/02 11:30:47AM	joni
Fluoride	FLUORIDE	RM mg/L	0.02 mg/L		4/16/02 4:00:00PM	sharon
Hardness	Hardness-EPA 130.2	RM mg/L CaCO3	5.70 mg/L CaCO3		4/15/02 3:00:00PM	sharon
Mercury, Total	Hg-CV-EPA 245.1	<0.17 ug/L	0.52 ug/L		4/22/02 1:37:35PM	mike
Silver, Total by ICP	ICP-EPA 200.7/6010	<0.0 ug/L	5.00 ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Aluminum, Total by ICP	ICP-EPA 200.7/6010	3904 ug/L	10.00 ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Barium, Total by ICP	ICP-EPA 200.7/6010	36.0 ug/L	10.00 ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Beryllium, Total by ICP	ICP-EPA 200.7/6010	<0.3 ug/L	1.00 ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Cobalt, Total by ICP	ICP-EPA 200.7/6010	RM ug/L	4.00 ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Chromium, Total by ICP	ICP-EPA 200.7/6010	16.2 ug/L	2.50 ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Copper, Total by ICP	ICP-EPA 200.7/6010	1305 ug/L	3.40 ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Iron, Total by ICP	ICP-EPA 200.7/6010	4484 ug/L	10.00 ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Manganese, Total by ICP	ICP-EPA 200.7/6010	6057 ug/L	1.00 ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Molybdenum, Total by ICP	ICP-EPA 200.7/6010	RM ug/L	5.00 ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Nickel, Total by ICP	ICP-EPA 200.7/6010	7602 ug/L	6.00 ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Zinc, Total by ICP	ICP-EPA 200.7/6010	5754 ug/L	5.00 ug/L	4/16/02 2:30:20PM	4/16/02 2:21:09PM	mike
Molybdenum, Total	Mo-EPA 246.2/SM3113B	<0.53 ug/L	1.20 ug/L	4/16/02 11:51:55AM	4/29/02 10:16:04AM	mike

CITY OF TALLAHASSEE

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Laboratory Certification # E51259

Customer Information:

Electric T&D
Electric Department
City of Tallahasse
2602 Jackson Bluff Rd.
Tallahassee
(850) 891-5007

Sample # 02-03069
Group # 0032739
Sample Matrix Type: Aqueous / GRAB

Sample ID MCW D015
Sample Site Hopkins
Sampled 4/15/02 8:35 am

Parameter	Method	Results/Units		Det. Limit/Units		Preparation Date/Time	Date/Time Analyzed	Analyst
Nitrogen, Ammonia	NH3	<0.011	mg/L as N	0.01	mg/L as N		4/19/02 2:06:20PM	susan
Nitrogen, Nitrite plus Nitrate	NO2/NO3	<0.00	mg/L as N	0.01	mg/L as N		4/17/02 2:51:40PM	susan
Odor, Threshold	ODOR-EPA 140.1	RM	T.O.N.	0.00	T.O.N.		4/16/02 4:00:00PM	sharon
Lead, Total	Pb-EPA 239.2/SM3113B	12.5	ug/L	0.50	ug/L	4/16/02 2:30:20PM	4/22/02 1:13:52PM	mike
Antimony, Total	Sb-EPA 204.2/SM3113B	<0.54	ug/L	0.86	ug/L	4/16/02 2:30:20PM	4/25/02 3:50:23PM	mike
Selenium, Total by Furnace	Se-EPA 270.2/SM3113B	<1.03	ug/L	1.80	ug/L	4/16/02 2:30:20PM	4/19/02 3:44:25PM	mike
Tin, Total	Sn-EPA 282.2/SM3113B	<0.0	ug/L	7.18	ug/L	4/16/02 2:30:20PM	4/29/02 3:58:55PM	mike
2,4,6-Trichlorophenol	SV-EPA 8270-AF	<4.0J	ug/L	0.43	ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
2,4-Dichlorophenol	SV-EPA 8270-AF	<4.0J	ug/L	0.90	ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
2,4-dimethylphenol	SV-EPA 8270-AF	<4.0J	ug/L	0.48	ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
2,4-dimethylphenol	SV-EPA 8270-AF	<2.0	ug/L	0.65	ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
2-Chlorophenol	SV-EPA 8270-AF	<2.0	ug/L	0.45	ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
2-methyl-4,6-dinitrophenol	SV-EPA 8270-AF	<2.0	ug/L	0.64	ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
2-nitrophenol	SV-EPA 8270-AF	<4.0J	ug/L	0.47	ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
4-chloro-3-methylphenol	SV-EPA 8270-AF	<2.0	ug/L	0.77	ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
4-nitrophenol	SV-EPA 8270-AF	<2.0	ug/L	0.44	ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
Pentachlorophenol	SV-EPA 8270-AF	<2.0	ug/L	0.80	ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
Phenol	SV-EPA 8270-AF	<2.0	ug/L	0.10	ug/L	4/18/02 8:24:17AM	4/23/02 7:47:23AM	JOEL
1,2,4-trichlorobenzene	SV-EPA 8270-BN	<20J	ug/L	1.90	ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
1,2-Dichlorobenzene	SV-EPA 8270-BN	<20J	ug/L	1.90	ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
1,3-Dichlorobenzene	SV-EPA 8270-BN	<20J	ug/L	1.90	ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
1,4-Dichlorobenzene	SV-EPA 8270-BN	<20J	ug/L	2.00	ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
2,4-Dinitrotoluene	SV-EPA 8270-BN	<2.0	ug/L	2.00	ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
2,6-dinitrotoluene	SV-EPA 8270-BN	<2.0	ug/L	1.90	ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL

CITY OF TALLAHASSEE

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Customer Information:

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Tallahassee
(850) 891-5007

Sample # 02-03069
Group # 0032739
Sample Matrix Type: Aqueous / GRAB

Sample ID MCW D015
Sample Site Hopkins
Sampled 4/15/02 8:35 am

Parameter	Method	Results/Units	Det. Limit/Units	Preparation Date/Time	Date/Time Analyzed	Analyst
2-Chloronaphthalene	SV-EPA 8270-BN	<8.0J ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
3,3-Dichlorbenzidine	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
4-Bromophenylphenyl ether	SV-EPA 8270-BN	<2.0 ug/L	1.90 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
4-Chlorophenylphenyl ether	SV-EPA 8270-BN	<4.0J ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Acenaphthene	SV-EPA 8270-BN	<4.0J ug/L	1.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Acenaphthylene	SV-EPA 8270-BN	<4.0J ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Anthracene	SV-EPA 8270-BN	<2.0 ug/L	1.90 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Benzidine	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Benzo(a)anthracene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Benzo(a)pyrene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Benzo(b)fluoranthene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Benzo(ghi)perylene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Benzo(k)fluoranthene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Bis(2-chloroethoxy)methane	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Bis(2-chloroethyl)ether	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Bis(2-chloroisopropyl)ether	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Bis(2-ethylhexyl)phthalate	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Butylbenzylphthalate	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Chrysene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Dibenzo(ah)anthracene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Diethylphthalate	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Dimethylphthalate	SV-EPA 8270-BN	<2.0 ug/L	1.60 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Di-n-butylphthalate	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Di-n-octylphthalate	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL

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Sample # 02-03069
Group # 0032739
Sample Matrix Type: Aqueous / GRAB

Sample ID MCW D015
Sample Site Hopkins
Sampled 4/15/02 8:35 am

Parameter	Method	Results/Units	Det. Limit/Units	Preparation Date/Time	Date/Time Analyzed	Analyst
Fluoranthene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Fluorene	SV-EPA 8270-BN	<4.0J ug/L	1.90 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Hexachlorobenzene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Hexachlorobutadiene	SV-EPA 8270-BN	<40J ug/L	0.90 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Hexachlorocyclopentadiene	SV-EPA 8270-BN	<40J ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Hexachloroethane	SV-EPA 8270-BN	<40J ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Indeno(123cd)pyrene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Isophorone	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Naphthalene	SV-EPA 8270-BN	<8.0J ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Nitrobenzene	SV-EPA 8270-BN	<4.0J ug/L	1.90 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
N-nitrosodimethylamine	SV-EPA 8270-BN	<4.0J ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
N-nitroso-di-n-propylamine	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
N-nitrosodiphenylamine	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Phenanthrene	SV-EPA 8270-BN	<2.0 ug/L	2.00 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
Pyrene	SV-EPA 8270-BN	<2.0 ug/L	1.90 ug/L	4/18/02 8:24:17AM	3/23/02 7:20:50AM	JOEL
4,4'-DDD	SV-EPA 8270-CP	<2.0 ug/L	0.51 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
4,4'-DDE	SV-EPA 8270-CP	<2.0 ug/L	0.56 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
4,4'-DDT	SV-EPA 8270-CP	<2.0 ug/L	0.38 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
A-BHC	SV-EPA 8270-CP	<2.0 ug/L	0.28 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Aldrin	SV-EPA 8270-CP	<2.0 ug/L	0.59 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Aroclor 1016	SV-EPA 8270-CP	<10 ug/L	2.00 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Aroclor 1221	SV-EPA 8270-CP	<10 ug/L	2.00 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Aroclor 1232	SV-EPA 8270-CP	<10 ug/L	2.00 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Aroclor 1242	SV-EPA 8270-CP	<10 ug/L	2.00 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL

CITY OF TALLAHASSEE

Water Quality Division
3805 Springhill Rd.
Tallahassee, FL. 32310
850 891 1200 voice
850 891 1062 fax

NELAP Accredited
Laboratory Certification # E51259

Customer Information:

Electric T&D
Electric Department
City of Tallahasse
2602 Jackson Bluff Rd.
Tallahassee
(850) 891-5007

Sample # 02-03069
Group # 0032739
Sample Matrix Type: Aqueous / GRAB

Sample ID MCW D015
Sample Site Hopkins
Sampled 4/15/02 8:35 am

Parameter	Method	Results/Units	Det. Limit/Units	Preparation Date/Time	Date/Time Analyzed	Analyst
Aroclor 1248	SV-EPA 8270-CP	<10 ug/L	2.00 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Aroclor 1254	SV-EPA 8270-CP	<10 ug/L	2.00 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Aroclor 1260	SV-EPA 8270-CP	<10 ug/L	2.00 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
B-BHC	SV-EPA 8270-CP	<2.0 ug/L	0.36 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Chlordane	SV-EPA 8270-CP	<10 ug/L	2.00 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
D-BHC	SV-EPA 8270-CP	<2.0 ug/L	0.23 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Dieldrin	SV-EPA 8270-CP	<10 ug/L	0.65 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Endosulfan I	SV-EPA 8270-CP	<2.0 ug/L	0.85 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Endosulfan II	SV-EPA 8270-CP	<2.0 ug/L	0.76 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Endosulfan Sulfate	SV-EPA 8270-CP	<2.0 ug/L	0.42 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Endrin	SV-EPA 8270-CP	<2.0 ug/L	0.64 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Endrin Aldehyde	SV-EPA 8270-CP	<2.0 ug/L	0.50 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
G-BHC(lindane)	SV-EPA 8270-CP	<2.0 ug/L	0.37 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Heptachlor	SV-EPA 8270-CP	<2.0 ug/L	0.41 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Heptachlor epoxide	SV-EPA 8270-CP	<2.0 ug/L	0.34 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Methoxychlor	SV-EPA 8270-CP	<2.0 ug/L	0.32 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Toxaphene	SV-EPA 8270-CP	<10 ug/L	10.80 ug/L	4/18/02 8:24:17AM	4/23/02 8:02:39AM	JOEL
Residue,Total Filterable @180C	TDS	RM mg/L	13.70 mg/L		4/15/02 3:00:00PM	susan
Nitrogen, Total Kjeldahl	TKN	1.80 mg/L as N	0.18 mg/L as N		4/30/02 3:01:13PM	susan
Thallium, Total	Tl-EPA 279.2/SM3113B	1.80 ug/L	0.62 ug/L	4/16/02 2:30:20PM	4/26/02 3:53:21PM	mike
Carbon, Total Organic	TOC	6.86 mg/L	0.80 mg/L		4/26/02 4:56:03AM	june
Total Oil1 (HEM)	TOG1664	<5.0 mg/L	1.40 mg/L		4/23/02 9:44:36AM	JOE
Nitrogen, Total Organic	TON	1.79 mg/L	0.07 mg/L		4/30/02 3:10:03PM	susan
Phosphorus, Total	TP	0.12 mg/L as P	0.04 mg/L as P		4/30/02 2:34:56PM	susan

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Electric T&D
Electric Department
City of Tallahasse
2602 Jackson Bluff Rd.
Tallahassee
(850) 891-5007

Sample # 02-03069
Group # 0032739
Sample Matrix Type: Aqueous / GRAB

Sample ID MCW D015
Sample Site Hopkins
Sampled 4/15/02 8:35 am

Parameter	Method	Results/Units	Det. Limit/Units	Preparation Date/Time	Date/Time Analyzed	Analyst
Total Phenolics	TPHENOLS	pending mg/L	0.00 mg/L			
Residue,Total Nonfilt @103-105	TSS-EPA 160.1	21 mg/L	10.00 mg/L		4/18/02 11:00:00AM	sharon
1,1,1,2-Tetrachloroethane	VOC-EPA 8260	<0.50 ug/L	0.09 ug/L		4/22/02 3:41:08PM	andy
1,1,1-Trichloroethane	VOC-EPA 8260	<0.50 ug/L	0.08 ug/L		4/22/02 3:41:08PM	andy
1,1,2,2-Tetrachloroethane	VOC-EPA 8260	<0.50 ug/L	0.18 ug/L		4/22/02 3:41:08PM	andy
1,1,2-Trichloroethane	VOC-EPA 8260	<0.50 ug/L	0.13 ug/L		4/22/02 3:41:08PM	andy
1,1-Dichloroethane	VOC-EPA 8260	<0.50 ug/L	0.04 ug/L		4/22/02 3:41:08PM	andy
1,1-Dichloroethylene	VOC-EPA 8260	<0.50 ug/L	0.05 ug/L		4/22/02 3:41:08PM	andy
1,1-Dichloropropene	VOC-EPA 8260	<0.50 ug/L	0.12 ug/L		4/22/02 3:41:08PM	andy
1,2,3-Trichlorobenzene	VOC-EPA 8260	<0.50 ug/L	0.18 ug/L		4/22/02 3:41:08PM	andy
1,2,3-Trichloropropane	VOC-EPA 8260	<0.50 ug/L	0.09 ug/L		4/22/02 3:41:08PM	andy
1,2,4-Trichlorobenzene	VOC-EPA 8260	<0.50 ug/L	0.30 ug/L		4/22/02 3:41:08PM	andy
1,2,4-Trimethylbenzene	VOC-EPA 8260	<0.50 ug/L	0.10 ug/L		4/22/02 3:41:08PM	andy
1,2-Dibromo-3-chloropropane	VOC-EPA 8260	<0.50 ug/L	0.88 ug/L		4/22/02 3:41:08PM	andy
1,2-Dibromoethane	VOC-EPA 8260	<0.50 ug/L	0.15 ug/L		4/22/02 3:41:08PM	andy
1,2-Dichlorobenzene	VOC-EPA 8260	<0.50 ug/L	0.06 ug/L		4/22/02 3:41:08PM	andy
1,2-Dichloroethane	VOC-EPA 8260	<0.50 ug/L	0.07 ug/L		4/22/02 3:41:08PM	andy
1,2-Dichloropropane	VOC-EPA 8260	<0.50 ug/L	0.08 ug/L		4/22/02 3:41:08PM	andy
1,3,5-Trimethylbenzene	VOC-EPA 8260	<0.50 ug/L	0.13 ug/L		4/22/02 3:41:08PM	andy
1,3-Dichlorobenzene	VOC-EPA 8260	<0.50 ug/L	0.07 ug/L		4/22/02 3:41:08PM	andy
1,3-Dichloropropane	VOC-EPA 8260	<0.50 ug/L	0.08 ug/L		4/22/02 3:41:08PM	andy
1,4-Dichlorobenzene	VOC-EPA 8260	<0.50 ug/L	0.10 ug/L		4/22/02 3:41:08PM	andy
2,2-Dichloropropane	VOC-EPA 8260	<0.50 ug/L	0.06 ug/L		4/22/02 3:41:08PM	andy
2-Chlorotoluene	VOC-EPA 8260	<0.50 ug/L	0.06 ug/L		4/22/02 3:41:08PM	andy

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Tallahassee
(850) 891-5007

Sample # 02-03069
Group # 0032739
Sample Matrix Type: Aqueous / GRAB

Sample ID MCW D015
Sample Site Hopkins
Sampled 4/15/02 8:35 am

Parameter	Method	Results/Units	Det. Limit/Units	Preparation Date/Time	Date/Time Analyzed	Analyst
4-Chlorotoluene	VOC-EPA 8260	<0.50 ug/L	0.08 ug/L		4/22/02 3:41:08PM	andy
Benzene	VOC-EPA 8260	<0.50 ug/L	0.04 ug/L		4/22/02 3:41:08PM	andy
Bromobenzene	VOC-EPA 8260	<0.50 ug/L	0.07 ug/L		4/22/02 3:41:08PM	andy
Bromochloromethane	VOC-EPA 8260	<0.50 ug/L	0.10 ug/L		4/22/02 3:41:08PM	andy
Bromodichloromethane	VOC-EPA 8260	<0.50 ug/L	0.11 ug/L		4/22/02 3:41:08PM	andy
Bromoform	VOC-EPA 8260	<0.50 ug/L	0.21 ug/L		4/22/02 3:41:08PM	andy
Bromomethane	VOC-EPA 8260	<0.50 ug/L	0.16 ug/L		4/22/02 3:41:08PM	andy
Carbon tetrachloride	VOC-EPA 8260	<0.50 ug/L	0.11 ug/L		4/22/02 3:41:08PM	andy
Chlorobenzene	VOC-EPA 8260	<0.50 ug/L	0.07 ug/L		4/22/02 3:41:08PM	andy
Chloroethane	VOC-EPA 8260	<0.50 ug/L	0.11 ug/L		4/22/02 3:41:08PM	andy
Chloroform	VOC-EPA 8260	<0.50 ug/L	0.04 ug/L		4/22/02 3:41:08PM	andy
Chloromethane	VOC-EPA 8260	<0.50 ug/L	0.07 ug/L		4/22/02 3:41:08PM	andy
cis-1,2-Dichloroethylene	VOC-EPA 8260	<0.50 ug/L	0.10 ug/L		4/22/02 3:41:08PM	andy
cis-1,3-Dichloropropylene	VOC-EPA 8260	<0.50 ug/L	0.13 ug/L		4/22/02 3:41:08PM	andy
Dibromochloromethane	VOC-EPA 8260	<0.50 ug/L	0.12 ug/L		4/22/02 3:41:08PM	andy
Dibromomethane	VOC-EPA 8260	<0.50 ug/L	0.13 ug/L		4/22/02 3:41:08PM	andy
Dichlorodifluoromethane	VOC-EPA 8260	<0.50 ug/L	0.12 ug/L		4/22/02 3:41:08PM	andy
Ethylbenzene	VOC-EPA 8260	<0.50 ug/L	0.06 ug/L		4/22/02 3:41:08PM	andy
Hexachlorobutadiene	VOC-EPA 8260	<0.50 ug/L	0.40 ug/L		4/22/02 3:41:08PM	andy
Isopropylbenzene	VOC-EPA 8260	<0.50 ug/L	0.05 ug/L		4/22/02 3:41:08PM	andy
Methylene chloride	VOC-EPA 8260	<0.50 ug/L	0.11 ug/L		4/22/02 3:41:08PM	andy
MTBE	VOC-EPA 8260	<0.50 ug/L	0.09 ug/L		4/22/02 3:41:08PM	andy
Naphthalene	VOC-EPA 8260	<0.50 ug/L	0.15 ug/L		4/22/02 3:41:08PM	andy
n-Butylbenzene	VOC-EPA 8260	<0.50 ug/L	0.11 ug/L		4/22/02 3:41:08PM	andy

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Tallahassee
(850) 891-5007

Sample # 02-03069
Group # 0032739
Sample Matrix Type: Aqueous / GRAB

Sample ID MCW D015
Sample Site Hopkins
Sampled 4/15/02 8:35 am

Parameter	Method	Results/Units	Det. Limit/Units	Preparation Date/Time	Date/Time Analyzed	Analyst
n-Propylbenzene	VOC-EPA 8260	<0.50 ug/L	0.06 ug/L		4/22/02 3:41:08PM	andy
o-Xylene	VOC-EPA 8260	<0.50 ug/L	0.05 ug/L		4/22/02 3:41:08PM	andy
p,m-Xylene	VOC-EPA 8260	<1.00 ug/L	0.08 ug/L		4/22/02 3:41:08PM	andy
p-Isopropyltoluene	VOC-EPA 8260	<0.50 ug/L	0.08 ug/L		4/22/02 3:41:08PM	andy
s-Butylbenzene	VOC-EPA 8260	<0.50 ug/L	0.06 ug/L		4/22/02 3:41:08PM	andy
Styrene	VOC-EPA 8260	<0.50 ug/L	0.08 ug/L		4/22/02 3:41:08PM	andy
t-Butylbenzene	VOC-EPA 8260	<0.50 ug/L	0.10 ug/L		4/22/02 3:41:08PM	andy
Tetrachloroethylene	VOC-EPA 8260	<0.50 ug/L	0.08 ug/L		4/22/02 3:41:08PM	andy
Toluene	VOC-EPA 8260	<0.50 ug/L	0.07 ug/L		4/22/02 3:41:08PM	andy
trans-1,2-Dichloroethylene	VOC-EPA 8260	<0.50 ug/L	0.10 ug/L		4/22/02 3:41:08PM	andy
trans-1,3-Dichloropropylene	VOC-EPA 8260	<0.50 ug/L	0.08 ug/L		4/22/02 3:41:08PM	andy
Trichloroethylene	VOC-EPA 8260	<0.50 ug/L	0.10 ug/L		4/22/02 3:41:08PM	andy
Trichlorofluoromethane	VOC-EPA 8260	<0.50 ug/L	0.11 ug/L		4/22/02 3:41:08PM	andy
Vinyl chloride	VOC-EPA 8260	<0.50 ug/L	0.07 ug/L		4/22/02 3:41:08PM	andy

Sampled by : C.Smith

pH = pH Units Temperature = Degrees C
Conductivity = uS DO = mg/L

Total Cl2 = mg/L

Qualifiers
< or T = Less than Detection Limit
U = Undetected
RM = Requested by mistake
NG = Not Given

10.5.10 Subsurface Soil Exploration and Foundation Recommendations

REC
CITY OF TALLAHASSEE
05 MAY 21 PM 2:29
ELECTRIC UTILITIES
GAS UTILITIES

SUBSURFACE SOIL EXPLORATION AND FOUNDATION RECOMMENDATIONS FOR PROPOSED HOPKINS GENERATING STATION RECIPROCATING ENGINES AND COMBUSTION TURBINE GENERATOR (CTG), GEDDIE ROAD, TALLAHASSEE, FLORIDA

File No. 04-1686

Ardaman & Associates, Inc.

OFFICES

Orlando, 8008 S. Orange Avenue, Orlando, Florida 32809, Phone (407) 855-3860
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Miami, 2608 W. 84th Street, Hialeah, Florida 33016, Phone (305) 825-2683
Port Charlotte, 740 Tamiami Trail, Unit 3, Port Charlotte, Florida 33954, Phone (941) 624-3393
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MEMBERS:
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American Concrete Institute
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Florida Institute of Consulting Engineers

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APPENDIX A

APPENDIX B

APPENDIX C

Ardaman & Associates, Inc.

Geotechnical, Environmental and
Materials Consultants

May 21, 2004
File No. 04-1686

City of Tallahassee
Electric Utilities
2602 Jackson Bluff Road
Tallahassee, Florida 32304

Attention: Ms. Cyrinda deMontmoline

Subject: Subsurface Soil Exploration and Foundation Recommendations for Proposed Hopkins Generating Station Reciprocating Engines and Combustion Turbine Generator (CTG), Geddie Road, Tallahassee, Florida

Dear Ms. deMontmoline:

As authorized in Purchase Order Number COTLH-0001012095, dated March 11, 2004, Ardaman & Associates, Inc. has completed the subsurface soil exploration for the above project. This included twelve (12) Standard Penetration Test borings beneath the subject facilities and two (2) Standard Penetration Test borings in a proposed Substation area to the north.

This report presents the results of our field exploration, laboratory testing, and foundation recommendations. It has been prepared for the exclusive use of our Client and their Consultants for specific application to the subject project.

We are pleased to be of assistance to you on this phase of your project. When we may be of further service to you or should you have any questions, please do not hesitate to contact us.

Sincerely,

ARDAMAN & ASSOCIATES. INC.

Michael S. Wilson, P.E.
Tallahassee Branch Manager
Fla. Eng. Reg. No. 46088

MSW/wj/jh

cc: Mr. Chuck Nelson, P.E. - Sargent & Lundy

MAY 2 1 2004

3175 West Tharpe Street, Tallahassee, Florida 32303 Phone (850) 576-6131 FAX (850) 574-0735
Offices in: Bartow, Cocoa, Fort Lauderdale, Fort Myers, Miami, Orlando, Port Charlotte, Port St. Lucie, Sarasota, Tallahassee, Tampa, W. Palm Beach

1.0 PROJECT DESCRIPTION

Sargent & Lundy provided to us a site plan reproduced as the attached Soil Boring Location Plan, Figure 1, their drawing number SBLP-1, Revision "B", which indicated the locations of the test borings to be performed. These included nine (9) Standard Penetration Test borings within the proposed Reciprocating Engines area, three (3) Standard Penetration Test borings within the proposed Combustion Turbine Generator area, and two (2) Standard Penetration Test borings within the proposed Substation Area. All of these borings were specified to be performed in accordance with the Standard Penetration Test (SPT) procedure, to be completed with 10 feet of rock coring in the bottom.

According to Sargent & Lundy Specification No. A-7113, Project Number 10558-032, dated 01/20/2004. Section 102 "SCOPE OF WORK", they require foundation recommendations for loads between 1.5 ksf for the Reciprocating Engines (test borings HSB-1 through 9) and 4.0 ksf for the CTG (test borings HSB-10; 11, and 12). At the time of this report preparation, we had not been provided with loading requirements for the Substation (test borings HSB-13 and HSB-14).

2.0 FIELD EXPLORATION

The fourteen Standard Penetration Test (SPT) borings were performed in accordance with ASTM D 1586 to depths of 52 feet to 69 feet below the existing ground surface within the proposed construction footprints. Two each 5 foot long "rock" coring runs, in accordance with ASTM D 2113, were performed between the last three SPT test samples in each boring (three runs in boring number HSB-3), using a NW core barrel, which returns approximate 2-inch diameter rock cores. A summary of the SPT procedure is included in Appendix A.

Upon completion, the boreholes were backfilled with a Portland Cement/bentonite mixture, and in all except two of the test borings (HSB-3 and HSB-11), gravel was introduced into the boreholes to promote a seal where a loss of grout occurred.

Shelby Tube samples were also secured from selected test boring areas and depths to obtain "undisturbed" samples of the soils for laboratory testing. Finally, auger samples of the near surface soils were obtained at eight locations for subsequent laboratory Modified Proctor testing (ASTM D 1557).

3.0 SUBSURFACE CONDITIONS

3.1 General

Subsurface conditions encountered during our field exploration are presented on the profiles presented on the attached Figures 2 and 3. Soil and rock stratification is based on examination of recovered soil and rock samples and interpretation of the field boring logs by our engineers. Stratification lines represent the approximate boundaries between the soil and rock types, and the actual transitions may be more gradual than implied.

The soil descriptions shown on Figures 2 and 3 are based upon visual/manual classification procedures in accordance with ASTM D 2488, and laboratory tests to aid our classifications, in accordance with the Unified Soil Classification System, ASTM D 2487, a copy of selected parts of which is included in Appendix A.

3.2 Soil and Rock Conditions

A generalization of subsurface conditions encountered in our borings follows:

> The top 10 to 15 feet of the soil profile consisted of Strata 1, 2 and 3, silty fine sands with roots, fine sand with silt, and silty to silty, clayey fine sands, which were found to be in a loose to medium dense condition. **Beneath these depths, the soil profiles exhibited considerable variation down to a depth of about 40 feet.** Within this depth range, we encountered very loose to medium dense (or very soft to stiff) Stratum 4 silty, clayey to very clayey fine sand; very soft to stiff Stratum 5 very clayey sand to sandy fat clay; and occasional additional layers of very loose to loose Stratum 3 soils. Notably, within this depth range, we encountered a loss of drilling fluid recirculation among 10 of the test borings, and the significance of this finding will be discussed in Section 5.0 of this report.
>
> The bottom of the profiles was dominated by Stratum 6, calcareous clayey limestone, which varies in texture from a soil-like consistency to very hard, as evidenced by the blow counts, between core runs (and the recoveries and "RQD's" in the rock cores). **Notably, within about 10 feet of penetration of the limestone, extremely soft zones were noted among seven of the borings, as evidenced on the profiles with the indication "very soft" or "WOR" meaning that a considerable thickness of material was penetrated as the rods sank down into the borehole under their own weight, and weight of hammer was also noted in some sampling advancements.**

3.3 Groundwater Levels

Groundwater was typically encountered in the borings at approximately 30 feet depth, except in boring HSB-7, where it was somewhat higher. Groundwater levels shown on the profiles represent groundwater levels encountered on the dates shown. Fluctuations in groundwater levels should be anticipated throughout the year due to seasonal variations in rainfall, and other factors.

4.0 LABORATORY TESTING

Soil and rock samples secured from the test borings were packaged and transported to our laboratory for further classification, examination, and designation of laboratory tests. Index laboratory test results are presented on the attached Figures 2 and 3 at the respective depths from which the tested samples were recovered. These included natural moisture content, percent passing the U.S. No. 200 sieve (percent silt and clay), Atterberg Limits (plasticity), and compressive strength test results on selected sections from the rock cores. More detailed laboratory sieve

analysis tests are depicted in a Soil Lab Test Data table, which is included in Appendix B, followed by Shelby Tube sample test results including unconfined compression and consolidation. Appendix C presents pH, soluble sulfates, and soluble chlorides from certain samples; and the eight Modified Proctor Test results

5.0 ENGINEERING EVALUATION & FOUNDATION RECOMMENDATIONS

5.1 General

Given the **very soft zones, some as thick as 5 to 9 feet** encountered within about 35 to 50 feet depth in a majority of the borings, we recommend that a deep foundation system be utilized for the proposed structures. except possibly in the Substation area where structural loading may be relatively light.

Due to the ease in varying their lengths, we recommend use of either Driven, Closed End Pipe Piles, or Auger-Cast Piles, and we have performed load capacity analyses for both types. The Pipe Piles have the advantage that driving resistance "proves" capacity, but we have also found that auger-cast piles can be very competitive economically, and are suitable for this site, provided that all auger-cast pile installations are observed by a representative of Ardaman & Associates, Inc. and provided (in addition to static load testing) that pile integrity testing is performed, as recommended herein. With use of auger-cast piles, there is also a **concern that loss of grout can occur in zones where our test borings experienced drill fluid losses, as discussed below.**

5.2 Closed End Pipe Piling Evaluation

We have analyzed all twelve test borings within the Reciprocating Generators and CTG for 16-inch diameter and 18-inch diameter closed end pipe piles. We also analyzed 12-inch and 14-inch diameter closed end pipe piles among selected borings. Our pile capacity analyses were performed using the SPT-97 software. which is based upon a progression of the methodology developed and reported in Research Bulletin-121 prepared for FDOT by Schmertmann in 1967.

It is customary to recommend **one** allowable pile capacity for each diameter for a project site based upon capacities obtained in the least substantial borings. Within this site these are TH-HSB4, TH-HSB5, and TH-HSB6, which represent 25% of the borings. Although this approach may seem somewhat conservative, given that considerably higher pile capacities could be achieved among the other test boring locations, it is also possible **that lower than expected pile driving resistances** could occur between the borings. As such, **longer than anticipated pile lengths may be needed between the borings even for the selected allowable load, so the designer and estimators must bear this in mind.**

The following Pipe Pile Data Table provides a summary of the design data among the 12 borings, which include the allowable capacities of **40 tons for a 16-inch diameter pile**, and **45 tons for an 18-inch diameter pile**, and the table also provides estimated pile driving lengths **(based from existing ground surface)** at each test boring location.

The piles should have a wall and bottom plate thickness adequate to resist driving conditions. We recommend requiring a minimum wall thickness of 0.5 inches and bottom plate thickness of 0.75 inches. These thicknesses must be verified to be suitable for the proposed pile driving system.

We recommend that Pipe Piles be filled with concrete upon completion of driving.

The piling capacity analyses output are fairly voluminous, and therefore are not included herein, but can be provided if requested.

PIPE PILE DATA TABLE

Test Boring Location	Estimated Pile Length (ft)*	Test Pile (Y)
HSB-1	50	--
HSB-2	44	--
HSB-3	42	--
HSB-4	57	Yes
HSB-5	57	Yes
HSB-6	40	--
HSB-7	55	--
HSB-8	54	Yes
HSB-9	51	--
HSB-10	51	--
HSB-11	45	--
HSB-12	46	--

ok Comp. Up Lateral.

2nd Comp @ HSB-4 area. where no borings

* Below Existing Ground

5.2.1 Test Pipe Pile Program

As indicated on the above Table, we recommend three test piles among boring locations HSB-4, HSB-5 and HSB-8, using a Pile Driving Analyzer (PDA) to dynamically monitor the test piles and evaluate hammer performance and driving stresses; verify driving conditions; establish production pile driving criteria: and to confirm, or revise estimates of pile production lengths.

At least two weeks prior to mobilization by the piling contractor, hammer specifications and all the relevant driving system information necessary to assess its suitability shall be provided to the engineers to perform pre-test Wave Equation Analyses. The final pile driving criteria and pile production lengths will be established on the basis of PDA field records, in conjunction with CAPWAP analyses.

5.2.2 Production Pipe Pile Construction

Piles must be positioned from each other a distance of least three times the pile diameter, center to center of pile, to reduce the "shadow effect" which otherwise reduces group capacity to less than the sum of the individual pile capacities.

Piles should not be driven beyond practical refusal, which is typically considered to be 20 blows per inch, but in any case the pile driving should conform to the recommended resistance developed during the Pile Driving Analyzer testing and subsequent analyses.

During all pile driving, records should be kept for each pile by a representative of the design engineers detailing pertinent information, including: the pile type, pile length, date driven, and blow count per foot, splicing, and any other stoppages in driving, or other unusual occurrences. In the event that a pile does not make required capacity within a reasonable depth of expected pile length, but is close to the required driving resistance (RDR), a set check may be performed to reassess the driving resistance after 24 to 48 hours of stoppage of driving.

5.2.3 Opened End Pipe Piles

In our opinion, opened end pipe piles will drive considerably deeper without a significant increase in capacity at this pile type tends to readily penetrate local limestones. In addition, a hardened driving shore would be needed. However, this pile type could be used in combination with drilling to clean out the pile and further penetrate underlying limestone. Thereafter, grouting the limestone through the pile can greatly increase the pile capacity. We estimate that the allowable compressive capacity could be doubled using this construction technique. Note, however, that the quantity of grouting required to produce these piles is not readily quantifiable and could be considerable. We would be pleased to assist with further analysis if this option is desirable.

5.3 Auger-Cast Piling Evaluation

Auger-cast piles have been a popular foundation alternative in the Tallahassee area for over 10 years, due to their economy, and speed of installation, and Ardaman & Associates, Inc. have overseen performance of least a dozen auger-cast pile load tests in the Tallahassee area over the last 10 years, verifying and improving our design methodology.

Whereas auger-cast piles tend to exhibit relatively high capacities due to grout "bulbing" and penetration, this type of foundation also introduces some challenges, as stated above, in terms of the potential for grout losses in very soft zones (as documented among many of the borings). In the past, at other sites, we have overcome this problem when it occurs by moving the piling installation rig to another pile, allowing several hours for the grout to reach an initial set, and then moving back to the pile with the grout loss, re-drilling the augers to the design bottom of pile, and re-grouting.

As implied, grout uptakes are expected to be highly variable. Whereas the average is usually about 125% to 135% of the theoretical pile volume, grout uptakes of over 150%, or 200% sometimes occur, and are expected at the Hopkins Site. We suspect that average grout quantities will exceed 150 percent.

Pile Integrity Testing (PIT) is recommended on an initial group of about 20 piles to be selected from piles installed in the first few days of pile production. Additional testing requirements will largely depend on the results of this initial testing. Also, 3 Pile Load Tests are recommended, among borings HSB-4, 5, and 8. An additional 2 or 3 load tests should be budgeted, if needed, due to suspect installation conditions, or unusual PIT results.

We have analyzed Auger-Cast piling capacities using methods similar to those proposed by Neely (1991), and Reese and O'Neill (FHWA, 1988) modified, in part by Zelada and Stephenson (2000). As indicated by the following table, we recommend a design allowable capacity of **60 tons for 16-inch diameter** Auger-cast piles, and **70 tons for 18-inch diameter** Auger-cast piles. **The minimum required pile penetration is no less than 3 feet above required pile tip depth, unless approved in writing by an engineer from Ardaman & Associates, Inc.**

AUGER-CAST PILE DATA TABLE

Test Boring Location	Required Pile Tip Depth (ft)*	Test Pile (Y)
HSB-1	50	--
HSB-2	44	--
HSB-3	42	--
HSB-4	57	Yes
HSB-5	57	Yes
HSB-6	40	--
HSB-7	55	--
HSB-8	54	Yes
HSB-9	53	--
HSB-10	50	--
HSB-11	45	--
HSB-12	46	--

* Below Existing Ground

5.3.1 Auger-Cast Piling Test Pile Program

As indicated above, we recommend 3 pile load tests in accordance with ASTM D 1142, among test boring location HSB-4, HSB-5 and HSB-8, and these must be as positioned away from production piling locations.

Pile integrity testing of at least 20 production piles is recommended to provide a measure of the pile integrity, and help to verify that construction techniques are appropriate for subsurface conditions encountered.

We also recommend installation of at least 8 probe piles evenly distributed across the construction area to assess installation conditions. construction techniques and the possible need to make modifications to the project specifications.

5.3.2 Auger-Cast Piling Construction

We recommend that Ardaman & Associates, Inc. be retained by the owner to monitor load testing and installation of the test piles and all production auger-cast piles to document compliance with generally accepted installation procedures, and the project specifications. Because auger-cast pile installation is "blind", maintenance of detailed inspection records is essential, and must include grout uptake factor as a ratio to theoretical; grout strength from test specimens; length of pile; and confirmation that a positive head of grout was maintained throughout the throttle of the augers. If installation of any pile is suspect. then a pile integrity test must be replaced by adjacent piles.

Auger Cast piling must be spaced no closer than three diameters center to center.

Notably, relatively hard limestone may be encountered within the embedment depth of a pile, which may result in refusal to augering and possibly a shorter pile embedment than planned. If shallow refusal is encountered, the suitability of the piles should be evaluated **by one of our engineers,** based upon subsurface conditions encountered, the installation details of the pile in question, and installation behavior of nearby piles.

We should consult with the design team to help develop a detailed specification which will consider, among other things:

- Contractor qualifications and experience. and methods for dealing with grout loss
- Test Pile Program. Pile Locations and Pile Integrity Test Locations
- Grout Strength and Marsh Funnel Requirements
- Installation Procedures and Tolerances
- Inspection Requirements
- Remedial Piling Requirements, where judged necessary

5.4 Site Preparation

The following are recommendations for site preparation where soil support is required for slab-on-grade, and paving areas:

1. The areas where soil support is required, plus a nominal margin of five feet laterally, should be stripped and grubbed of all surface vegetation, debris and other deleterious material, as encountered. During the clearing and grubbing operation, roots with a diameter greater than one-inch or small roots in high density should be completely removed. These materials should be disposed in areas designated by the owner. Next, excavate proposed cut areas.

2. The cleared surface in construction areas should be proof-rolled using the appropriate compaction equipment for site and soil conditions. Adjust the moisture content of the soil, as necessary, to aid compaction. Sufficient passes should be made to develop a minimum dry density of 95% of the Modified Proctor maximum dry density (ASTM D 1557) to a depth of 12 inches below the compacted surface.

   The proof-rolling equipment should be a compactor capable of achieving the required degree of compaction or a loaded dump truck approved by the engineer. Heavy vibratory compaction equipment should be kept a sufficient distance from existing buildings so as to avoid damage and disruption to existing facilities.

3. If any areas "yield" during proof-rolling, they must be explored with borings or trenches to evaluate the condition of the soils. Should yielding result from excessive soil moisture; two corrective alternatives may be considered:

   a. Dry the soils until the moisture content is 2 to 3 percent below the optimum moisture content as determined from the Modified Proctor test (ASTM D 1557). The soils may be harrowed and air dried to obtain the desired moisture for compaction.

   b. Replace the wet material with select fill soils conforming with Item 5, below.

   Remove any materials, if determined to be deleterious in areas that "yield" during the proof-rolling operation, and replace with select fill.

4. After satisfactory proof-rolling of the cleared surfaces in accordance with the above, filling with select material may proceed in level lifts not exceeding 12 inches in uncompacted thickness. Each lift should be compacted by repeated passes with appropriate compaction equipment, to achieve at least 95 percent of the Modified Proctor maximum dry density (ASTM D 1557). The filling and compaction operations should continue until the desired elevation is achieved. FL code

   Where areas are inaccessible to heavy equipment, thinner lifts are recommended. Usually, a lift thickness of 6 inches or less is appropriate for light compaction equipment.

5. Select fill materials should preferably consist of clean sands to silty or clayey sands, free of organics and other deleterious material, with less than 20 percent passing the No. 200 sieve (silt and clay). The liquid limit and plastic index of select fill should be less than 40 and 10, respectively. These soil types are less sensitive to moisture problems than more silty or clayey soils, so the use of select fill tends to reduce earthwork delays caused by seasonal rains. We note that the affect of soil moisture is directly proportional to the fines content in the soil.

6. Ardaman & Associates, Inc. should be employed to observed proof-rolling, and test all prepared and compacted areas, to document that unsuitable soils (if any) are removed and that the natural foundation and fill soils are prepared in accordance with the above recommendations.

6.0 CLOSURE

The recommendations submitted in this report are based upon the data obtained from the soil borings presented on FIGURES 2 and 3 and the structure loading conditions previously outlined. This report does not reflect any variations which may occur between or away from the borings. The nature and extent of variations between the borings may not become evident until during the course of construction. If variations then appear evident, it will be necessary to reevaluate the recommendations of this report, after performing on-site observations during the construction period and noting characteristics of any variations.

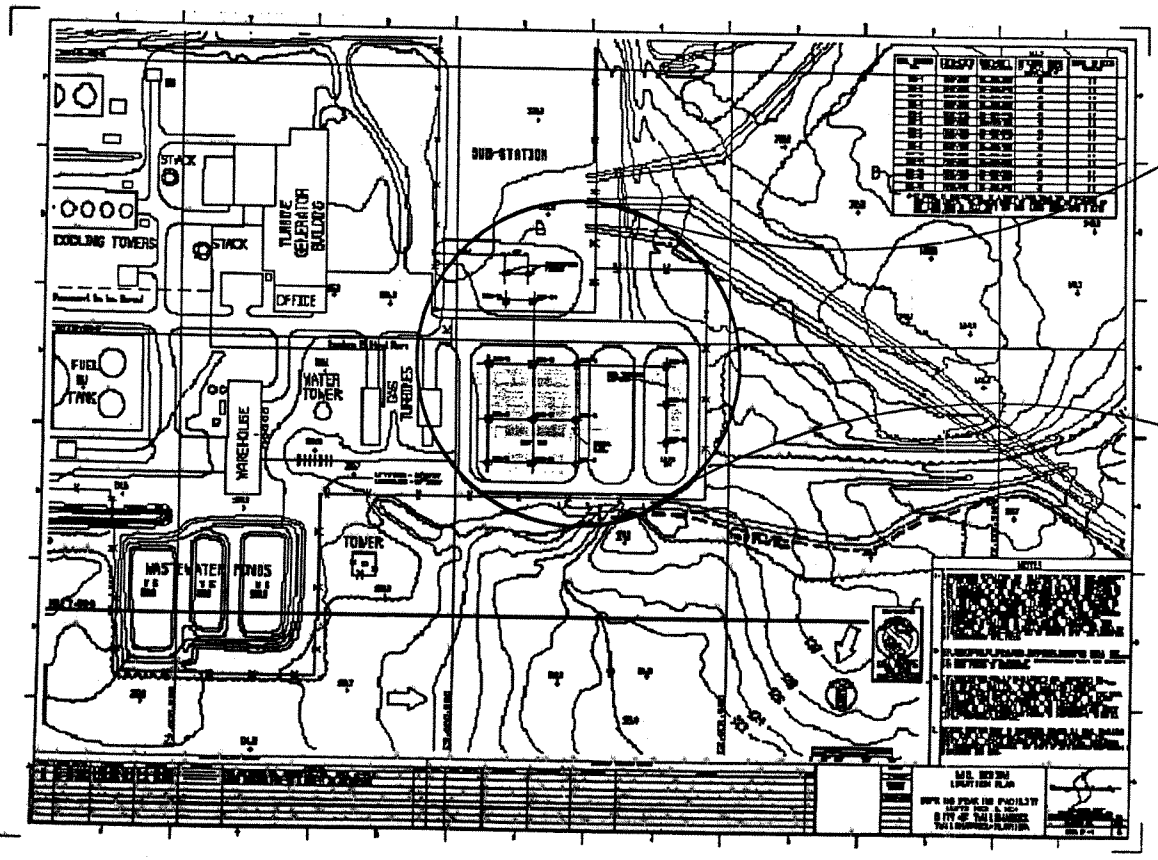
In the event any changes occur in the design, nature or location of the facility, we should review the applicability of the conclusions and recommendations in this report. **Ardaman & Associates, Inc. should be allowed to provide a general review of final design drawings and specifications to determine if earthwork and foundation recommendations have been properly interpreted and implemented in the design specifications.**

This study does not deal with the possibility of eventual sinkhole development at the site. This exploration and analysis covers only the near surface deposits. It is not intended to include deep soil or rock strata where cavities and caverns may exist. (Additional deep structural borings and/or geophysical explorations would have to be conducted in order to evaluate the structural condition and stability of deep rock formations).

This report has been prepared in accordance with generally accepted geotechnical engineering practices. No other warranty, expressed or implied, is made.

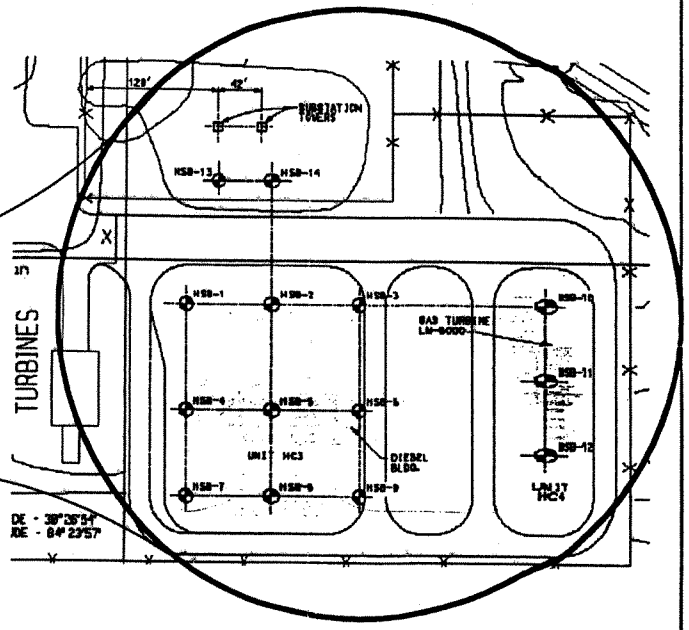
End of Report.

SITE VICINITY



SITE

BORING LOCATION PLAN



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SUBSURFACE EXPLORATION FOR
HOPKINS PEAKING FACILITY
FLORIDA

DRAWN BY: DJ	CHECKED BY: MW	DATE: 5/10/04
04-1666	MW	

LEGEND

TH STANDARD PENETRATION TEST (SPT) BORING
N STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT
WOR BORING ADVANCED BY WEIGHT OF DRILL RODS
WOH BORING ADVANCED BY WEIGHT OF DRILL RODS & HAMMER
▼ GROUNDWATER TABLE LEVEL
NM: NATURAL MOISTURE CONTENT IN PER CENT (ASTM D-2216)
-200: PERCENT PASSING NO. 200 SIEVE SIZE (PERCENT FINES)(ASTM D-1140)
LL: LIQUID LIMIT (%)
PI: PLASTICITY INDEX (%)
pH: SOIL pH (STANDARD UNITS)
qu: UNCONFINED COMPRESIVE STRENGTH OF SOIL (TSF. kg/cm2)
Cu: UNCONFINED COMPRESSIVE STRENGTH OF ROCK (PSI)
DRILL RIG: CME 55
DRILLERS: ROBERT COPLAND, TIM MIDGETTE, RICHARD DOGHERTY
SP-SM,SM,SC,CH UNIFIED SOIL CLASSIFICATION SYSTEM

▮ RELATIVELY UNDISTURBED SAMPLE (SHELBY TUBE), 3-INCH DIAMETER

ROCK CORE REC: RECOVERY %
RQD: ROCK QUALITY DESIGNATION

STANDARD PENETRATION TEST DATA

SPOON I.D.= 1 3/8" HAMMER DROP= 30"
SPOON O.D.= 2" HAMMER WEIGHT= 140lbs

ENGINEERING CLASSIFICATION

I. COHESIONLESS SOILS

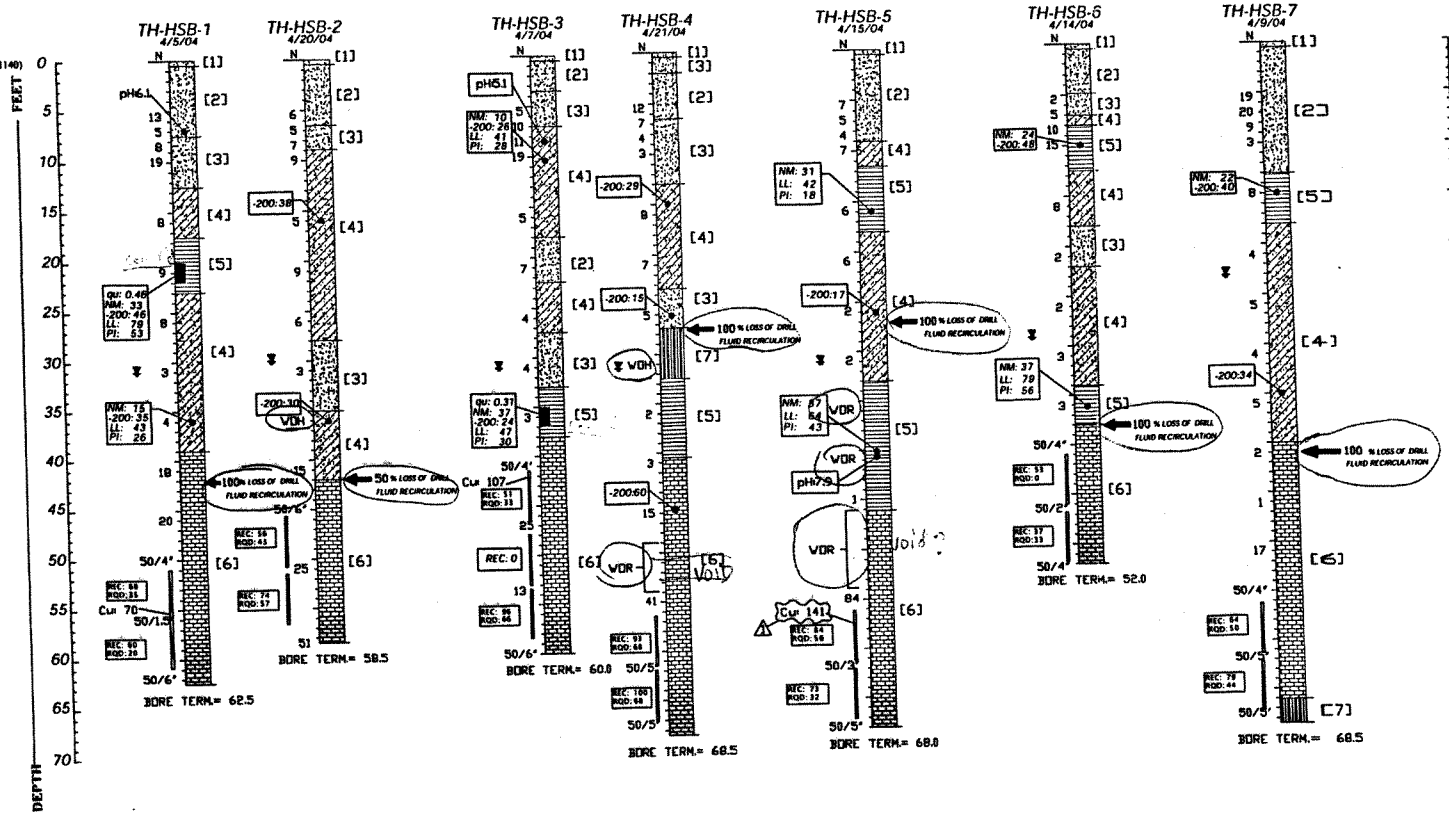
DESCRIPTION	BLOW COUNT "N"
VERY LOOSE	0 TO 4
LOOSE	4 TO 10
MEDIUM DENSE	10 TO 30
DENSE	30 TO 50
VERY DENSE	>50

II. COHESIVE SOILS

DESCRIPTION	BLOW COUNT "N"
VERY SOFT	0 TO 2
SOFT	2 TO 4
FIRM	4 TO 6
STIFF	6 TO 15
VERY STIFF	15 TO 30
HARD	>30

WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS & FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED & MAY BE ENCOUNTERED. THE BORING LOGS & RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS & VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE & THE DESCRIPTIONS REPRESENT OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATIONS ON THE PARTICULAR DATE DRILLED.

GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACES ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR. ABSENCE OF GROUNDWATER DATA ON CERTAIN BORINGS IMPLIES THAT NO DATA IS AVAILABLE, BUT DOES NOT NECESSARILY MEAN THAT GROUNDWATER WILL NOT BE ENCOUNTERED AT THESE LOCATIONS OR WITHIN THE VERTICAL REACHES OF THESE BORINGS IN THE FUTURE.



SOIL LEGEND

[1] BROWN TO GRAY FINE SAND W/SILT TO SILTY FINE SAND & SURFICIAL ROOTS "TOPSOIL" (SP-SM/SM)

[2] GRAYISH BROWN TO TAN FINE SAND W/SILT (SP-SM)

[3] ORANGISH BROWN TO LIGHT GRAY SILTY TO SILTY, CLAYEY FINE SAND (SM/SC)

[4] LIGHT GRAY OR TANNISH GRAY SILTY, CLAYEY TO VERY CLAYEY FINE SAND (SC)

[5] LIGHT GRAY, TAN, BROWN, OR REDDISH BROWN VERY CLAYEY SAND TO SANDY FAT (SC/CH)

[6] TAN TO LIGHT GRAY CALCAREOUS CLAYEY LIMESTONE

[7] GRAYISH GREEN TO TAN SAND-SILT-CLAY MIXTURE, "FULLERS EARTH" SOMETIMES CALCAREOUS (SM/ML)

REVISION 1 ON 7/21/04

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SUBSURFACE EXPLORATION FOR
HOPKINS PEAKING FACILITY
FLORIDA

DJ	MW	5/10/04	
04-16896	MW		2 of 3

LEGEND

TH STANDARD PENETRATION TEST (SPT) BORING
N STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT
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SP-SM,SM,SC,CH UNIFIED SOIL CLASSIFICATION SYSTEM

▌ RELATIVELY UNDISTURBED SAMPLE (SHELBY TUBE), 3-INCH DIAMETER

ROCK CORE REC: RECOVERY %, RQD: ROCK QUALITY DESIGNATION

STANDARD PENETRATION TEST DATA

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SPOON O.D.= 2" HAMMER WEIGHT= 140lbs

ENGINEERING CLASSIFICATION

I. COHESIONLESS SOILS

DESCRIPTION	BLOW COUNT "N"
VERY LOOSE	0 TO 4
LOOSE	4 TO 10
MEDIUM DENSE	10 TO 30
DENSE	30 TO 50
VERY DENSE	>50

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DESCRIPTION	BLOW COUNT "N"
VERY SOFT	0 TO 2
SOFT	2 TO 4
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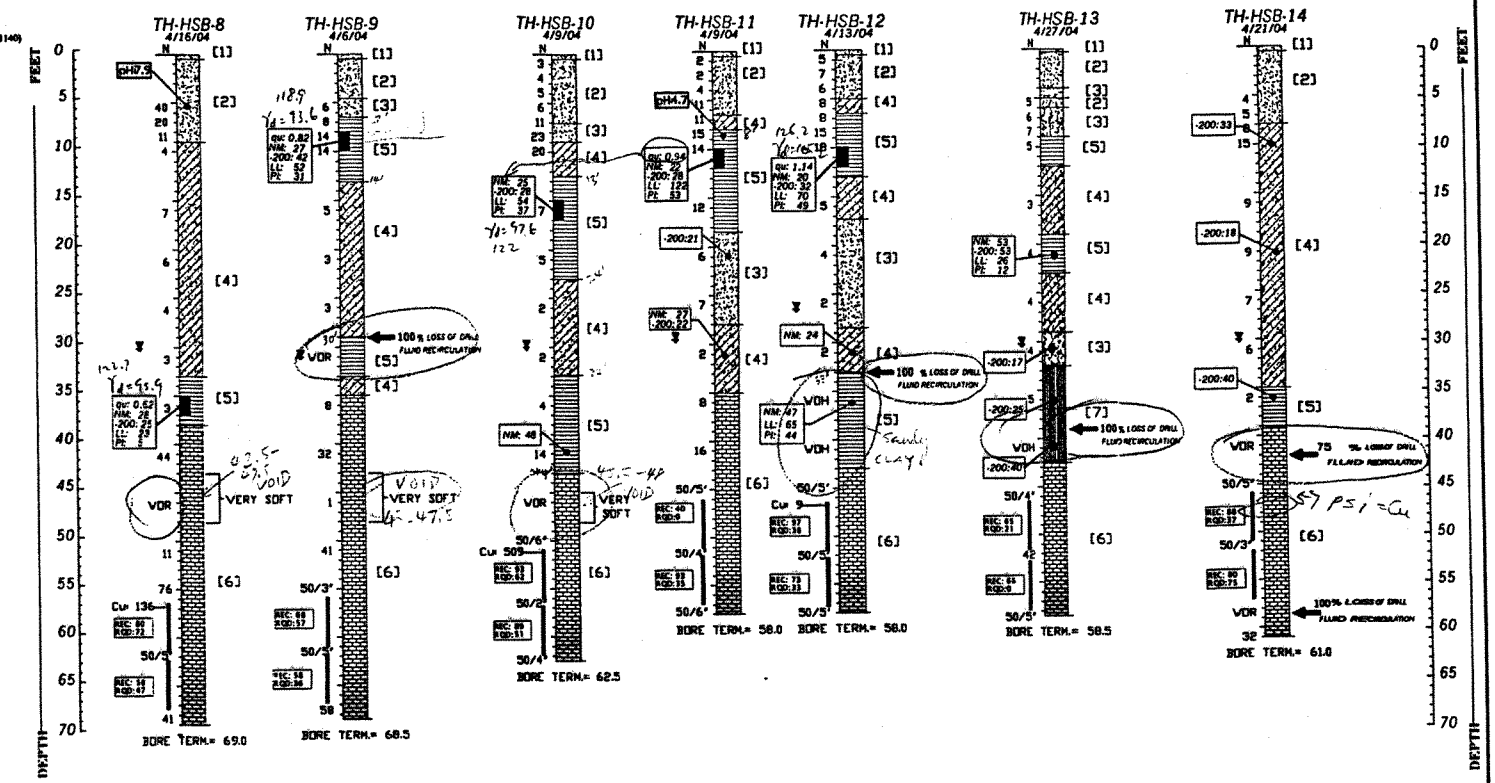

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SUBSURFACE EXPLORATION FOR
HOPKINS PEAKING FACILITY
FLORIDA

DRAWN BY: DJ	CHECKED BY: MW	DATE: 5/10/04
PROJ. NO. 04-1686	APPROVED BY: MW	SHEET 3 OF 3

LEGEND

TH STANDARD PENETRATION TEST (SPT) BORING
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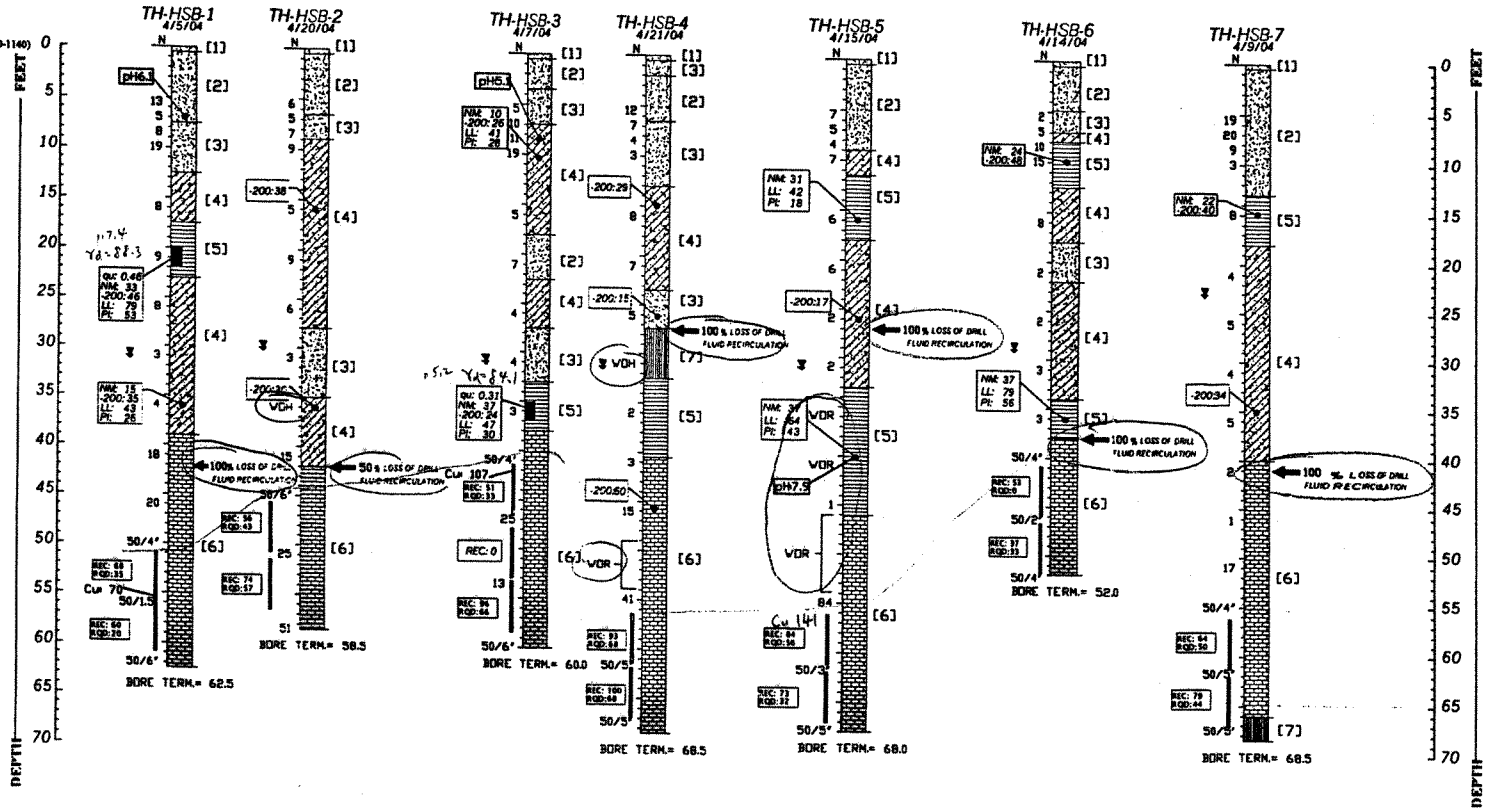
VERY SOFT	0 TO 2
SOFT	2 TO 4
FIRM	4 TO 6
STIFF	6 TO 15
VERY STIFF	15 TO 30
HARD	>30

WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS & FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED & MAY BE ENCOUNTERED. THE BORING LOGS & RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS & VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE & THE DESCRIPTIONS REPRESENT OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATIONS ON THE PARTICULAR DATE DRILLED.

GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACE ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR. ABSENCE OF GROUNDWATER DATA ON CERTAIN BORINGS IMPLIES THAT NO DATA IS AVAILABLE, BUT DOES NOT NECESSARILY MEAN THAT GROUNDWATER WILL NOT BE ENCOUNTERED AT THESE LOCATIONS OR WITHIN THE VERTICAL REACHES OF THESE BORINGS IN THE FUTURE.



SOIL LEGEND

[1] BROWN TO GRAY FINE SAND W/SILT TO SILTY FINE SAND & SURFICIAL ROOTS "TOPSOIL" (SP-SM/SM)

[2] GRAYISH BROWN TO TAN FINE SAND W/SILT (SP-SM)

[3] ORANGISH BROWN TO LIGHT GRAY SILTY TO SILTY, CLAYEY FINE SAND (SM/SC)

[4] LIGHT GRAY OR TANNISH GRAY SILTY, CLAYEY TO VERY CLAYEY FINE SAND (SC)

[5] LIGHT GRAY, TAN, BROWN, OR REDDISH BROWN VERY CLAYEY SAND TO SANDY FAT (SC/CH)

[6] TAN TO LIGHT GRAY CALCAREOUS CLAYEY LIMESTONE

[7] GRAYISH GREEN TO TAN SAND-SILT-CLAY MIXTURE, "FULLERS EARTH" SOMETIMES CALCAREOUS (SM/ML)

Ardaman & Associates, Inc.
3376 W. Waters Street
Tallahassee, Florida 32303
(850) 576-6131

SUBSURFACE EXPLORATION FOR HOPKINS PEA KING FACILITY
FLORIDA

DRAWN BY: DJ | CHECKED BY: MW | DATE: 5/10/04
JOB NO.: 04-1886 | APPROVED BY: MW | FIGURE: 2 of 2

APPENDIX A

STANDARD PENETRATION TEST

The Standard Penetration Test is a widely accepted method of in-situ testing of foundation soils (ASTM D 1586). A 2-foot long, 2-inch O.D. split-barrel sampler attached to the end of a string of drilling rods is driven 18 inches into the ground by successive blows of a 140 pound hammer freely dropping 30 inches. The number of blows needed for each 6 inches of penetration is recorded. The sum of the blows required for penetration of the second and third 6 inch increments of penetration constitutes the test result or N-value. After the test, the sample is extracted from the ground and opened to allow visual examination and classification of the retained soil properties allowing a conservative estimate of the behavior of soils under load.

The tests are usually performed at 5 foot intervals. However, more frequent or continuous testing is done by our firm through depths where a more accurate definition of the soils is required. The test holes are advanced to the test elevations by rotary drilling with a cutting bit, using circulating fluid to remove the cuttings and hold the fine grains in suspension. The circulating fluid, which is a bentonitic drilling mud, is also used to keep the hole open below the water table by maintaining an excess hydrostatic pressure inside the hole. In some soil deposits, particularly high pervious ones, NX-size flush-coupled casing must be driven to just above the testing depth to keep the hole open and/or to prevent the loss of circulating fluid.

Representative split-spoon samples from soils at every 5 feet of drilled depth and from every different stratum are brought to our laboratory in air-tight jars for further evaluation and testing, if necessary. Samples not used in testing are stored for at least six months prior to being discarded. After completion of a test boring, the hole is kept open until a steady state groundwater level is recorded. The hole is then sealed, <u>if</u> necessary, and backfilled.

TABLE 1 Soil Classification Chart

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests[A]				Soil Classification	
				Group Symbol	Group Name[B]
COARSE-GRAINED SOILS More than 50 % retained on No. 200 sieve	Gravels More than 50 % of coarse fraction retained on No. 4 sieve	Clean Gravels Less than 5 % fines[C]	Cu ≥ 4 and 1 ≤ Cc ≤ 3[E]	GW	Well-graded gravel[F]
			Cu < 4 and/or 1 > Cc > 3[E]	GP	Poorly graded gravel[F]
		Gravels with Fines More than 12 % fines[C]	Fines classify as ML or MH	GM	Silty gravel[F,G,H]
			Fines classify as CL or CH	GC	Clayey gravel[F,G,H]
	Sands 50 % or more of coarse fraction passes No. 4 sieve	Clean Sands Less than 5 % fines[D]	Cu ≥ 6 and 1 ≤ Cc ≤ 3[E]	SW	Well-graded sand[I]
			Cu < 6 and/or 1 > Cc > 3[E]	SP	Poorly graded sand[I]
		Sands with Fines More than 12 % fines[D]	Fines classify as ML or MH	SM	Silty sand[G,H,I]
			Fines classify as CL or CH	SC	Clayey sand[G,H,I]
FINE-GRAINED SOILS 50 % or more passes the No. 200 sieve	Silts and Clays Liquid limit less than 50	inorganic	PI > 7 and plots on or above "A" line[J]	CL	Lean clay[K,L,M]
			PI < 4 or plots below "A" line[J]	ML	Silt[K,L,M]
		organic	Liquid limit – oven dried / Liquid limit – not dried < 0.75	OL	Organic clay[K,L,M,N] / Organic silt[K,L,M,O]
	Silts and Clays Liquid limit 50 or more	inorganic	PI plots on or above "A" line	CH	Fat clay[K,L,M]
			PI plots below "A" line	MH	Elastic silt[K,L,M]
		organic	Liquid limit – oven dried / Liquid limit – not dried < 0.75	OH	Organic clay[K,L,M,P] / Organic silt[K,L,M,Q]
HIGHLY ORGANIC SOILS	Primarily organic matter, dark in color, and organic odor			PT	Peat

[A] Based on the material passing the 3-in. (75-mm) sieve.

[B] If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.

[C] Gravels with 5 to 12 % fines require dual symbols:
GW-GM well-graded gravel with silt
GW-GC well-graded gravel with clay
GP-GM poorly graded gravel with silt
GP-GC poorly graded gravel with clay

[D] Sands with 5 to 12 % fines require dual symbols:
SW-SM well-graded sand with silt
SW-SC well-graded sand with clay
SP-SM poorly graded sand with silt
SP-SC poorly graded sand with clay

[E] $Cu = D_{60}/D_{10}$ $Cc = \frac{(D_{30})^2}{D_{10} \times D_{60}}$

[F] If soil contains ≥ 15 % sand, add "with sand" to group name.

[G] If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.

[H] If fines are organic, add "with organic fines" to group name.

[I] If soil contains ≥ 15 % gravel, add "with gravel" to group name.

[J] If Atterberg limits plot in hatched area, soil is a CL-ML, silty clay.

[K] If soil contains 15 to 29 % plus No. 200, add "with sand" or "with gravel," whichever is predominant.

[L] If soil contains ≥ 30 % plus No. 200, predominantly sand, add "sandy" to group name.

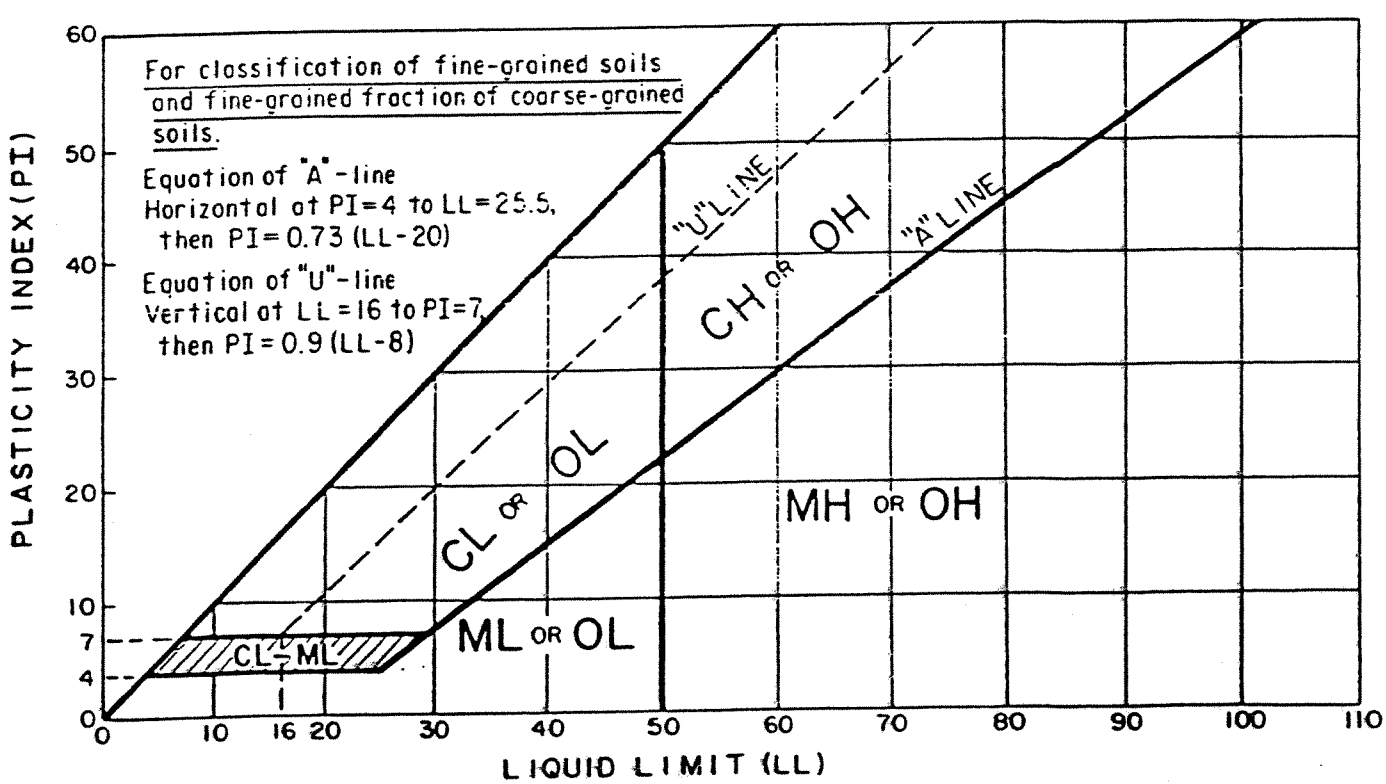
[M] If soil contains ≥ 30 % plus No. 200, predominantly gravel, add "gravelly" to group name.

[N] PI ≥ 4 and plots on or above "A" line.

[O] PI < 4 or plots below "A" line.

[P] PI plots on or above "A" line.

[Q] PI plots below "A" line.



APPENDIX B

File No. 04-1686

HOPKINS ELECTRIC PEAKING
SOIL LAB TEST DATA

TH-HSB	Depth (ft)	Stratum	Natural Moisture (%)	Percent Passing #200 Sieve	Liquid Limit	Plasticity Index	Percent Passing Sieve #			
							20	40	60	100
1	20-25	5	38	46	79	53				
1	36	4	15	35	43	26				
2	16	4		38						
2	36	4		30						
3	10.5	4	10	26	41	28				
3	35-37	5	30	24	47	30				
4	16	4		29			100	99	80	40
4	26	3		15			100	99	94	36
4	46	6		60			95	88	77	66
5	16	5	31		42	18				
5	26	4	17							
5	40	5	56	-	64	43				
6	10	5	24	48						
6	36	5	37		79	56				
7	15	5	22	40						
7	36	4		34						
8	35-37	5	21	25	23	5				
9	8-10	5	19		52	31				
10	15-17	5	25	28	54	37				

TH-HSB	Depth (ft)	Stratum	Natural Moisture (%)	Percent Passing #200 Sieve	Liquid Limit	Plasticity Index	Percent Passing Sieve #			
							20	40	60	100
10	41	5	48							
11	15	5	69		122	53				
11	21	3		21						
11	31	4	27	22						
12	10-12	5	25	32	70	49				
12	31	4	24							
12	36	5	47		65	44				
13	21	5	53	53	26	12				
13	31	3		17			100	98	93	44
14	9	4		33			96	86	71	54
14	21	4		18			100	98	85	29
14	36	5		40			100	94	79	63

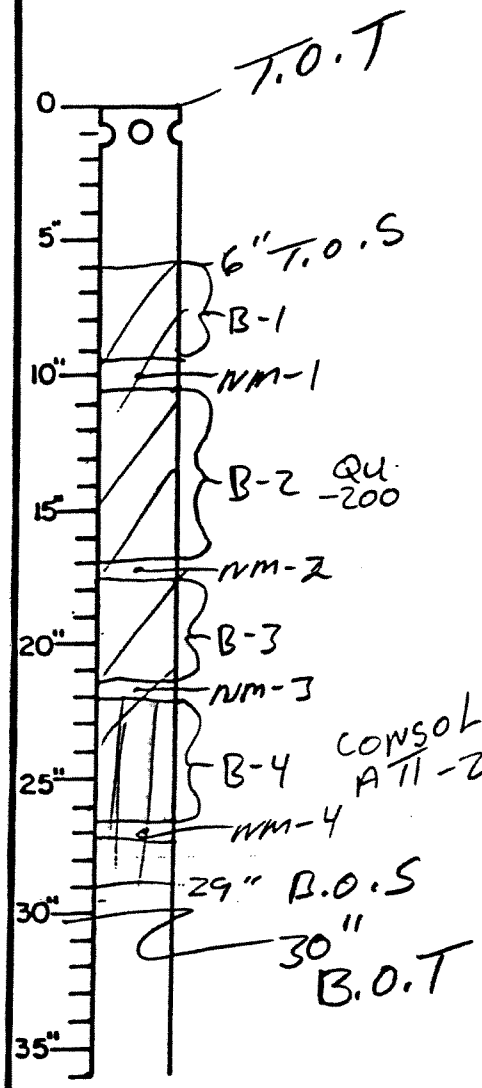
SHELBY TUBE WORKSHEET

FILE NO. 04-1686.

PROJECT: City of Tallahassee DATE: 5/3/04

SAMPLE LOCATION: HSB- 1 U.S.# 1 DEPTH: 20.0-22.0

SAMPLE IDENTIFICATION



- [x] Br. clayey. sty. sand
- [x] Br. clayey. sand
- [ ]
- [ ]
- [ ]

MOISTURE CONTENT & UNIT WEIGHT

TARE NO.			
WWS + TARE			
WDS + TARE			
WW			
WT TARE			
WDS			
MC %			
DIAMETER	IN.	2.875	
AREA	IN.^{2}		
HEIGHT	IN.	23.0	
VOLUME	IN.^{3}		
WT OF SOIL	GM.		
WET DENSITY	P.C.F.		
DRY DENSITY	P.C.F		

NATURAL MOISTURE

TARE NO.	1) Y	2) 1BA	3) 988	4) 113	5)
WWS + TARE	143.45	97.22	111.53	104.89	
WDS + TARE	118.42	81.18	92.14	83.71	
WW	25.03	16.04	19.39	21.18	
WT TARE	30.95	32.07	30.90	32.22	
WDS	87.47	49.11	61.24	51.49	
MC %	28.6	32.7	31.7	41.1	

SIEVE ANALYSIS

DRY SAMPLES AFTER WASHING THROUGH #200 MESH SIEVE			
TOTAL DRY SAMPLE (GR.)			
U.S. SIEVE SIZE	GRAMS	% RET	% PASS
1			
3/4			
1/2			
3/8			
4			
10			
20			
40			
60			
100			
140			
200			
PAN			

PLASTIC LIMIT

TARE NO.	
WWS + TARE	
WDS + TARE	
WW	
WT TARE	
WDS	
MC %	

LIQUID LIMIT

TARE NO.	
WWS + TARE	
WDS + TARE	
WW	
WT TARE	
WDS	
MC %	
PLASTICITY INDEX L.L. - P.L.	
UNIFIED CLASS.	

FULL TUBE Y

WWS + TUBE	GMS	6702
W TUBE	GMS	2064
WWS	LB	
TUBE	FT^3	
V_v	FT^3	
V_s	FT^3	
AVG. MC	%	33.5
γ_T	LB/FT^3	118.3
γ_D	LB/FT^3	88.6

for $G_s = 2.7$, $S = 100\%$

A0145 (3/91)

FORM NO. 15.002 9/81

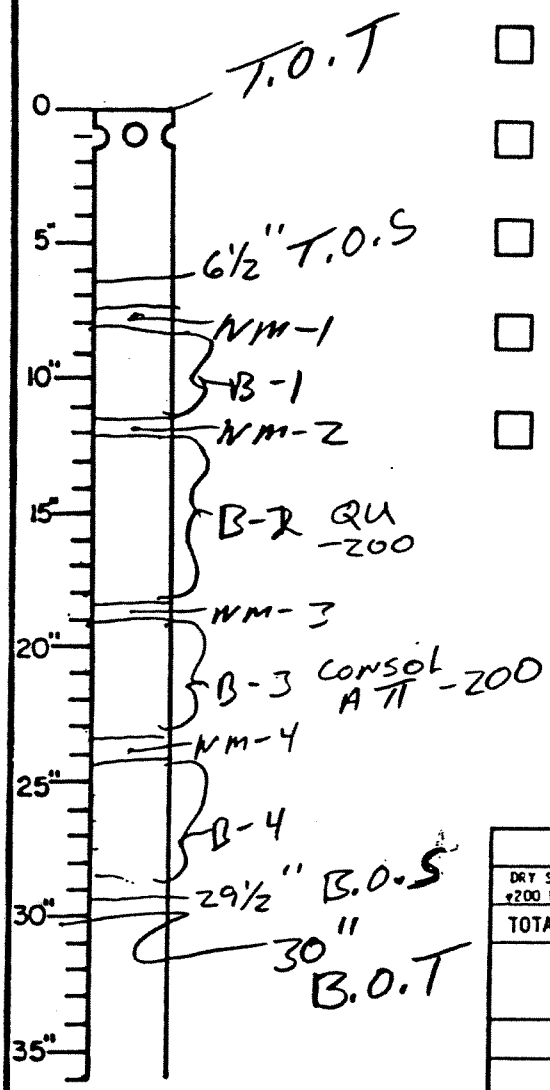
SHELBY TUBE WORKSHEET

FILE NO. 04-1686

PROJECT: City of Tallahassee DATE: 5/3/04

SAMPLE LOCATION: HSB-3 U.S.# 1 DEPTH: 35.0-37.0

SAMPLE IDENTIFICATION



☐ Br. Gray. Clayey Sand
☐
☐
☐
☐

MOISTURE CONTENT & UNIT WEIGHT

TARE NO.			
WWS + TARE			
WDS + TARE			
WW			
WT TARE			
WDS			
MC %			
DIAMETER	IN.	2.875	
AREA	IN.^{2}		
HEIGHT	IN.	23.0	
VOLUME	IN.^{3}		
WT OF SOIL	GM.		
WET DENSITY	P.C.F.		
DRY DENSITY	P.C.F		

NATURAL MOISTURE

TARE NO.	1 P-8	2 S	3 423	4 433	5
WWS + TARE	126.33	137.41	129.05	123.67	
WDS + TARE	98.07	106.58	104.21	99.49	
WW	28.26	30.83	24.84	24.18	
WT TARE	31.81	30.84	33.14	32.56	
WDS	66.26	75.74	71.07	66.93	
MC %	42.7	40.7	35.0	36.1	

SIEVE ANALYSIS

DRY SAMPLES AFTER WASHING THROUGH #200 MESH SIEVE			
TOTAL DRY SAMPLE (GR.)			
U.S. SIEVE SIZE	GRAMS	% RET	% PASS
1			
3/4			
1/2			
3/8			
4			
10			
20			
40			
60			
100			
140			
200			
PAN			

PLASTIC LIMIT

TARE NO.	
WWS + TARE	
WDS + TARE	
WW	
WT TARE	
WDS	
MC %	

LIQUID LIMIT

TARE NO.	
WWS + TARE	
WDS + TARE	
WW	
WT TARE	
WDS	
MC %	
PLASTICITY INDEX L.L. - P.L.	
UNIFIED CLASS.	

FULL TUBE γ

WWS + TUBE	GMS	6526
W TUBE	GMS	2076
WWS	LB	
TUBE	FT^3	
V_v	FT^3	
V_s	FT^3	
AVG. MC	%	38.6
γ_T	LB/FT^3	113.5
γ_D	LB/FT^3	81.9

04 / L / 2.70

FORM NO. 15.002 9/81

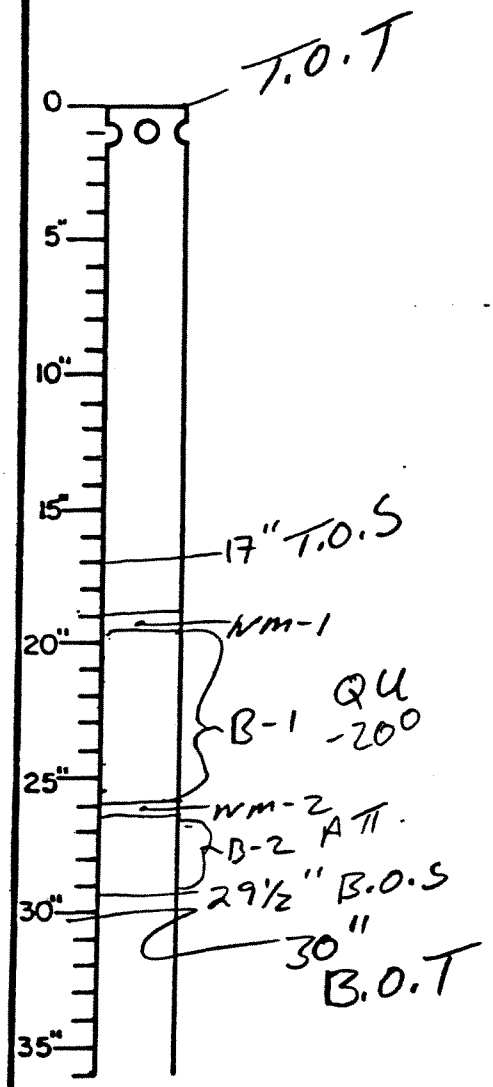
SHELBY TUBE WORKSHEET

FILE NO. 04-1686

PROJECT: City of Tallahassee DATE: 5/3/04

SAMPLE LOCATION: HSB-8 U.S.# 1 DEPTH: 35.0-37.0

SAMPLE IDENTIFICATION



☐ Br. Gray, Clayey Sand

☐

☐

☐

☐

MOISTURE CONTENT & UNIT WEIGHT

TARE NO.			
WWS + TARE			
WDS + TARE			
WW			
WT TARE			
WDS			
MC %			
DIAMETER	IN.	2.875	
AREA	IN.^{2}		
HEIGHT	IN.	12.5	
VOLUME	IN.^{3}		
WT OF SOIL	GM.		
WET DENSITY	P.C.F.		
DRY DENSITY	P.C.F		

NATURAL MOISTURE

	1	2	3	4	5
TARE NO.	110	317A			
WWS + TARE	118.78	130.53			
WDS + TARE	98.64	109.29			
WW	20.14	21.24			
WT TARE	24.79	31.83			
WDS	73.85	77.46			
MC %	27.3	27.4			

SIEVE ANALYSIS ✓ ✓

DRY SAMPLES AFTER WASHING THROUGH #200 MESH SIEVE			
TOTAL DRY SAMPLE (GR.)			
U.S. SIEVE SIZE	GRAMS	% RET	% PASS
1			
3/4			
1/2			
3/8			
4			
10			
20			
40			
60			
100			
140			
200			
PAN			

PLASTIC LIMIT

TARE NO.	
WWS + TARE	
WDS + TARE	
WW	
WT TARE	
WDS	
MC %	

LIQUID LIMIT

TARE NO.	
WWS + TARE	
WDS + TARE	
WW	
WT TARE	
WDS	
MC %	
PLASTICITY INDEX L.L. - P.L.	
UNIFIED CLASS.	

FULL TUBE γ

WWS + TUBE	GMS	4768
W TUBE	GMS	2144
WWS	LB	
TUBE	FT^3	
V_V	FT^3	
V_S	FT^3	
AVG. MC	%	27.3
γ_T	LB/FT^3	123.1
γ_D	LB/FT^3	96.7

G = 99 % G. C. = 2.70

A0145 (3/91)

FORM NO. 15.002 9/81

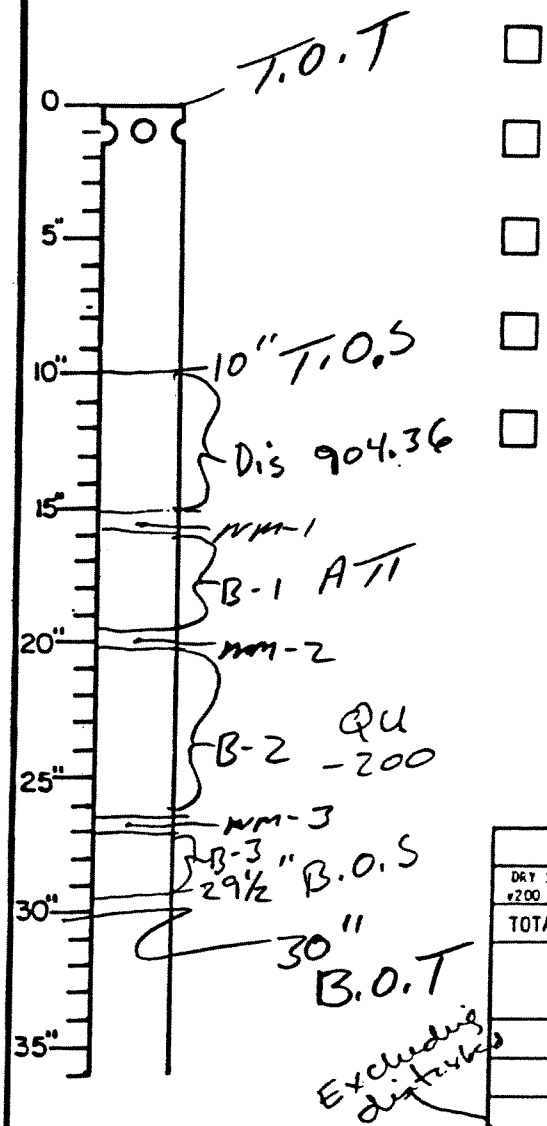
SHELBY TUBE WORKSHEET

FILE NO. 04-1686

PROJECT: City of Tallahassee DATE: 5/3/04

SAMPLE LOCATION: HSB-12 U.S.# 1 DEPTH: 10.0-12.0

SAMPLE IDENTIFICATION



☐ Lt. Br. Br. Clayey Sand

☐

☐

☐

☐

Excluding disturbed

MOISTURE CONTENT & UNIT WEIGHT

TARE NO.			
WWS + TARE			
WDS + TARE			
WW			
WT TARE			
WDS			
MC %			
DIAMETER	IN.	2.875	
AREA	IN.^{2}		
HEIGHT	IN.	14.5	
VOLUME	IN.^{3}		
WT OF SOIL	GM.		
WET DENSITY	P.C.F.		
DRY DENSITY	P.C.F		

NATURAL MOISTURE

TARE NO.	1 AF-3	2 69	3 421A	4	5
WWS + TARE	106.18	99.45	130.58		
WDS + TARE	90.99	85.52	112.86		
WW	15.19	13.93	17.72		
WT TARE	32.15	24.69	24.73		
WDS	58.84	60.83	88.13		
MC %	25.8	22.9	20.1		

SIEVE ANALYSIS

DRY SAMPLES AFTER WASHING THROUGH #200 MESH SIEVE			
TOTAL DRY SAMPLE (GR.)			
U.S. SIEVE SIZE	GRAMS	% RET	% PASS
1			
3/4			
1/2			
3/8			
4			
10			
20			
40			
60			
100			
140			
200			
PAN			

Excluding disturbed

PLASTIC LIMIT

TARE NO.	
WWS + TARE	
WDS + TARE	
WW	
WT TARE	
WDS	
MC %	

LIQUID LIMIT

TARE NO.	
WWS + TARE	
WDS + TARE	
WW	
WT TARE	
WDS	
MC %	
PLASTICITY INDEX L.L. - P.L.	
UNIFIED CLASS.	

FULL TUBE γ

WWS + TUBE	GMS	6100	5195.6
W TUBE	GMS	2064	2064
WWS	LB		
TUBE	FT^3		
V_v	FT^3		
V_s	FT^3		
AVG. MC	%		22.9
γ_T	LB/FT^3		126.7
γ_D	LB/FT^3		103.0

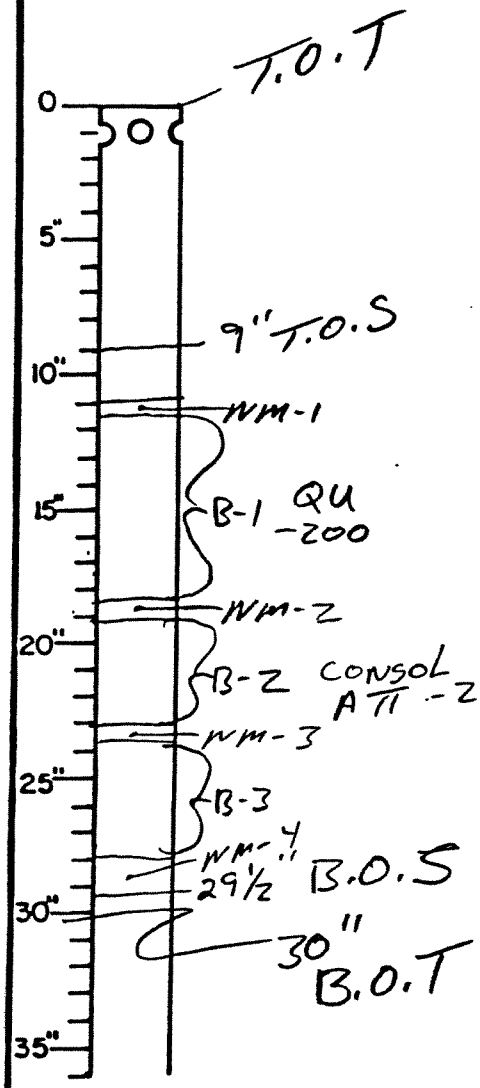
SHELBY TUBE WORKSHEET

FILE NO. 04-1686

PROJECT: City of Tallahassee DATE: 5/3/04

SAMPLE LOCATION: HSB-9 U.S.# 1 DEPTH: 8.0-10.0

SAMPLE IDENTIFICATION



MOISTURE CONTENT & UNIT WEIGHT

TARE NO.			
WWS + TARE			
WDS + TARE			
WW			
WT TARE			
WDS			
MC %			
DIAMETER	IN.	2.875	
AREA	IN.^{2}		
HEIGHT	IN.	20.5	
VOLUME	IN.^{3}		
WT OF SOIL	GM.		
WET DENSITY	P.C.F.		
DRY DENSITY	P.C.F		

NATURAL MOISTURE

	1	2	3	4	5
TARE NO.	24X	19	A	A-100	
WWS + TARE	130.76	110.07	100.15	147.76	
WDS + TARE	107.77	91.27	87.67	125.07	
WW	22.99	18.80	12.48	22.69	
WT TARE	24.94	24.31	30.73	31.66	
WDS	82.83	66.96	56.94	93.41	
MC %	27.8	28.1	21.9	24.3	

SIEVE ANALYSIS

DRY SAMPLES AFTER WASHING THROUGH #200 MESH SIEVE			
TOTAL DRY SAMPLE (GR.)			
U.S. SIEVE SIZE	GRAMS	% RET	% PASS
1			
3/4			
1/2			
3/8			
4			
10			
20			
40			
60			
100			
140			
200			
PAN			

PLASTIC LIMIT

TARE NO.	
WWS + TARE	
WDS + TARE	
WW	
WT TARE	
WDS	
MC %	

LIQUID LIMIT

TARE NO.	
WWS + TARE	
WDS + TARE	
WW	
WT TARE	
WDS	
MC %	
PLASTICITY INDEX L.L. - P.L.	
UNIFIED CLASS.	

FULL TUBE γ

WWS + TUBE	GMS	6334
W TUBE	GMS	2057
WWS	LB	
TUBE	FT^3	
V_V	FT^3	
V_S	FT^3	
AVG. MC	%	25.5
γ_T	LB/FT^3	122.4
γ_D	LB/FT^3	97.5

A0145 (3/91)

FORM NO. 15.002 9/81

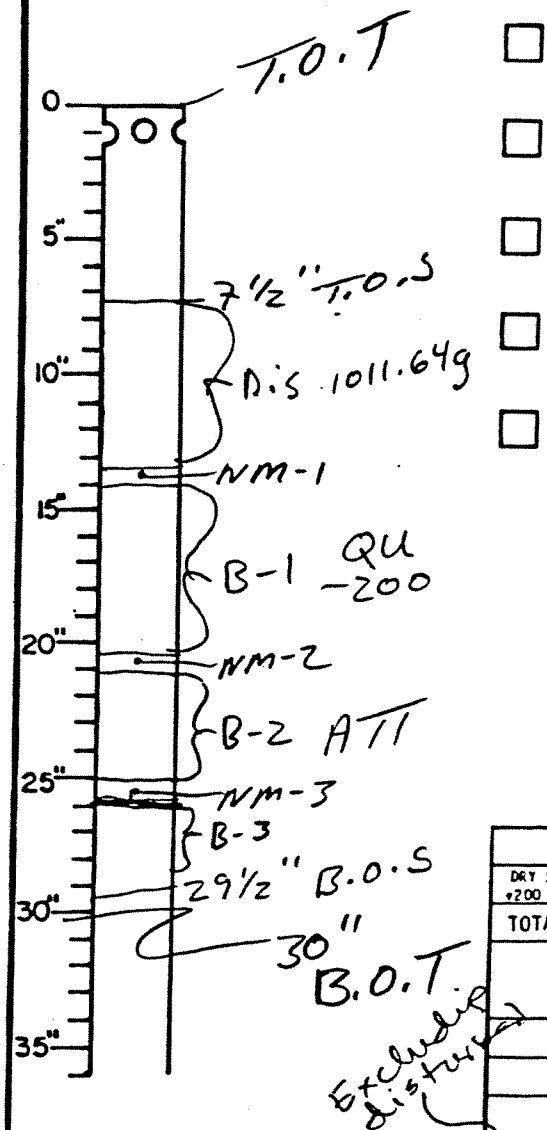
SHELBY TUBE WORKSHEET

FILE NO. 04-1686

PROJECT: City of Tallahassee DATE: 5/3/04

SAMPLE LOCATION: HSB-10 U.S.# 1 DEPTH: 15.0 - 17.0

SAMPLE IDENTIFICATION



MOISTURE CONTENT & UNIT WEIGHT

TARE NO.			
WWS + TARE			
WDS + TARE			
WW			
WT TARE			
WDS			
MC %			
DIAMETER	IN.	2.875	exclude disturbed
AREA	IN.^{2}		
HEIGHT	IN.	16.0	
VOLUME	IN.^{3}		
WT OF SOIL	GM.		
WET DENSITY	P.C.F.		
DRY DENSITY	P.C.F		

NATURAL MOISTURE

	1	2	3	4	5
TARE NO.	D435	11	414A		
WWS + TARE	117.98	116.83	105.12		
WDS + TARE	101.69	101.29	86.85		
WW	16.29	15.54	18.27		
WT TARE	24.29	31.73	25.16		
WDS	77.40	69.56	61.69		
MC %	21.0	22.3	29.6		

SIEVE ANALYSIS

DRY SAMPLES AFTER WASHING THROUGH #200 MESH SIEVE			
TOTAL DRY SAMPLE (GR.)			
U.S. SIEVE SIZE	GRAMS	% RET	% PASS
1			
3/4			
1/2			
3/8			
10			
20			
40			
60			
100			
140			
200			
PAN			

PLASTIC LIMIT

TARE NO.	
WWS + TARE	
WDS + TARE	
WW	
WT TARE	
WDS	
MC %	

LIQUID LIMIT

TARE NO.	
WWS + TARE	
WDS + TARE	
WW	
WT TARE	
WDS	
MC %	
PLASTICITY INDEX L.L. - P.L.	
UNIFIED CLASS.	

FULL TUBE γ

WWS + TUBE	GMS	6466
W TUBE	GMS	2063
WWS	LB	
TUBE	FT^3	
V_v	FT^3	
V_s	FT^3	
AVG. MC	%	
γ_T	LB/FT^3	
γ_D	LB/FT^3	

5454.364

24.3

124.3

100.0

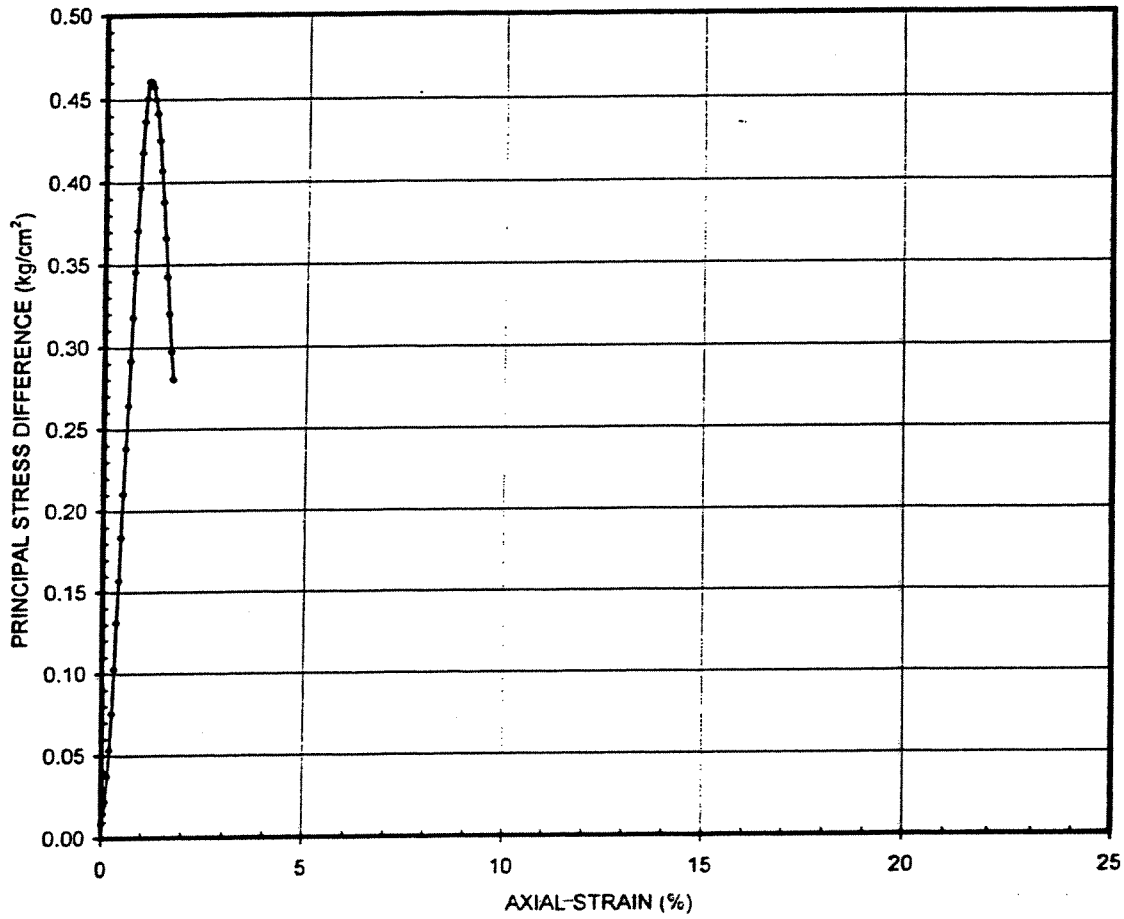
S = % R C - 2.7

A0145 (3/91)

FORM NO. 15.202 9/81

ARDAMAN & ASSOCIATES
Unconfined Compression Test

Project Name	CITY OF TALLAHASSE
Project Number	04-1686
Sample Name	HSB1 US1 BLOCK2
Depth	20-22
Strain Rate	1.0 (%/min)



Dry Density	88.3	(pcf)
Water Content	33.2	(%)
Saturation	99	(%)
q_u	0.46	(kg/cm²)
S_u	0.23	(kg/cm²)
ε_f	1.1	(%)

- 200 = 46%
(TSF) ÷ .976

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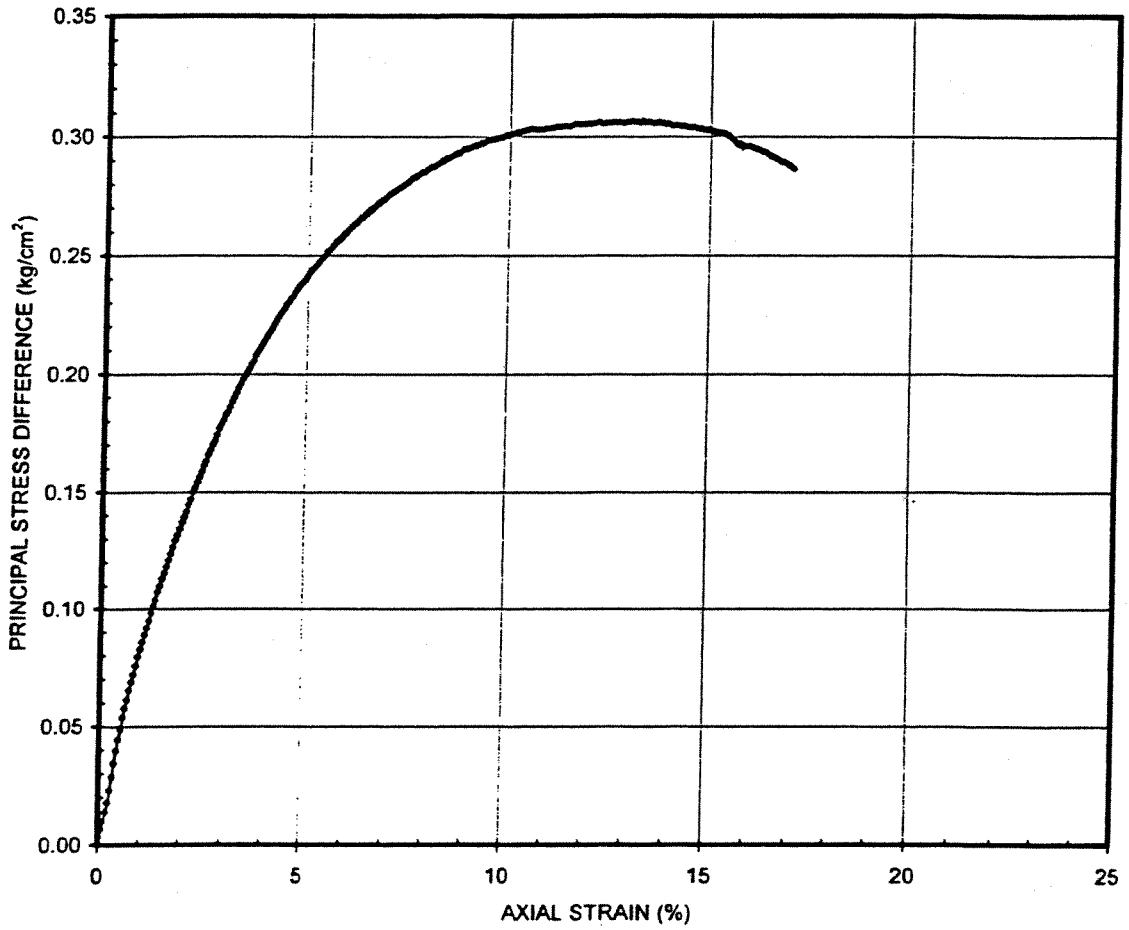
CITY OF TALLAHASSEE

DRAWN BY: SA	CHECKED BY: SA	DATE: 05-14-04	
FILE NO.: 04-1686	APPROVED BY:	FIGURE:	

ARDAMAN & ASSOCIATES
Unconfined Compression Test

Project Name	CITY OF TALLAHASSEE
Project Number	04-1686
Sample Name	HSB3 US1 BLOCK2
Depth	35-37
Strain Rate	1.0 (%/min)



Dry Density	84.1	(pcf)
Water Content	37.1	(%)
Saturation	100	(%)
q_u	0.31	(kg/cm²)
S_u	0.15	(kg/cm²)
ε_f	13.3	(%)

-200 = 24%

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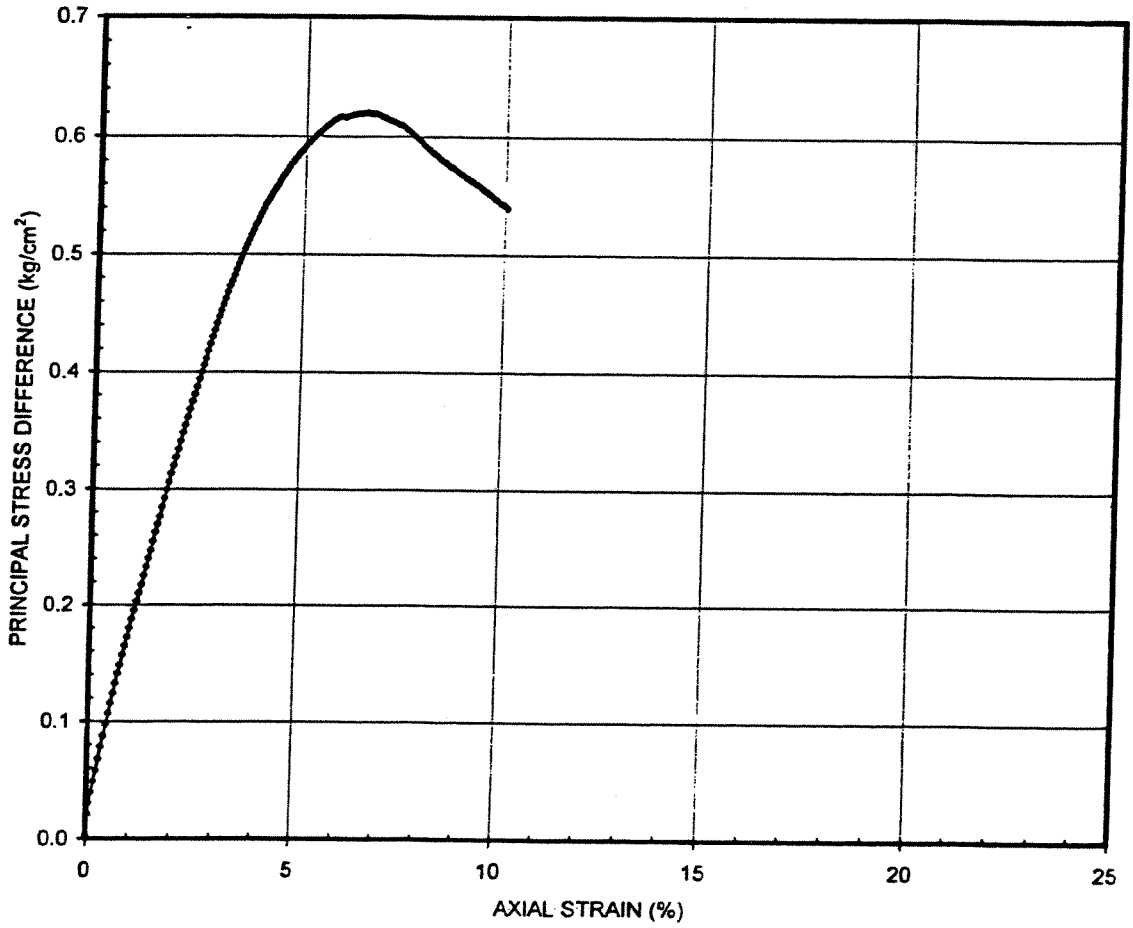
CITY OF TALLAHASSEE

DRAWN BY: SA	CHECKED BY: SA	DATE: 05-14-04
FILE NO.: 04-1686	APPROVED BY:	FIGURE:

ARDAMAN & ASSOCIATES
Unconfined Compression Test

Project Name	CITY OF TALLAHASSEE
Project Number	04-1686
Sample Name	HSB8 US1 BLOCK1
Depth	35-37
Strain Rate	1.0 (%/min)



Dry Density	95.9	(pcf)
Water Content	28.1	(%)
Saturation	100	(%)
q_u	0.62	(kg/cm²)
S_u	0.31	(kg/cm²)
ε_f	6.5	(%)

-200 = 25 %

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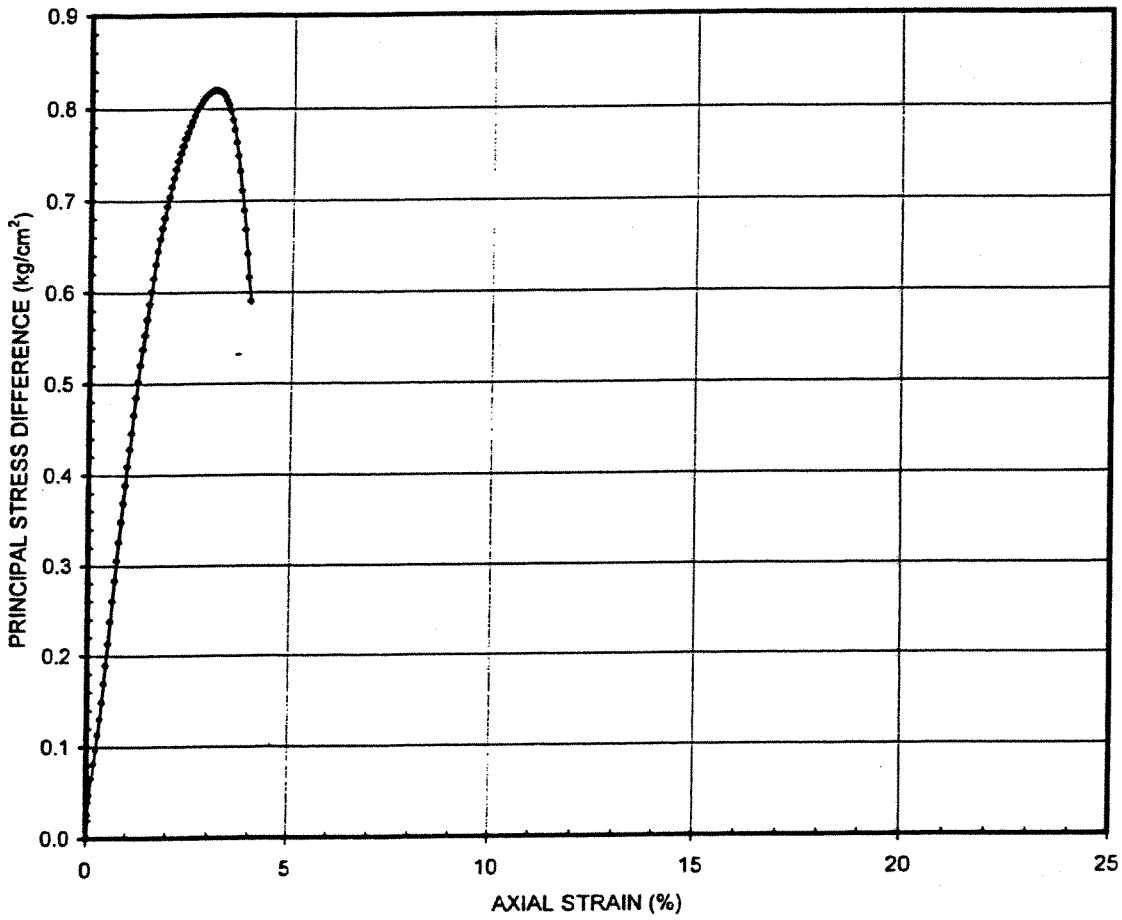
CITY OF TALLAHASSEE

DRAWN BY: SA	CHECKED BY: SA	DATE: 05-14-04
FILE NO.: 04-1686	APPROVED BY:	FIGURE:

ARDAMAN & ASSOCIATES
Unconfined Compression Test

Project Name	CITY OF TALLAHASSEE
Project Number	04-1686
Sample Name	HSB9 US1 BLOCK1
Depth	8-10
Strain Rate	1.0 (%/min)



Dry Density	93.6	(pcf)
Water Content	26.7	(%)
Saturation	90	(%)
q_u	0.82	(kg/cm²)
S_u	0.41	(kg/cm²)
ε_f	3.0	(%)

-200 = 42%

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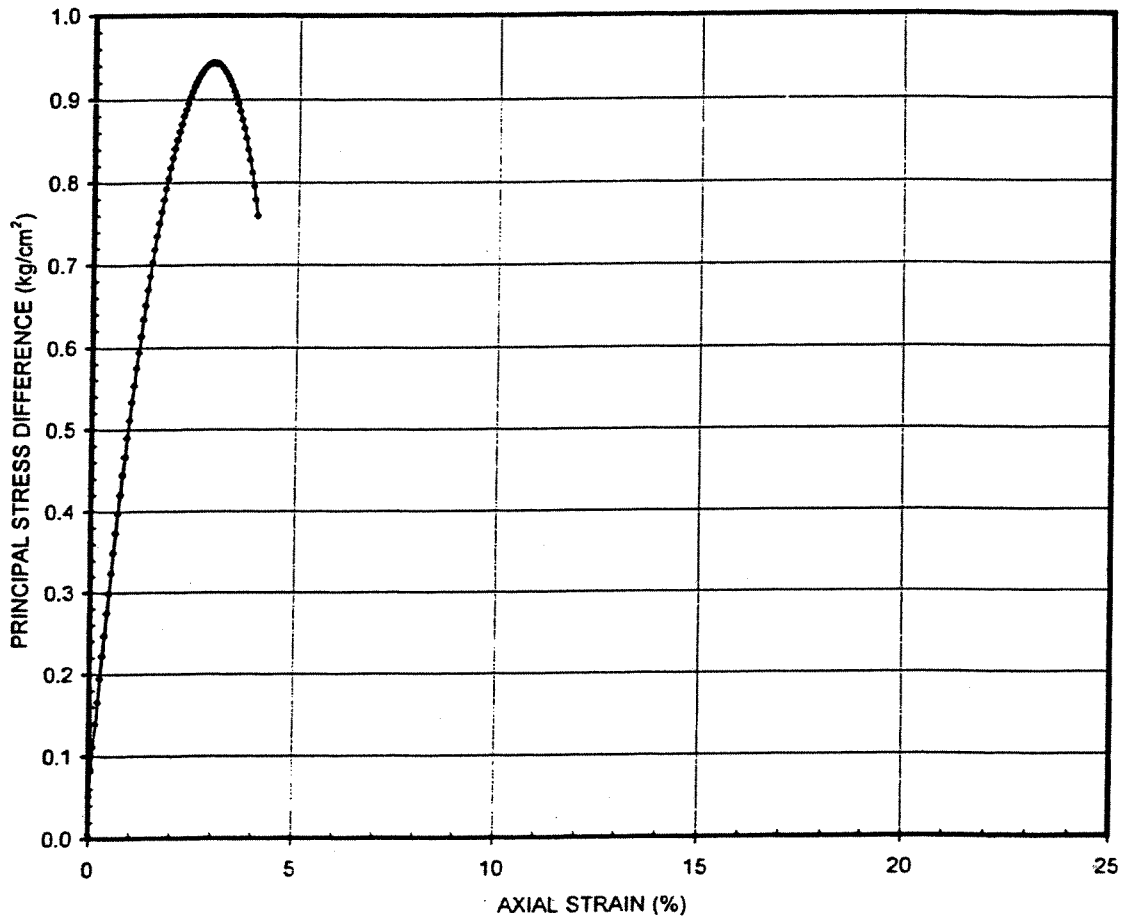
CITY OF TALLAHASSEE

DRAWN BY: SA	CHECKED BY: SA	DATE: 05-14-04
FILE NO.: 04-1686	APPROVED BY:	FIGURE:

ARDAMAN & ASSOCIATES
Unconfined Compression Test

Project Name	CITY OF TALLAHASSEE
Project Number	04-1686
Sample Name	HSB10 US1 BLOCK1
Depth	15-17
Strain Rate	1.0 (%/min)



Dry Density	97.6	(pcf)
Water Content	21.6	(%)
Saturation	80	(%)
q_u	0.94	(kg/cm²)
S_u	0.47	(kg/cm²)
ε_f	2.9	(%)

-200 = 28%

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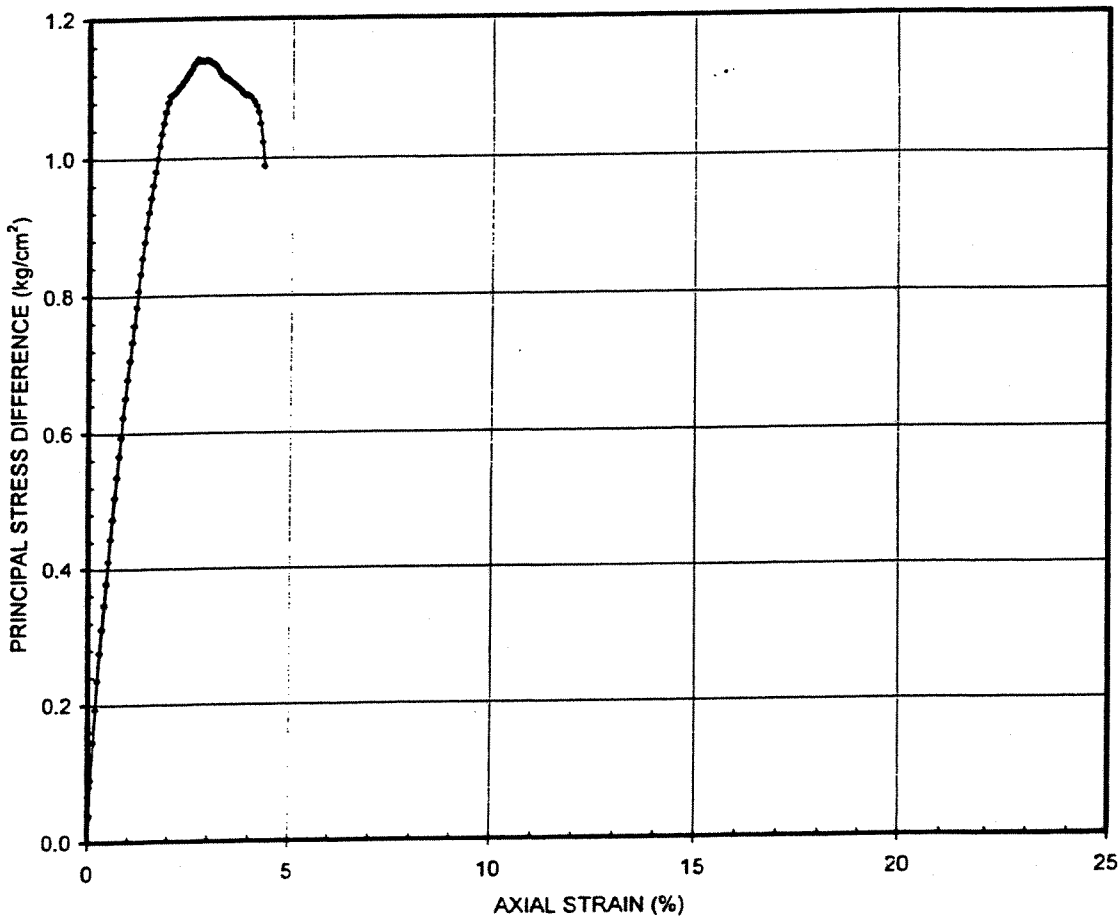
CITY OF TALLAHASSEE

DRAWN BY: SA	CHECKED BY: SA	DATE: 05-14-04
FILE NO.: 04-1686	APPROVED BY:	FIGURE:

ARDAMAN & ASSOCIATES
Unconfined Compression Test

Project Name	CITY OF TALLAHASSEE
Project Number	04-1686
Sample Name	HSB12 US1 BLOCK2
Depth	10-12
Strain Rate	1.0 (%/min)



Dry Density	105.2	(pcf)
Water Content	19.9	(%)
Saturation	89	(%)
q_u	1.14	(kg/cm^2)
S_u	0.57	(kg/cm^2)
ε_f	2.7	(%)

-200 = 32 %

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CITY OF TALLAHASSEE

DRAWN BY: SA	CHECKED BY: SA	DATE: 05-14-04
FILE NO.: 04-1686	APPROVED BY:	FIGURE:

Consolidating Testing Incomplete at Time of Reporting

APPENDIX C

Ardaman & Associates, Inc.

ChemLab Analysis

Corrosion Series

File# 04-1686 Tech; TLW

Project: CITY OF TALLAHASSEE

Date Tested	Sample ID	pH	Conductivity G (μmhos/cm)	Sulfate SO_4 mg/L	Chloride Cl^- mg/L
05-06-04	HSB-3 (7)	5.1	N/A	< 6	15
05-06-04	HSB-11 (7)	4.7	N/A	< 6	15
05-06-04	HSB-5 (15)	7.9	N/A	< 6	15
05-06-04	HSB-1 (6)	6.1	N/A	< 6	15
05-06-04	HSB-8 (5)	7.9	N/A	< 6	30

5

FM 5-550/E-70 Determining ph In Soil And Water

FM 5-551 Resistivity In Soil And Water

FM 5-552 Chloride In Soil And Water

FM 5-553 Sulfate In Soil And Water

G = Performed on 1:1 soil to water extract by weight

Remarks: MOISTURE CONTENT (%), AS RECEIVED, ON SAMPLE HSB-11 (7): 35.5.

VISUAL CLASSIFICATION ON SAMPLE HSB-8 (5): LIGHT BROWN, SILTY FINE SAND, TRACE OF CLAY.

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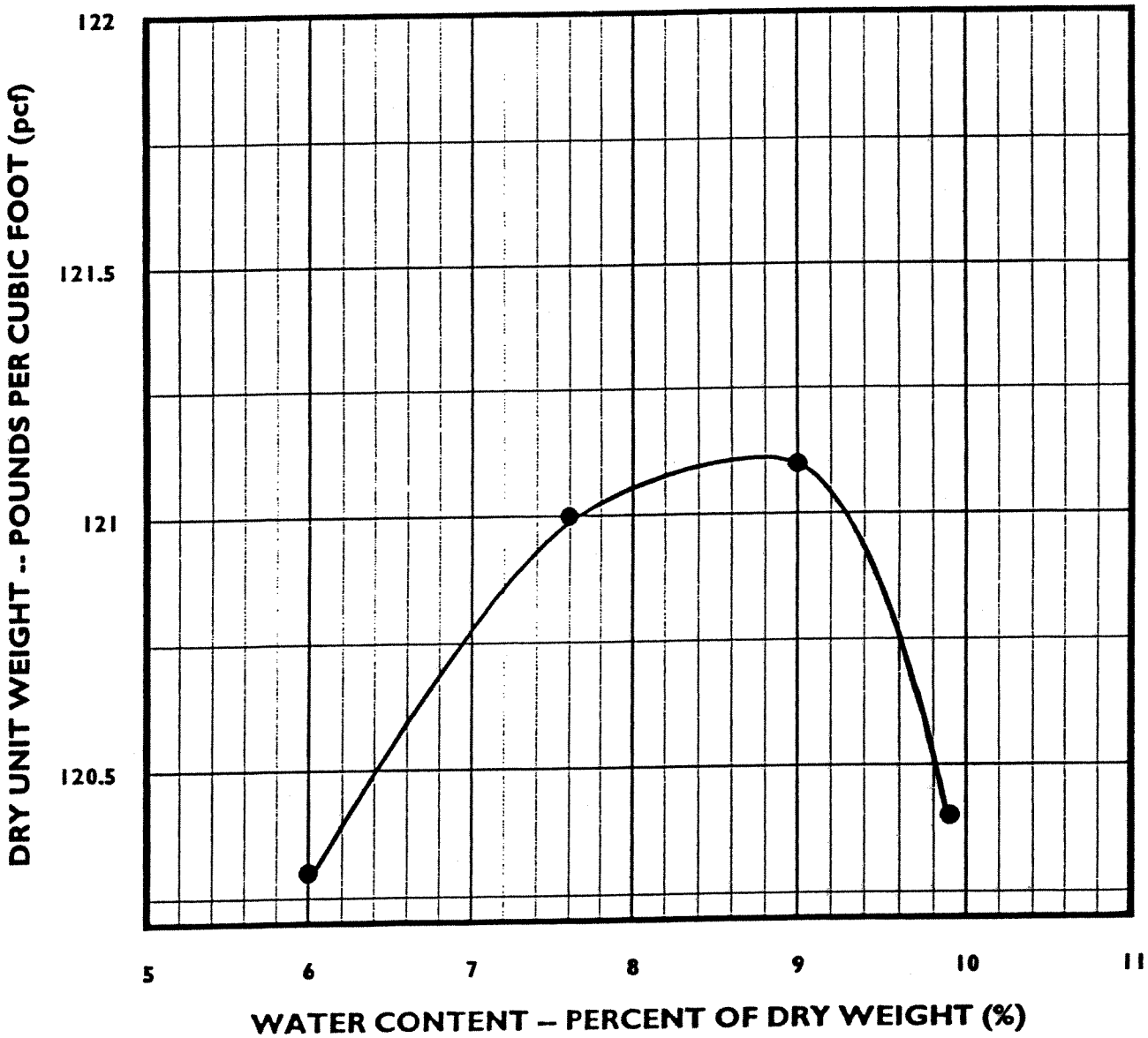
PROJECT:. HOPKINS POWER PLANT
CLIENT: CITY OF TALLAHASSEE
FILE NO. :04-1686
DATE PERFORMED: 4-28-04
PERFORMED BY: MS
DATE SAMPLED: 4-26-04/TM/RD
DESCRIPTION OF SOIL: LIGHT GRAY SAND WITH SILT
LOCATION SAMPLED : HSB-1/1'-10'
TYPE OF MATERIAL: NATURAL GROUND
INTENDED USE: N/A
TYPE OF TEST: MODIFIED



MAX. DRY DENSITY: 121.2(pcf) @ OPTIMUM MOISTURE: 8.6%

REVIEWED BY : BILL ARMAGHANI
FL ENG. REG. #50691

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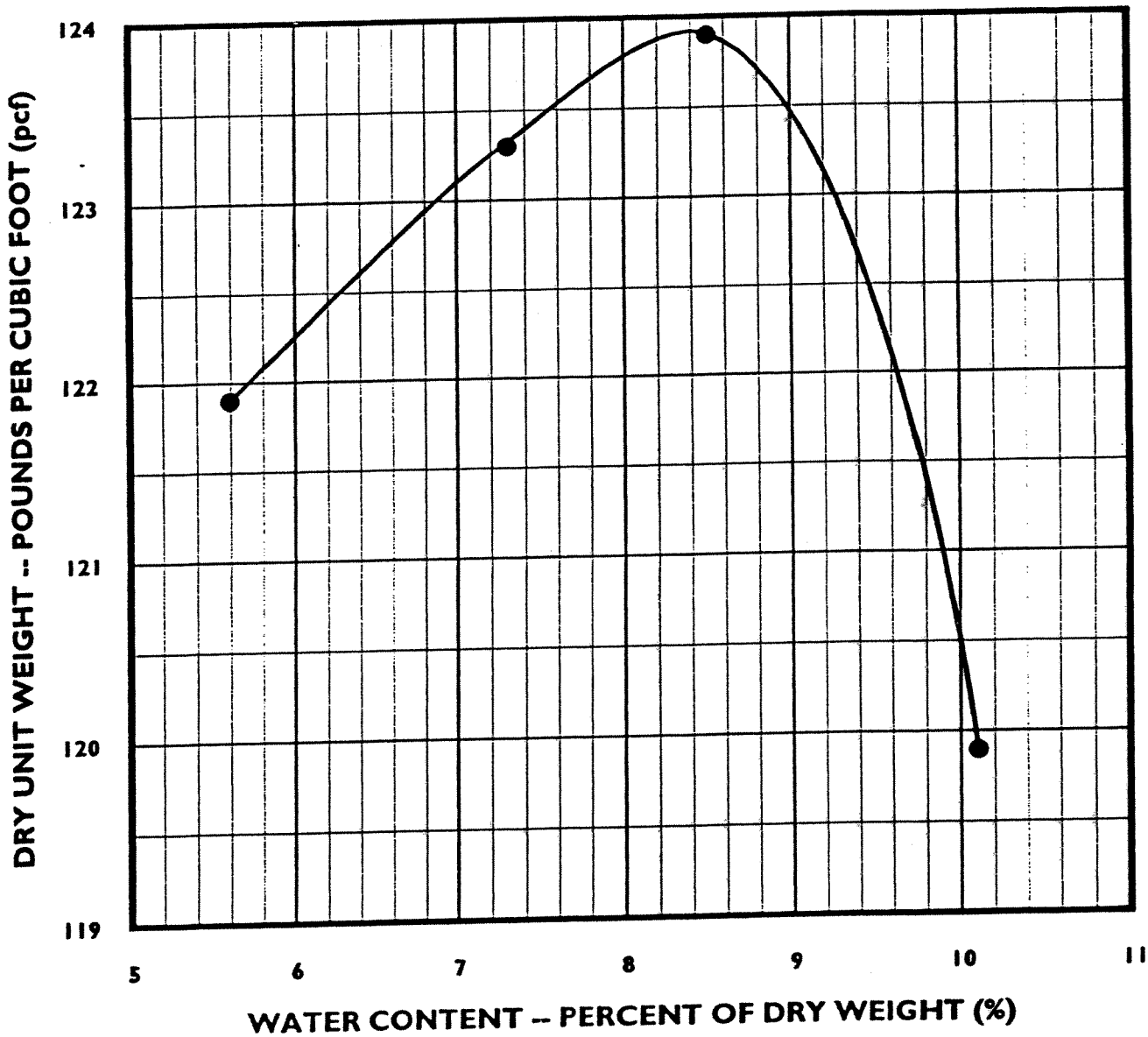
PROJECT:. HOPKINS POWER PLANT
CLIENT: CITY OF TALLAHASSEE
FILE NO. :04-1686
DATE PERFORMED: 4-28-04
PERFORMED BY: GS/MS
DATE SAMPLED : 4-26-04/TM-RD
DESCRIPTION OF SOIL: BROWN SILTY, SLIGHTLY CLAYEY SAND
LOCATION SAMPLED : HSB-2 / 1'-10'
TYPE OF MATERIAL: NATURAL GROUND
INTENDED USE: N/A
TYPE OF TEST: MODIFIED



MAX. DRY DENSITY: 123.9(pcf) @ OPTIMUM MOISTURE: 8.5%

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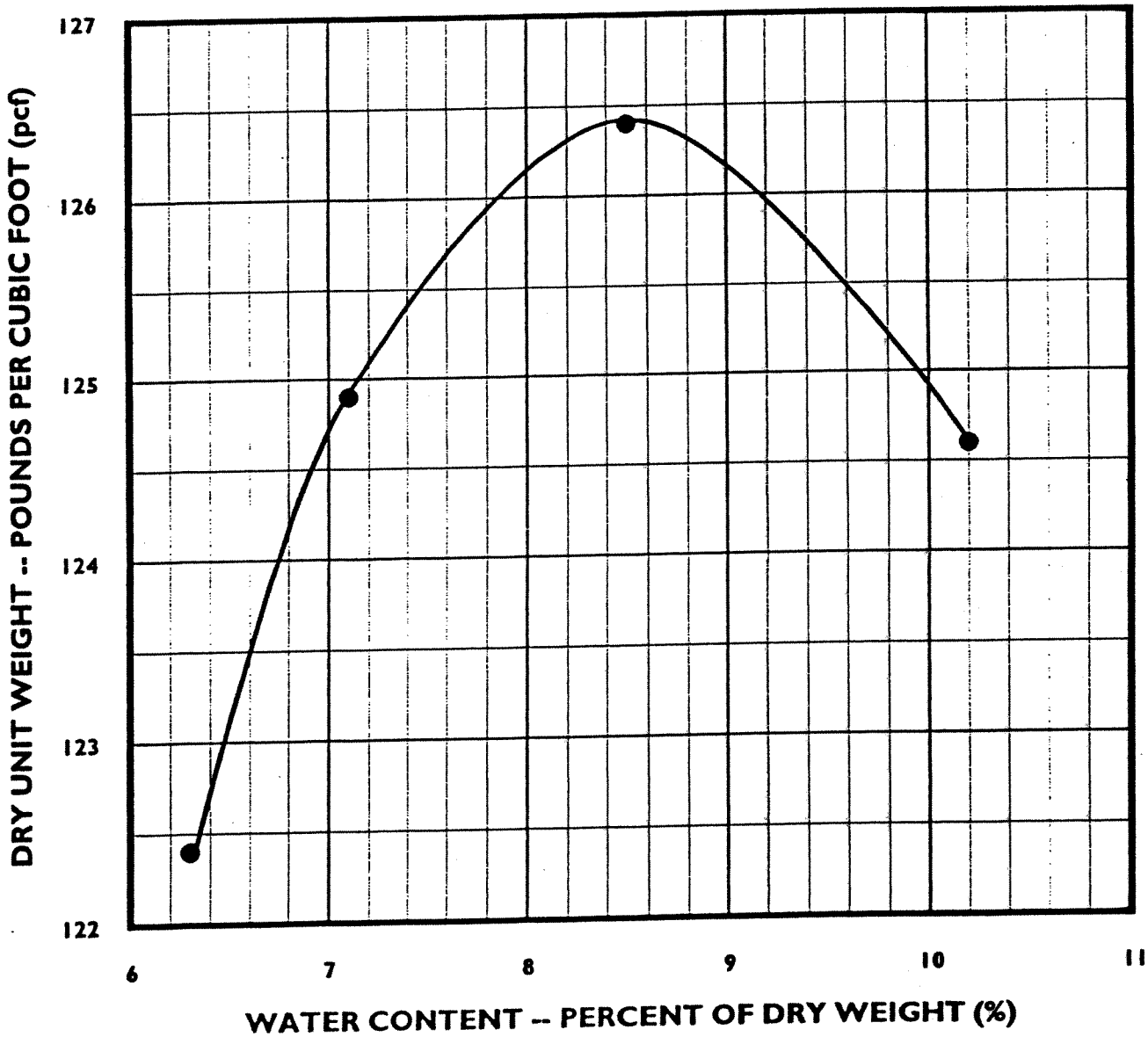
PROJECT:. HOPKINS POWER PLANT
CLIENT: CITY OF TALLAHASSEE
FILE NO. :04-1686
DESCRIPTION OF SOIL: BROWN SILTY SAND
LOCATION SAMPLED : HSB-3/1'-10'
TYPE OF MATERIAL: NATURAL GROUND
TYPE OF TEST: MODIFIED

DATE PERFORMED: 4-28-04
PERFORMED BY: MS
DATE SAMPLED: 4-26-04/TM/RD

INTENDED USE: N/A



MAX. DRY DENSITY: 126.4(pcf) @ OPTIMUM MOISTURE: 8.5%

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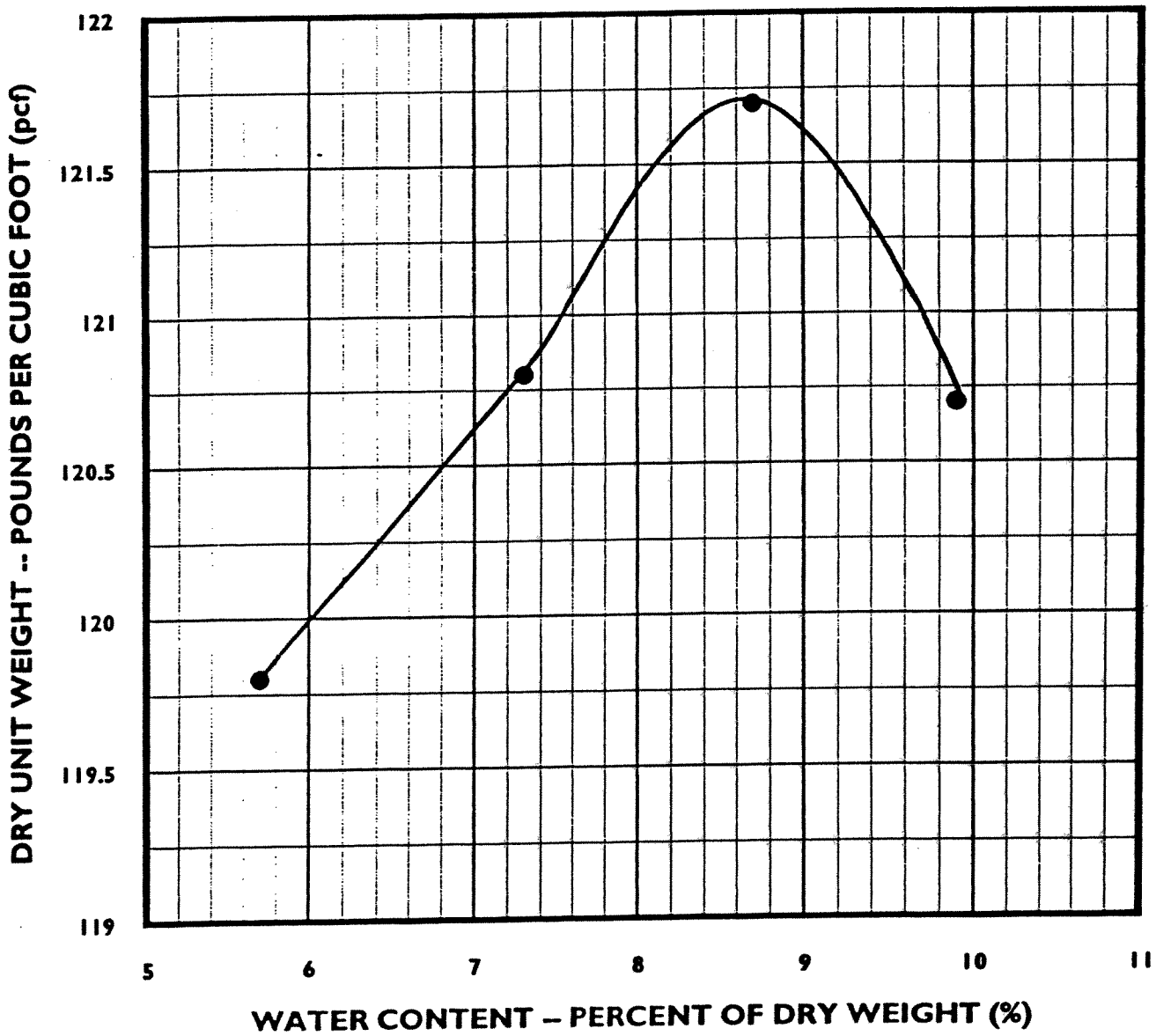
PROJECT:. HOPKINS POWER PLANT
CLIENT: CITY OF TALLAHASSEE
FILE NO. :04-1686
DATE PERFORMED: 4-28-04
PERFORMED BY: MS
DATE SAMPLED: 4-26-04/TM/RD
DESCRIPTION OF SOIL: LIGHT GRAY SILTY, CLAYEY SAND
LOCATION SAMPLED : HSB-4/1'-10'
TYPE OF MATERIAL: NATURAL GROUND
INTENDED USE: N/A
TYPE OF TEST: MODIFIED



MAX. DRY DENSITY: 121.7(pcf) @ OPTIMUM MOISTURE: 8.7%

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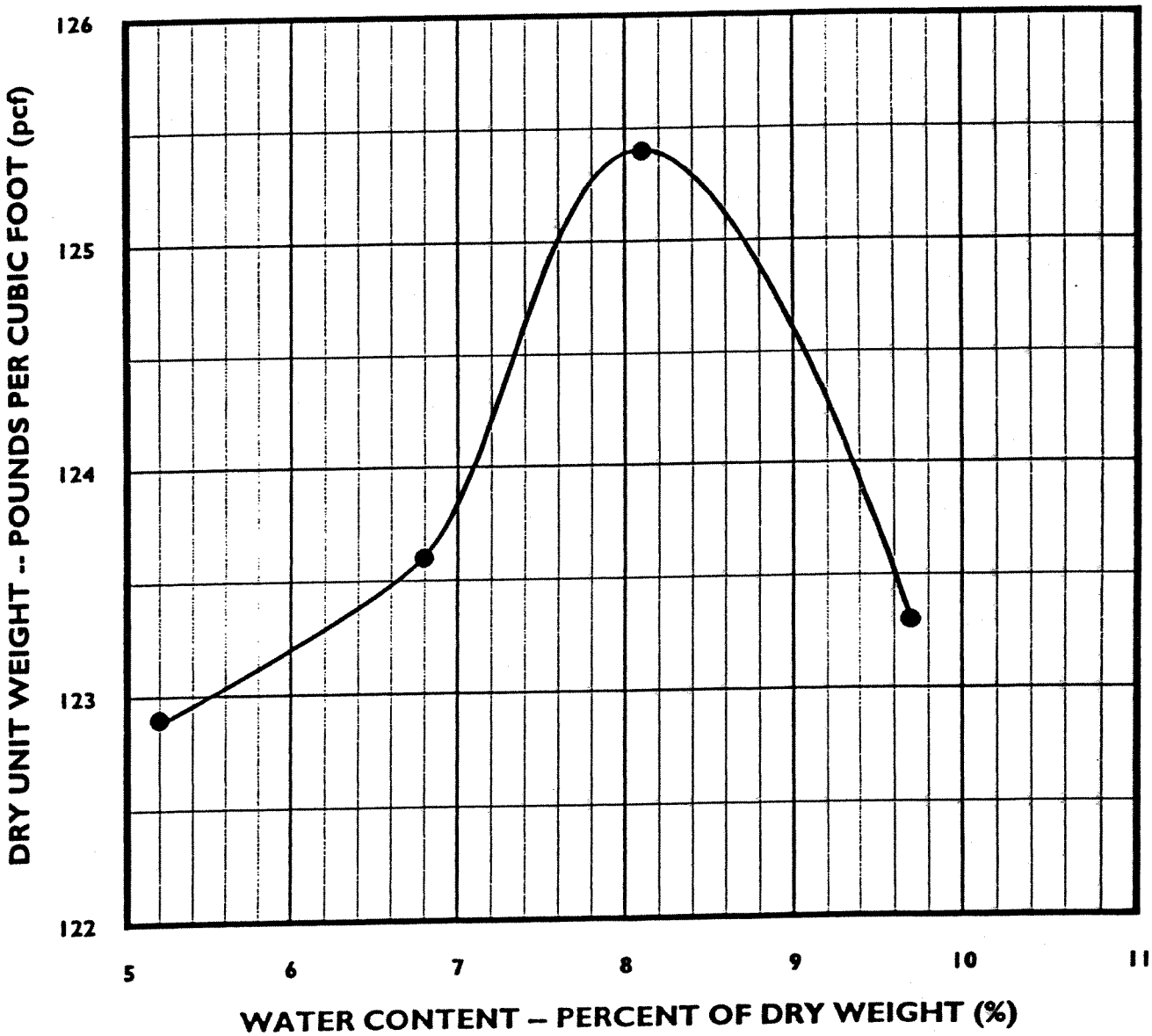
PROJECT:. HOPKINS POWER PLANT
CLIENT: CITY OF TALLAHASSEE
FILE NO. :04-1686
DATE PERFORMED: 4-28-04
PERFORMED BY: MS
DATE SAMPLED: 4-26-04/TM/RD
DESCRIPTION OF SOIL: BROWN TO GRAY SILTY, CLAYEY SAND
LOCATION SAMPLED : HSB-6/1'-10'
TYPE OF MATERIAL: NATURAL GROUND
INTENDED USE: N/A
TYPE OF TEST: MODIFIED



MAX. DRY DENSITY: 125.4(pcf) @ OPTIMUM MOISTURE: 8.1%

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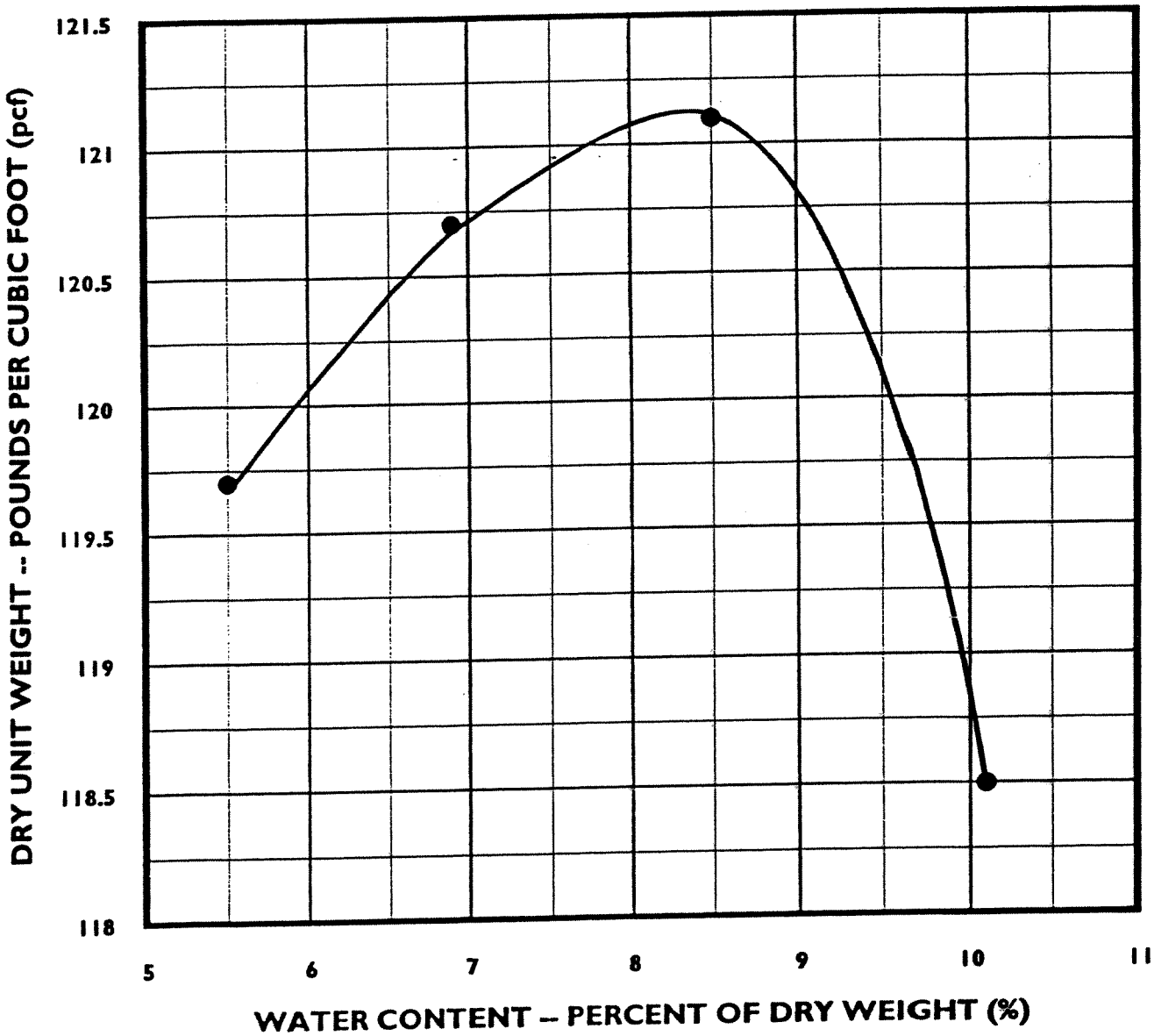
PROJECT:. HOPKINS POWER PLANT
CLIENT: CITY OF TALLAHASSEE
FILE NO. :04-1686
DESCRIPTION OF SOIL: GRAY SILTY SAND
LOCATION SAMPLED : HSB-7 / 1'-10'
TYPE OF MATERIAL: NATURAL GROUND
TYPE OF TEST: MODIFIED

DATE PERFORMED: 4-28-04
PERFORMED BY: GS/MS
DATE SAMPLED : 4-26-04/TM-RD

INTENDED USE: N/A



MAX. DRY DENSITY: 121.1(pcf) @ OPTIMUM MOISTURE: 8.2%

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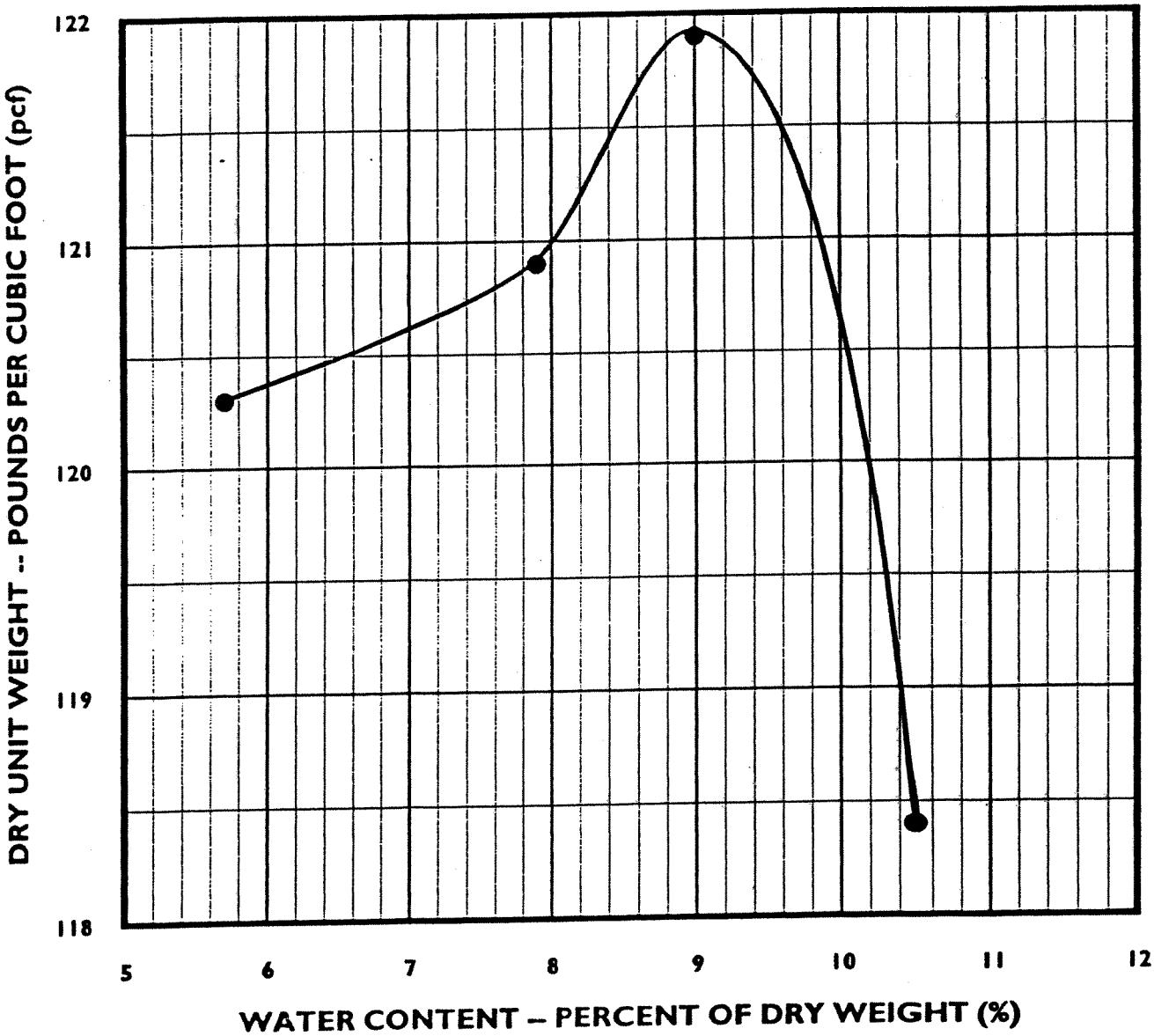
PROJECT:. HOPKINS POWER PLANT
CLIENT: CITY OF TALLAHASSEE
FILE NO. :04-1686
DATE PERFORMED: 4-28-04
PERFORMED BY: GS/MS
DATE SAMPLED : 4-26-04/TM-RD
DESCRIPTION OF SOIL: BROWN SLIGHTLY CLAYEY SAND
LOCATION SAMPLED : HSB-9 / 1'-10'
TYPE OF MATERIAL: NATURAL GROUND
INTENDED USE: N/A
TYPE OF TEST: MODIFIED



MAX. DRY DENSITY: 121.9(pcf) @ OPTIMUM MOISTURE: 9.0%

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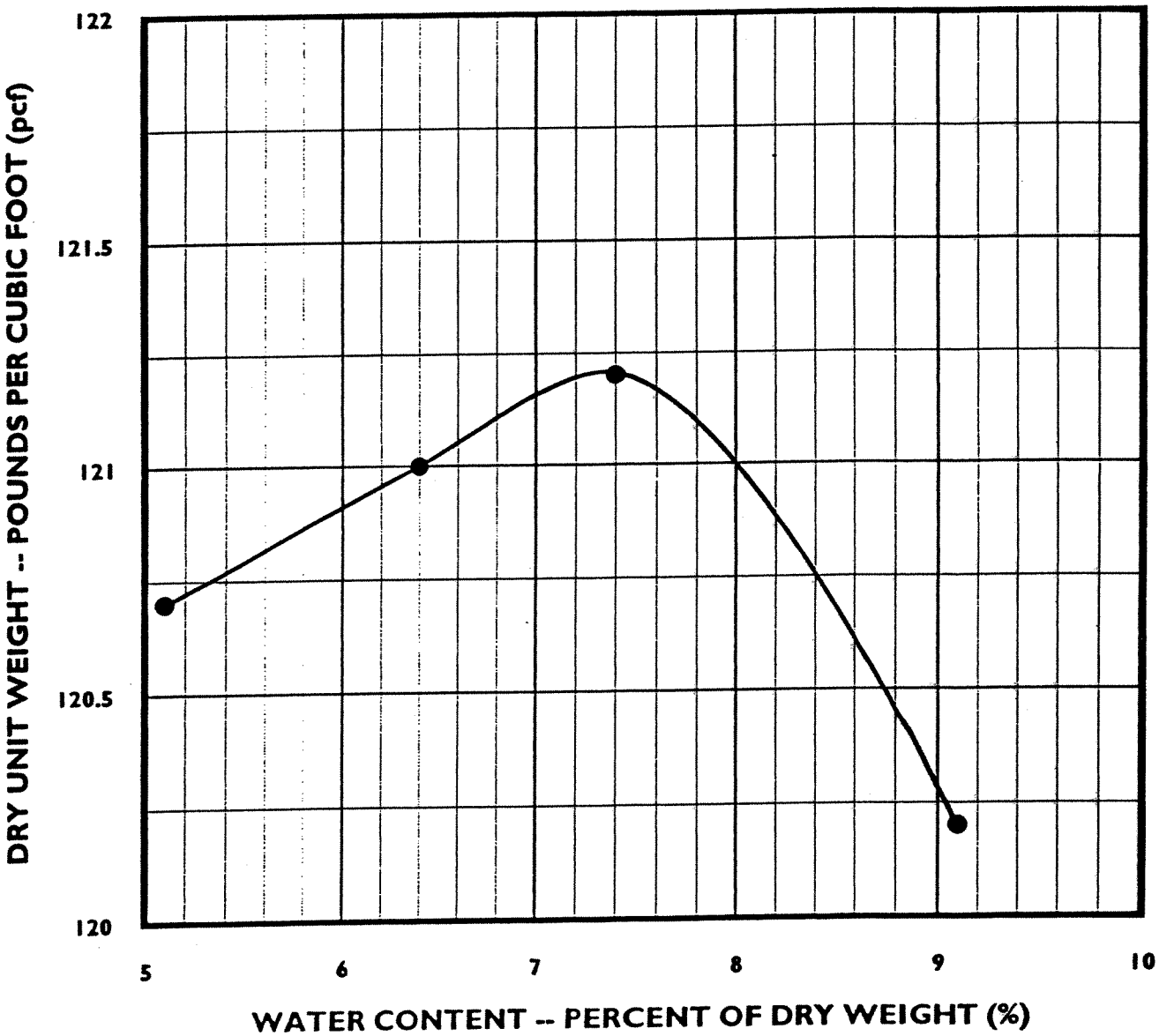
PROJECT:. HOPKINS POWER PLANT
CLIENT: CITY OF TALLAHASSEE
FILE NO. :04-1686
DATE PERFORMED: 4-28-04
PERFORMED BY: GS/MS
DATE SAMPLED : 4-26-04/TM-RD
DESCRIPTION OF SOIL: LIGHT BROWN FINE SAND WITH SILT
LOCATION SAMPLED : HSB-10 / 1'-10'
TYPE OF MATERIAL: NATURAL GROUND
INTENDED USE: N/A
TYPE OF TEST: MODIFIED



MAX. DRY DENSITY: 121.2(pcf) @ OPTIMUM MOISTURE: 7.4%

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