8-22-78
A053-12366

D.E.R.
AUG 22 1978
SOUTHWEST DISTRICT
TAMPA

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

Source Type: Air Pollution [X] Incinerator [ ]
Type application: [X] Operation [ ] Construction
Source Status: [ ] New [ ] Existing [ ] Modification

Source Name: C.D.McINTOSH JR. POWER PLANT DIESEL NO. 2 County POLK

Source Location: Street North Lake Parker Drive City LAKELAND

UTM: East 408500 North 3105800

Appl. Name and Title: City of Lakeland, Department of E&W Utilities
Appl. Address: P.O. Box 368, Lakeland, Fl. 33802

STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

The undersigned owner or authorized representative of * City of Lakeland is fully aware that the statements made in this application for a Operating permit are true, correct and complete to the best of his knowledge and belief. Further, the undersigned agrees to maintain and operate the pollution control source and pollution control facilities in such a manner as to comply with the provisions of Chapter 403, Florida Statutes, and all the rules and regulations of the Department or revisions thereof. He also understands that a permit, if granted by the Department, will be non-transferable and he will promptly notify the Department upon sale or legal transfer of the permitted establishment.

Mike Opalinski
Signature of the Owner or Authorized Representative

Date: 8/7/78 Telephone No.: (813)682-8163

*Attach a letter of authorization. If applicant is a corporation, a Certificate of Good Standing must be submitted with application. This may be obtained, for a $5.00 charge, from the Secretary of State, Bureau of Corporate Records, Tallahassee, Florida 32304.

B. PROFESSIONAL ENGINEER REGISTERED IN FLORIDA

This is to certify that the engineering features of this pollution control project have been designed/examined by me and found to be in conformity with modern engineering principles applicable to the treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my profesional judgment, that the pollution control facilities, when properly maintained and operated, will discharge an effluent that complies with all applicable statutes of the State of Florida and the rules and regulations of the Department. It is also agreed that the undersigned will furnish the applicant a set of instructions for the proper maintenance and operation of the pollution control facilities and, if applicable, pollution sources.

REGISTERED ENGINEER STATE OF FLORIDA NO. 18741

Signature
Name Jack A. Libey (Please Type)
Company Name City of Lakeland

Mailing Address P.O.Box 368
Larsen Memorial Power Plant
Lakeland, Fl. 33802
Telephone No.: (813)682-8163

Florida Registration Number 18741 (Affix Seal)

Date 8-4-78

DETAILED DESCRIPTION OF SOURCE

A. Describe the nature and extent of the project. Refer to existing pollution control facilities, expected improvement in performance of the facilities and state whether the project will result in full compliance. Attach additional sheet if necessary.

The diesel generator is a 2.5 MW peaking unit that burns No. 2 fuel oil with an average sulfur content of 0.10%.

B. Schedule of Project Covered in this Application (Construction Permit Application Only).

Start of Construction _____

Completion of Construction _____

C. Costs of Construction (Show a breakdown of costs for individual components/units of the project serving pollution control purpose only). Information on actual costs shall be furnished with the application for operation permit.

Stack - $2500 (Estimated)

D. For this source indicate any previous DER permit: issuance dates, and expiration dates; and orders and notices.

Permit No. A053-5073 - Issued 10-5-76, Expires 10-5-78

E. Is this application associated with or part of a Development of Regional Impact (DRI) pursuant to Chapter 380, Florida Statutes, and Chapter 22F-2, Florida Administrative Code ? .....Yes ..X....No

R POLLUTION SOURCES & CONTROL [illegible]ICES
(other than incinerators)

A. Identification of Air Contaminants

1) [X] Particulates
   a) [ ] Dust b) [XX] Fly Ash c) [ ] Smoke d) [ ] Other (Identify)

2) [X] Sulfur Compounds
   a) a) [X] SO_x as SO_2 b) [ ] Reduced Sulfur as H_2S c) [ ] Other (Identify)

3) [ ] Nitrogen Compounds
   a) [ ] NO_x as NO_2 b) [ ] NH_3 c) [ ] Other (Identify)

4) [ ] Flourides 5) [ ] Acid Mist 6) [ ] Odor

7) [ ] Hydrocarbons 8) [ ] Volatile Organic Compounds

9) [ ] Other (Specify) _____

B. Raw Materials and Chemicals Used (Be Specific)

Description	Utilization Rate lbs./hr.	Approximate Contaminant Content		Relate to Flow Diagram
		Type	% Wt.	
NA				

C. Process Rate:

1) Total Process input Rate* MBTU/Hr. Units.

2) Product Weight* MWH/DAY Units.

3) Normal Operating Time 400-600 hrs/yr., if seasonal describe: Peaking service

hrs./day _____ days/wk. _____ wks/yr. _____

D. Airborne Contaminants Discharged:

Name of Contaminant	Actual** Discharge		Discharge Criteria Rate*	Allowable Discharge Lbs./hr.	Relate to Flow Diagram
	lbs./hr.	T/yr.			
Sulfur Dioxide	see D pg.4		None	NA	Item B
Particulates	see D pg.4		None	NA	Item B

*Refer to Chapter 17-2.04(2), Florida Administrative Code.
(Discharge Criteria: Rate=#/ton P_2O_5, #/M BTU/hr., etc.)

**Estimate only if this is an application to construct.

D. Airborne Contaminants Discharged. (Cont'd.)

Name of Contaminant	Hourly Emission (lb./hr.)	Daily Emission (lb./day) (1)	Yearly Emission (T/yr.) (2)	Basis for Emission Estimate (Test Data, Material Balance)
Sulfur Dioxide	2.86	11.42	0.71	Material Balance
Particulates	0.14	0.56	0.04	Material Balance
(1) Based on 4 hours/day				
(2) Based on an average of 500 hours/year				

E. Control Devices:

Name and Type (Model and Serial No.)	Contaminant	Efficiency*	Conditions of Operations	Basis for Efficiency Operational Data, Test, Design, Data)
Stack	SO_2. Part.	NA	NA	NA

*See required supplement.
(Include any test data and/or design data for efficiency substantiation)

F. Fuels

Type (Be Specific, includes %S, etc.)	Daily Consumption *		Maximum Heat Input MBTU/hr.
	Avg./hr. (3)	Max./hr.	
No.2 oil	81.5	1428.6	28 MBTU/Hr.
(0.10%S)			
(3) Based on 8760 Hours/Year & 500 hrs/yr. operation			

* Units: Natural Gas–MCF/hr.; Fuel Oils, Coal–lbs./hr.

Fuel Analysis: Average

Percent Sulfur 0.10 Percent Ash Less than 0.01

Density 7.00 lb./gal.

Heat Capacity 19,600 BTU/lb. 137,200 BTU/gal.

Other Fuel Contaminants None

G. Describe briefly, without revealing trade secrets, the processes/operations generating the airborne emissions identified in this application.

A diesel generator is a diesel fueled internal combustion engine driving a generator to produce electric power

H. Indicate liquid or solid wastes generated and method of disposal.

none

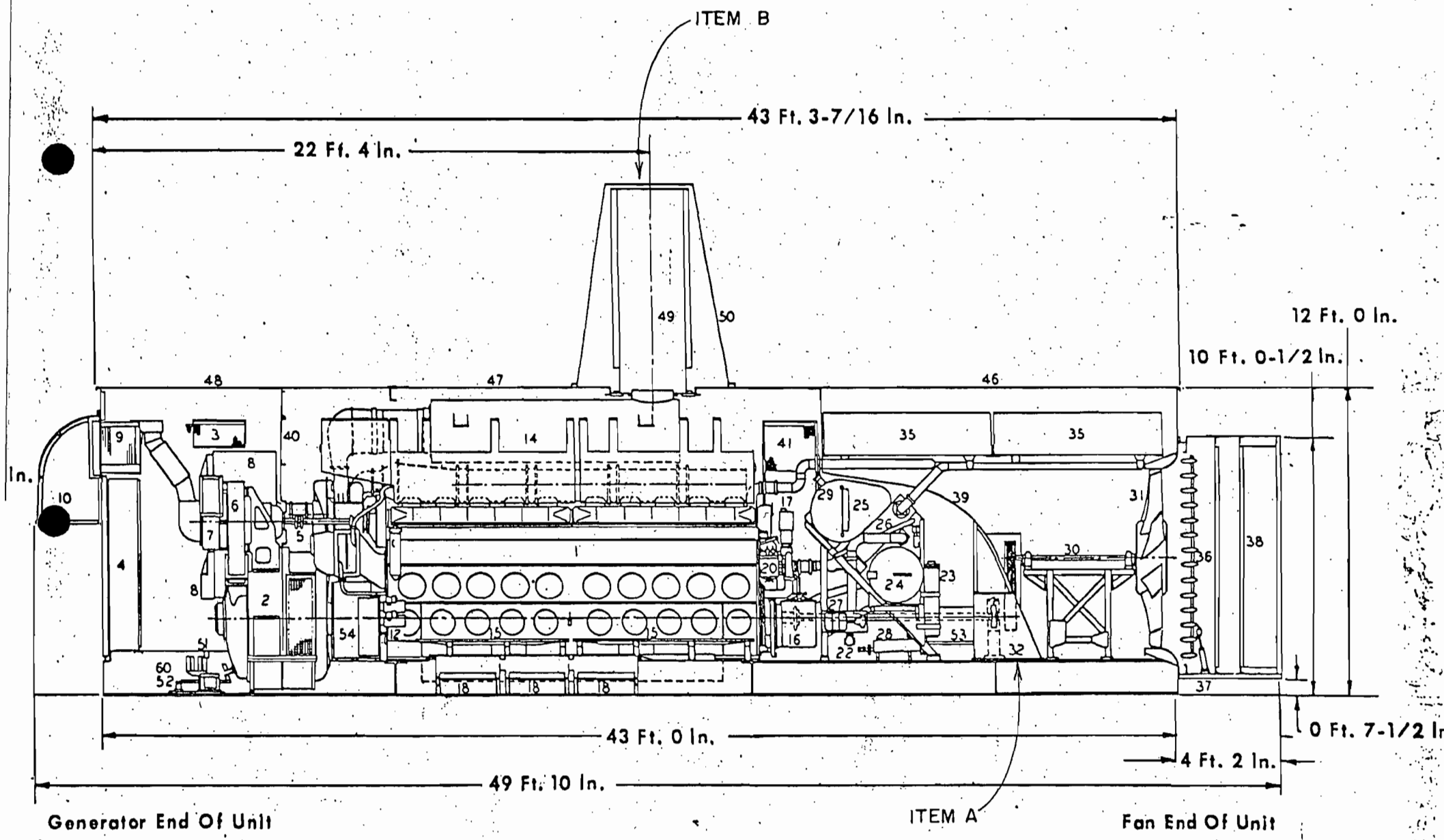
I. Emission Stack Geometry and Flow Characteristics, (Provide Date for each Stack).

Stack Height 20 ft, Stack Diameter 2.6 ft.

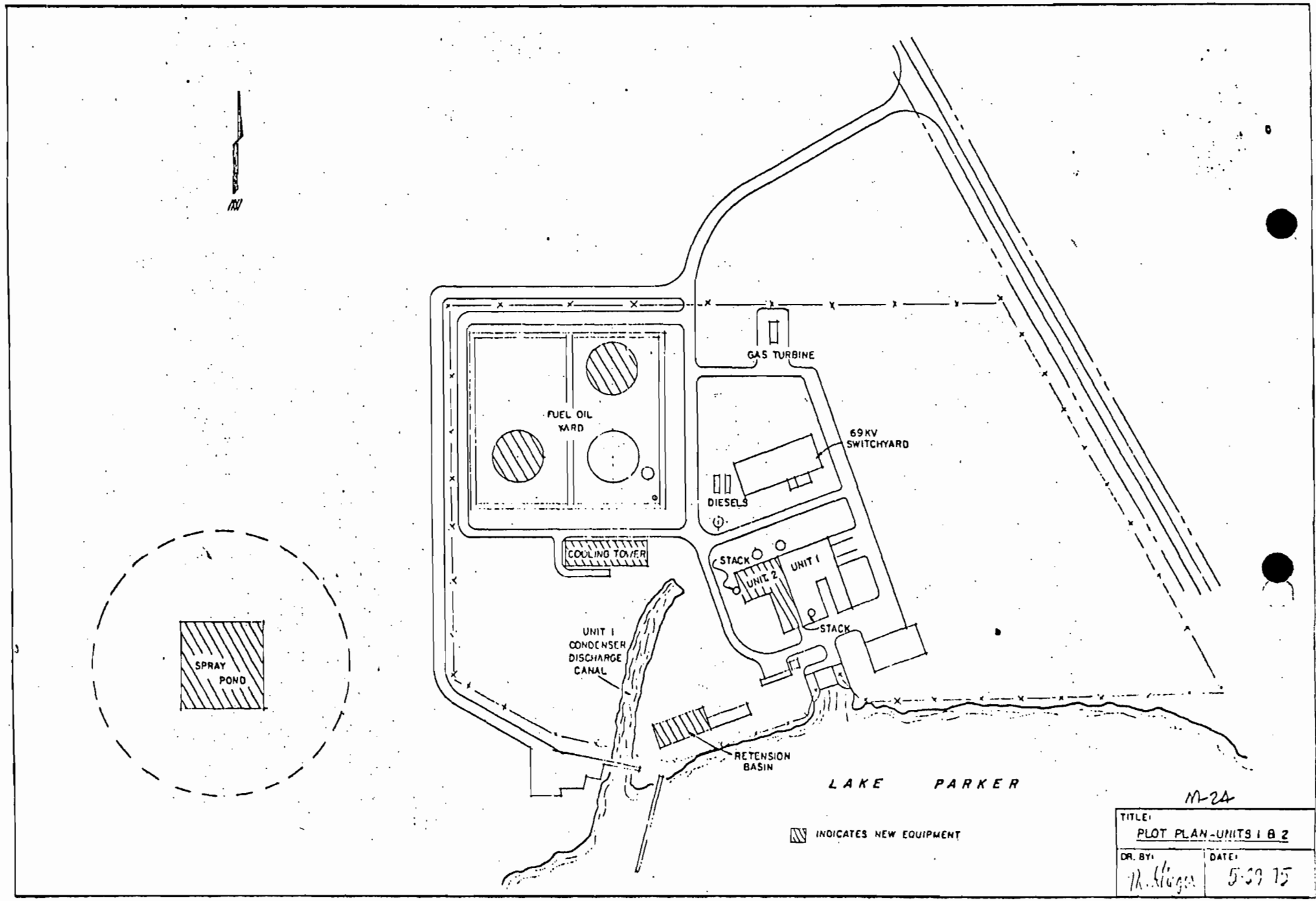
Gas Flow Rate 24,600 ACFM, Gas Exit Temperature 715 °F

J. Required Supplements:

1. Total process input rate and product weight – show deviation.
2. Efficiency Estimation.
3. An 8½" x 11" flow diagram, which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate whether raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particulates are evolved and where finished products are obtained.
4. An 8½" x 11" plot plan showing the exact location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.
5. An 8½" x 11" plot plan showing the exact location of the establishment, and points of airborne emissions in relation to the surrounding area, residences and other permanent structures and roadways.
6. If applicable, provide a brief description of the control device or treatment system serving the discharge point for airborne contaminants identified in this application. Include details of the manufacturer, model, size, type and capacity for control/treatment device and the features of the discharge point (height above ground, diameter, period(s) of discharge and discharge temperature).
7. Plans for storm water control during and after construction.



DIESEL—GENERATOR SET OUTLINE


GAS TURBINE
FUEL OIL YARD
69KV SWITCHYARD
DIESELS
COOLING TOWER
STACK
UNIT 2
UNIT 1
STACK
UNIT 1 CONDENSER DISCHARGE CANAL
SPRAY POND
RETENSION BASIN
LAKE PARKER
INDICATES NEW EQUIPMENT
M-24
TITLE: PLOT PLAN-UNITS 1 & 2
DR. BY: R. Hoge
DATE: 5-29-75

VISIBLE EMISSIONS REPORT

observation date 7-10-78 distance to stack 100' NE

time 1:15pm wind direction/speed S /

stack location - McIntosh plant - Diesel No. 2

UTM coordinates E408500 E3105800

process description No. 2 Oil Fired Internal Combustion Driven Diesel Generator

observer Mike Gieger

opacity observations in percent

sec / min	0	15	30	45
0	15	15	15	15
1	15	15	15	15
2	15	15	15	15
3	15	15	15	15
4	15	15	15	15
5	15	15	15	15
6	15	15	15	15
7	15	15	15	15
8	15	15	15	15
9	15	15	15	15
10	15	15	15	15
11	15	15	15	15
12	15	15	15	15
13	15	15	15	15
14	15	15	15	15
15	15	15	15	15

sec / min	0	15	30	45
16	15	15	15	15
17	15	15	15	15
18	15	15	15	15
19	15	15	15	15
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

Opacity observations in percent

min \ sec	0	15	30	45
31				
32				
33				
34				
35				
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				

min \ sec	0	15	30	45
46				
47				
48				
49				
50				
51				
52				
53				
54				
55				
56				
57				
58				
59				
60				

sum of readings recorded 1200

total number of readings 80

opacity % $\frac{\text{sum}}{\text{total}}$ = 15.0

comments:

Sky: Partly cloudy and Hot

Load: Both diesels fully loaded to 5½Mw.

observer certification card

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

THIS IS TO CERTIFY THAT

MICHAEL GIEGER has completed the STATE OF FLORIDA visible emissions evaluation training and is a qualified observer of visible emissions as specified by EPA reference method 9.

This certificate expires on October 14, 1978

Certification Officer

Bearer's Signature

AO53-5073

RECEIVED
53-1315 pd
JUL 26 '76
D. E. R.
CENTRAL SUB DISTRICT
WINTER HAVEN

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

Source Type: Air Pollution [XX] Incinerator [ ]
Type application: [XX] Operation [ ] Construction
Source Status: [ ] New [XX] Existing [ ] Modification

Source Name: Power Plant No. 3, Diesel No. 2 County Polk

Source Location: Street North Lake Parker Drive City Lakeland

UTM: East 408500 North 3105800

Appl. Name and Title: C. D. McIntosh Jr., Director, Deptartment of E & W Utilities
Appl. Address: P. O. Box 368, Lakeland, Florida 33802

STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

The undersigned owner or authorized representative of * City of Lakeland is fully aware that the statements made in this application for a Operating permit are true, correct and complete to the best of his knowledge and belief. Further, the undersigned agrees to maintain and operate the pollution control source and pollution control facilities in such a manner as to comply with the provisions of Chapter 403, Florida Statutes, and all the rules and regulations of the Department or revisions thereof. He also understands that a permit, if granted by the Department, will be non-transferable and he will promptly notify the Department upon sale or legal transfer of the permitted establishment.

Signature of the Owner or Authorized Representative

Date: 7-22-76 Telephone No.: (813) 682-8163

*Attach a letter of authorization. If applicant is a corporation, a Certificate of Good Standing must be submitted with application. This may be obtained, for a $5.00 charge, from the Secretary of State, Bureau of Corporate Records, Tallahassee, Florida 32304.

B. PROFESSIONAL ENGINEER REGISTERED IN FLORIDA

This is to certify that the engineering features of this pollution control project have been designed/examined by me and found to be in conformity with modern engineering principles applicable to the treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my profesional judgment, that the pollution control facilities, when properly maintained and operated, will discharge an effluent that complies with all applicable statutes of the State of Florida and the rules and regulations of the Department. It is also agreed that the undersigned will furnish the applicant a set of instructions for the proper maintenance and operation of the pollution control facilities and, if applicable, pollution sources.

Signature
Name Jack A. Libey
(Please Type)
Company Name City of Lakeland

Mailing Address P.O. Box 368
Larsen Memorial Power Plant
Lakeland, Fla. 33802
Telephone No.: (813) 682-8163

Florida Registration Number 18741
(Affix Seal)

Date

DETAILED DESCRIPTION OF SOURCE

A. Describe the nature and extent of the project. Refer to existing pollution control facilities, expected improvement in performance of the facilities and state whether the project will result in full compliance. Attach additional sheet if necessary.

The diesel generator is a 2.5 MW peaking unit that burns No. 2 fuel oil with an average sulfur content of 0.10%.

B. Schedule of Project Covered in this Application (Construction Permit Application Only).

Start of Construction _____

Completion of Construction _____

C. Costs of Construction (Show a breakdown of costs for individual components/units of the project serving pollution control purpose only). Information on actual costs shall be furnished with the application for operation permit.

Stack - $2500 (Estimated)

D. For this source indicate any previous DER permit: issuance dates, and expiration dates; and orders and notices.

Permit No. A053-2658 - Issued 8-15-75, Expires 8-15-76

E. Is this application associated with or part of a Development of Regional Impact (DRI) pursuant to Chapter 380, Florida Statutes, and Chapter 22F-2, Florida Administrative Code? .....Yes ..XXNo

AIR POLLUTION SOURCES & CONTROL DEVICES
(other than incinerators)

A. Identification of Air Contaminants

1) [X] Particulates
   a) [ ] Dust b) [XX] Fly Ash c) [ ] Smoke d) [ ] Other (Identify)

2) [X] Sulfur Compounds
   a) a) [X] SO_x as SO_2 b) [ ] Reduced Sulfur as H_2S c) [ ] Other (Identify)

3) [ ] Nitrogen Compounds
   a) [ ] NO_x as NO_2 b) [ ] NH_3 c) [ ] Other (Identify)

4) [ ] Flourides 5) [ ] Acid Mist 6) [ ] Odor

7) [ ] Hydrocarbons 8) [ ] Volatile Organic Compounds

9) [ ] Other (Specify) _____

B. Raw Materials and Chemicals Used (Be Specific)

Description	Utilization Rate lbs./hr.	Approximate Contaminant Content		Relate to Flow Diagram
		Type	% Wt.	
NA				

C. Process Rate:

1) Total Process input Rate* MBTU/Hr. Units.
2) Product Weight* MWH/DAY Units.
3) Normal Operating Time 400-600 hrs/yr., if seasonal describe: Peaking service
   hrs./day _____ days/wk. _____ wks/yr. _____

D. Airborne Contaminants Discharged:

Name of Contaminant	Actual** Discharge		Discharge Criteria Rate*	Allowable Discharge Lbs./hr.	Relate to Flow Diagram
	lbs./hr.	T/yr.			
Sulfur Dioxide	see D pg.4		None	NA	Item B
Particulates	see D pg.4		None	NA	Item B

*Refer to Chapter 17-2.04(2), Florida Administrative Code.
(Discharge Criteria: Rate= #/ton P_2O_5, #/M BTU/hr., etc.)
**Estimate only if this is an application to construct.

D. Airborne Contaminants Discharged. (Cont'd.)

Name of Contaminant	Hourly Emission (lb./hr.)	Daily Emission (lb./day) (1)	Yearly Emission (T/yr.) (2)	Basis for Emission Estimate (Test Data, Material Balance)
Sulfur Dioxide	2.86	11.42	0.71	Material Balance
Particulates	0.14	0.56	0.04	Material Balance
(1) Based on 4 hours/day				
(2) Based on an average of 500 hours/year				

E. Control Devices:

Name and Type (Model and Serial No.)	Contaminant	Efficiency*	Conditions of Operations	Basis for Efficiency Operational Data, Test, Design, Data)
Stack	SO_2. Part.	NA	NA	NA

*See required supplement.
(Include any test data and/or design data for efficiency substantiation)

F. Fuels

Type (Be Specific, includes %S, etc.)	Daily Consumption *		Maximum Heat Input MBTU/hr.
	Avg./hr. (3)	Max./hr.	
No.2 oil (0.10%S)	81.5	1428.6	28 MBTU/Hr.
(3) Based on 8760 Hours/Year & 500 hrs/yr. operation			

* Units: Natural Gas–MCF/hr.; Fuel Oils, Coal–lbs./hr.

Fuel Analysis: Average

Percent Sulfur 0.10 Percent Ash Less than 0.01

Density 7.00 lb./gal.

Heat Capacity 19,600 BTU/lb. 137,200 BTU/gal.

Other Fuel Contaminants None

G. Describe briefly, without revealing trade secrets, the processes/operations generating the airborne emissions identified in this application.

A diesel generator is a diesel fueled internal combustion engine driving a generator to produce electric power

H. Indicate liquid or solid wastes generated and method of disposal.

none

I. Emission Stack Geometry and Flow Characteristics, (Provide Date for each Stack).

Stack Height 20 ft, Stack Diameter 2.6 ft.

Gas Flow Rate 24,600 ACFM, Gas Exit Temperature 715 °F

J. Required Supplements:

1. Total process input rate and product weight – show deviation.

2. Efficiency Estimation.

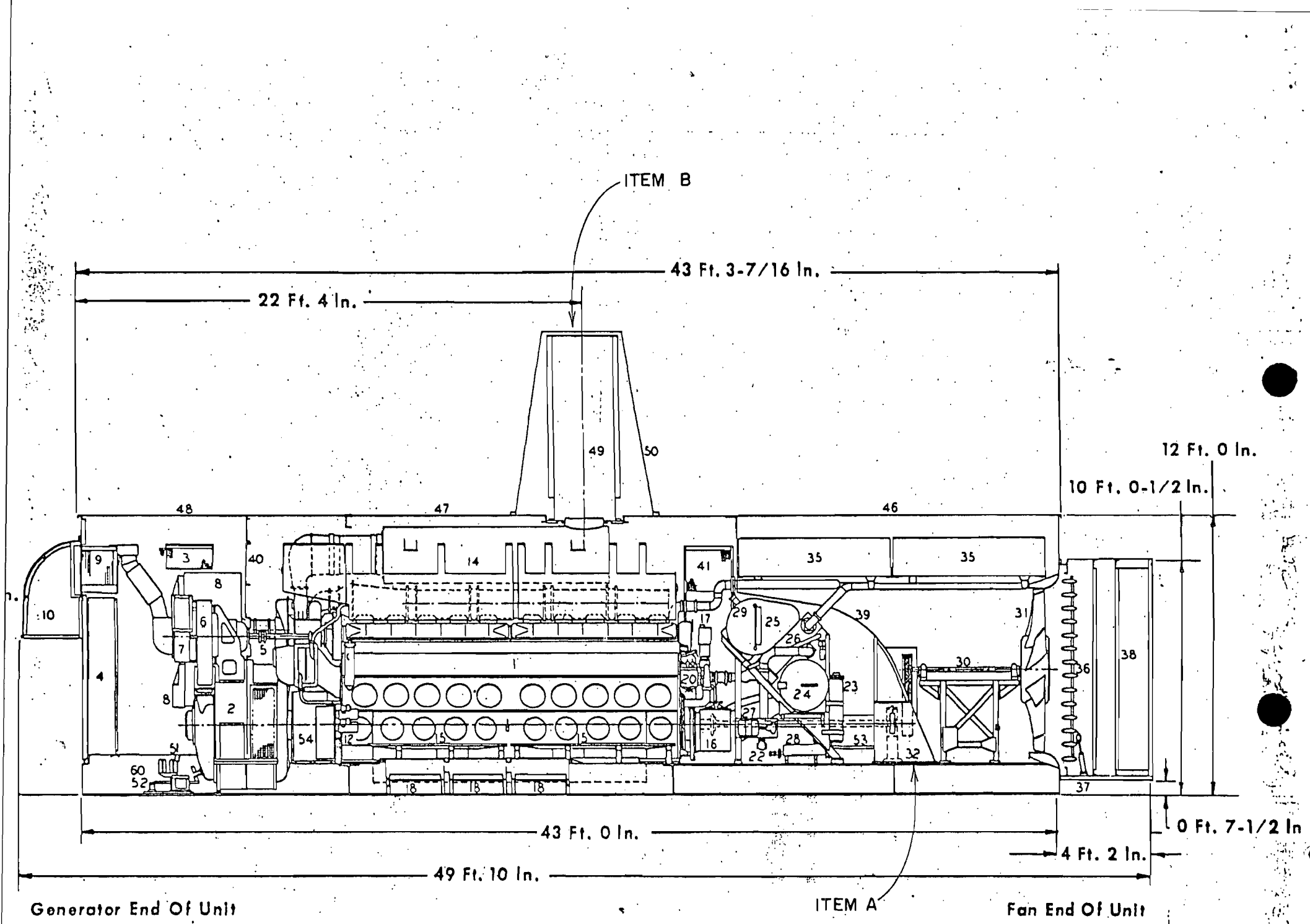
3. An 8½" x 11" flow diagram, which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate whether raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particulates are evolved and where finished products are obtained.

4. An 8½" x 11" plot plan showing the exact location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.

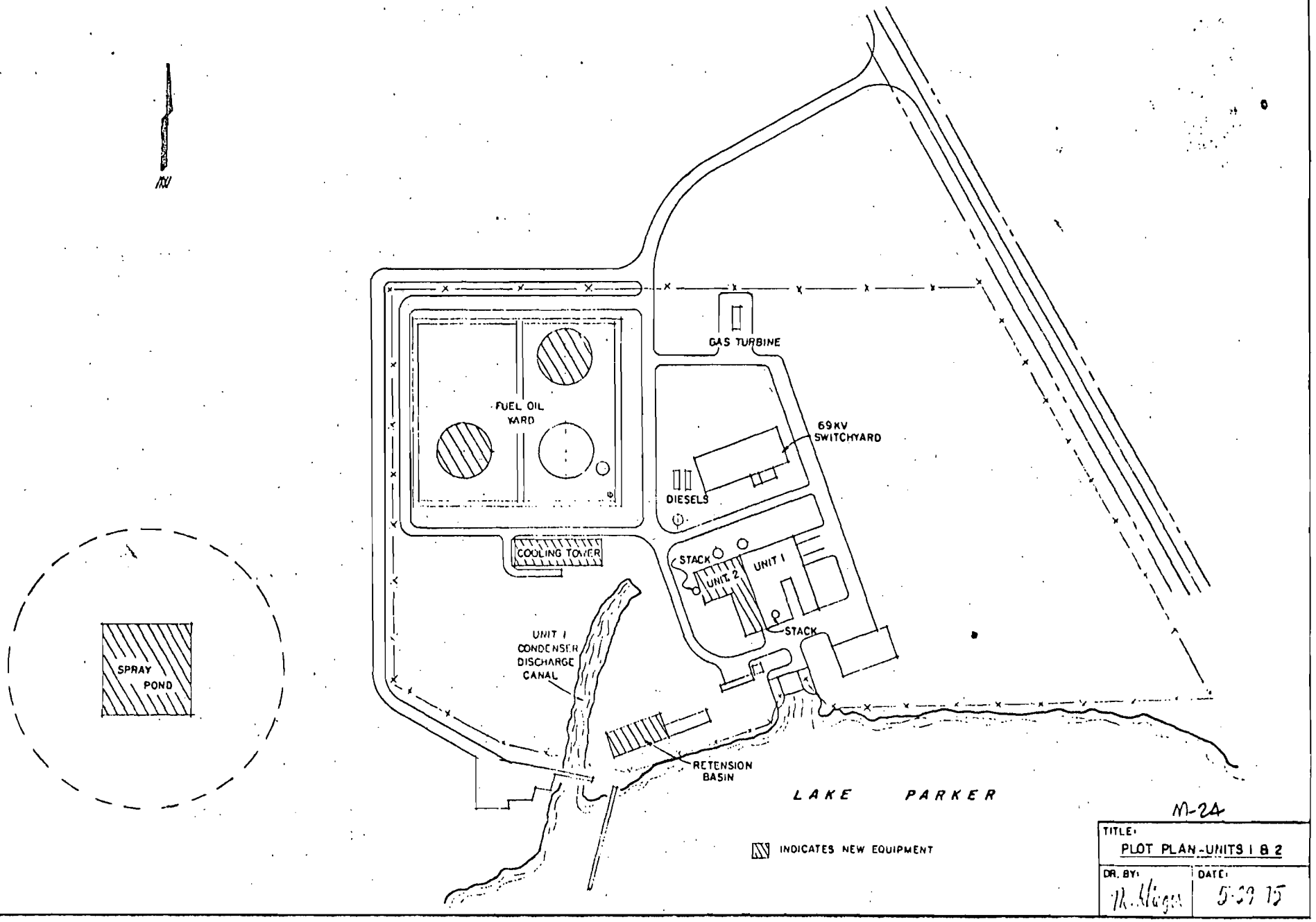
5. An 8½" x 11" plot plan showing the exact location of the establishment, and points of airborne emissions in relation to the surrounding area, residences and other permanent structures and roadways.

6. If applicable, provide a brief description of the control device or treatment system serving the discharge point for airborne contaminants identified in this application. Include details of the manufacturer, model, size, type and capacity for control/treatment device and the features of the discharge point (height above ground, diameter, period(s) of discharge and discharge temperature).

7. Plans for storm water control during and after construction.



DIESEL—GENERATOR SET OUTLINE



M-24

TITLE: PLOT PLAN-UNITS 1 & 2

DR. BY: R. Hagen

DATE: 5-29-75

53-787

D. P. C.

JUN 30 1975

WEST CENTRAL REGION
WINTER HAVEN

STATE OF FLORIDA
DEPARTMENT OF POLLUTION CONTROL

APPLICATION TO OPERATE/CONSTRUCT POLLUTION SOURCES

SECTION I – GENERAL INFORMATION FOR ALL POLLUTION SOURCES

I TO BE FILLED IN BY APPLICANT

Source Type: Air Pollution
Type application: [X] Operation [ ] Temporary Operation [ ] Construction
Status Source: [ ] New [X] Existing [ ] Modification

Source Name: Power Plant No. 3 Diesel No. 2 County: Polk

Source Location: Street: North Lake Parker Drive City: Lakeland
(Water Source Only) Lat: ____° ____' ____" Long: ____° ____' ____"
(Air Source Only) UTM: East 408500 North 3105800

Appl. Name and Title: C. D. McIntosh, Jr. Director, Dept. of E&W Utilities
Appl. Address: P.O. Box 368 Lakeland, Fla. 33802

II TO BE FILLED IN BY REGION (*BY BUREAU OF PERMITTING)

Control No: Region_____ County_____ Type _____ *Project_____

Type Permit	Date Rec'd	*Permit No.	*Issue Date	*Compl. Date	*Exp. Date

Source Description: _____
Control Equipment: _____

Water Permits

Receiving Body Code: _____ Surface Water Code: _____
Station No.: Influent: _____ Effluent: _____

Effluent:	Average	Design	% Reduction
Flow rate, MGD			
BOD, lbs/day			
Susp. Sol., lbs/day			
Other:			

Air Permits

Operating Time: [ ] Continuous [ ] Intermittent
Fuel: Type_____ M-BTU/hr. In Put_____
Incinerator: Capacity, tons/day_____ Type Waste _____
Mfg. & Model _____

Pollutant Emissions, lbs/day	Actual	Design	Allowable
Particulate			
Sulfur Oxides			
Other:			

Implementation: Estimated Appl. Filing Date _____
Estimated Start of Const. _____ Estimated Compliance Date _____

DESCRIPTION OF PROPOSED PROJECT

A. Describe the nature and extent of the proposed project. Refer to existing pollution control facilities, DPC permits, conditions, orders and notices, expected improvement in performance of the facilities and state whether the proposed project will result in full compliance of the source. Attach additional sheet if necessary.

The diesel generators are small (2.5MW) peaking units capable of burning 0.18% Sulfur No. 2 oil

B. Schedule of Project Covered in this Application (Construction Permit Application Only).

Federally or State Financed Projects only:

Planning Complete _____

Financing Program Complete _____

Indicate other local, state and/or federal agency approvals and dates _____

All projects:

Start of Construction _____

Completion of Construction _____

C. Costs of Construction (Show a breakdown of costs for individual components/units of the proposed project serving pollution control purpose only). Information on actual costs shall be furnished with the application for operation permit.

Stack - $2500. (estimated)

D. Indicate any previous DPC permits, issuance dates, and expiration dates.

Operation permit was applied for on December23, 1970 but was never issued.

AIR POLLUTION SOURCES & CONTROL DEVICES

A. Identification of Air Contaminants

1) [X] Particulates
   a) [ ] Dust b) [X] Fly Ash c) [ ] Smoke d) [ ] Other (Identify)

2) [X] Sulfur Compounds
   a) [X] SO_x as SO_2 b) [ ] Reduced Sulfur as H_2S c) [ ] Other (Identify)

3) [X] Nitrogen Compounds
   a) [X] NO_x as NO_2 b) [ ] NH_3 c) [ ] Other (Identify)

4) [ ] Flourides 5) [ ] Acid Mist 6) [ ] Odor

7) [ ] Hydrocarbons 8) [ ] Volatile Organic Compounds

9) [ ] Other (Specify): _____

B. Raw Materials and Chemicals Used (Be Specific)

Description	Utilization Tons/day, lbs./day, etc.	Approximate Contaminant Content		Relate to Flow Diagram
		Type	% Wt.	
NA				

C. Process Weight:

1) Total Process Weight Rate _____ lbs./hr. [See Sec. 17-2.04(2)]
2) Product Weight 10MWH/day lb./hr. expressed as 2.5MW@ 4 hours/day
3) Normal Operating Time _____, if seasonal describe: peaking service will average 400 hrs per year

D. Airborne Contaminants Discharged:

Name of Contaminant	Actual Discharge	Discharge Criteria*	Allowable Discharge*	Relate Location to Flow Diagram
Particulates	0.09 lb/MBTU	NONE	NA	ITEM B
SULFUR DIOXIDE	0.15 lb/MBTU	NONE	NA	ITEM B

* Refer to Chapter 17-2 Florida Administrative Code
(Discharge Criteria: Process Weight Rate, #/tonP_2O_5, #/M BTU/hr etc.)

E. Control Devices:

Name	Eff.	Conditions of Operation, Particle Size Range, etc.	Relate to Flow Diagram
STACK (FLYASH)	NA	EXIT GAS TEMP IS	ITEM B
STACK (SO_2)	NA	465°F @149 fps	ITEM B
STACK (NO_x)	NA		ITEM B

F. Fuels:

Type (Be specific)	Daily Consumption	Heat Input BTU/hr.	Relate to Flow Diagram
NO. 2 FUEL OIL	4.3 bbl/day	28 M BTU/hr	Item A
	(yearly ave.)		

G. Describe briefly, without revealing trade secrets, the unit processes/operations generating the airborne emissions identified in this application:

A diesel generator is a diesel fueled internal combustion engine driving a generator to produce electric power

H. Indicate liquid or solid wastes generated and method of disposal.

There are no solid or liquid wastes generated

STATEMENTS BY APPLICANT AND ENGINEER

A. Applicant

The undersigned owner or authorized representative of * City of Lakeland is fully aware that the statements made in this application for a operation permit are true, correct and complete to the best of his knowledge and belief. Further, the undersigned agrees to maintain and operate the pollution source and pollution control facilities in such a manner as to comply with the provisions of Chapter 403 Florida Statutes and all the rules and regulations of the Department or revisions thereof. He also understands that a permit, if granted by the Department, will be non-transferable and he will promptly notify the Department upon sale or legal transfer of the permitted establishment.

Signature of the Owner or Authorized Representative

C.D.McIntosh, Jr., Director, E&W Utilities

Name and Title (Please Type)

Date: June 10, 1975 Telephone No.: (813)682-1121

* Attach a letter of authorization

B. Professional Engineer Registered in Florida:

This is to certify that the engineering features of this pollution control project have been designed/examined by me and found to be in conformity with modern engineering principles applicable to the control and discharge of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that the pollution source(s) with appropriate control facilities, when properly maintained and operated, will comply with all applicable statutes of the State of Florida and the rules and regulations of the Department. It is also agreed that the undersigned will furnish the applicant a set of instructions for the proper maintenance and operation of the installation covered in this application.

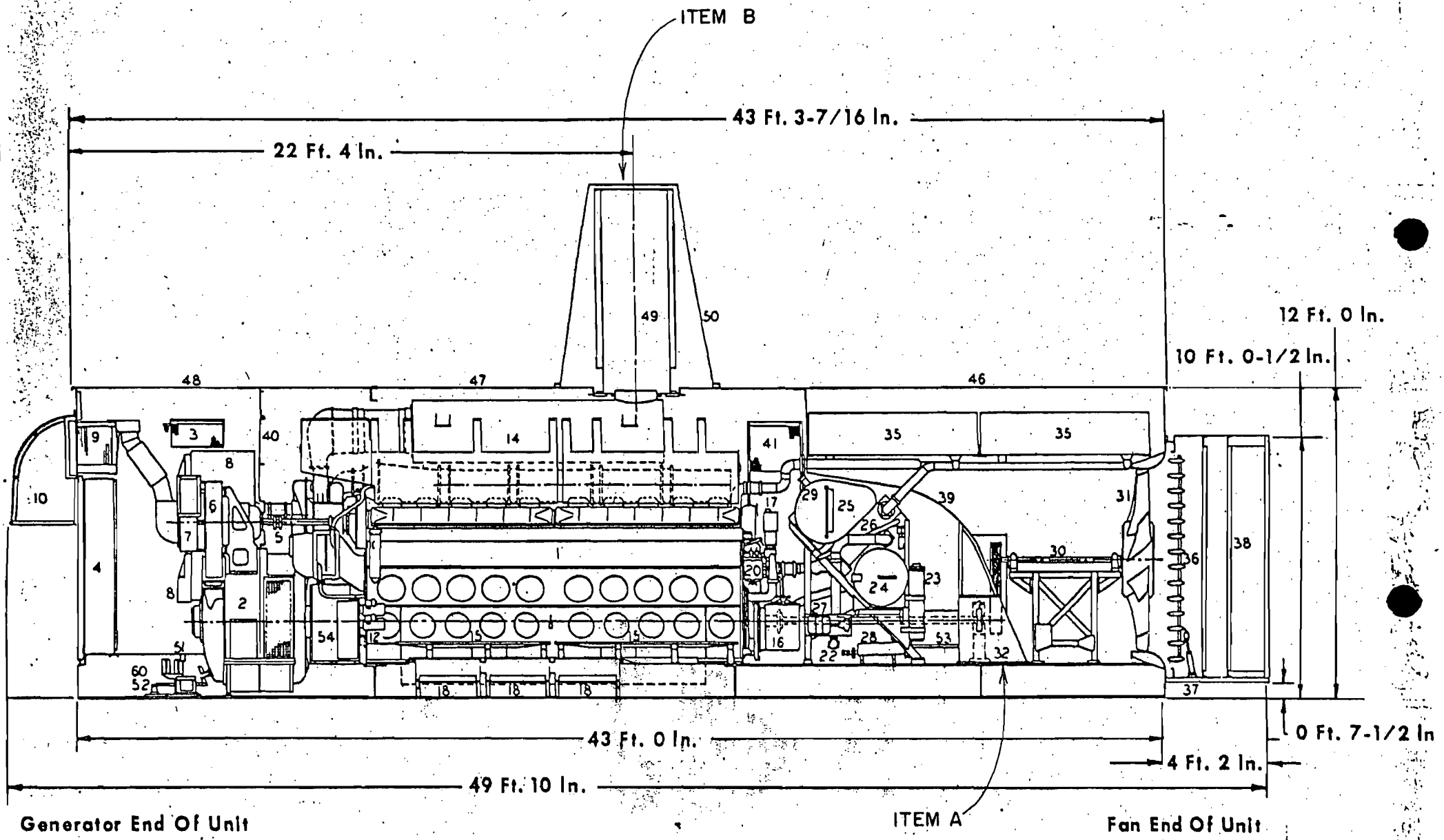
Signature

Name: Jack A. Libey
(please type)

Mailing Address: P.O.Box 368
Larsen Memorial Power Plant
Lakeland, Fl 33802
Telephone No.: (813) 682-8163

Florida Registration Number 18741
(Please affix seal)

Date: June 10, 1975



DIESEL—GENERATOR SET OUTLINE

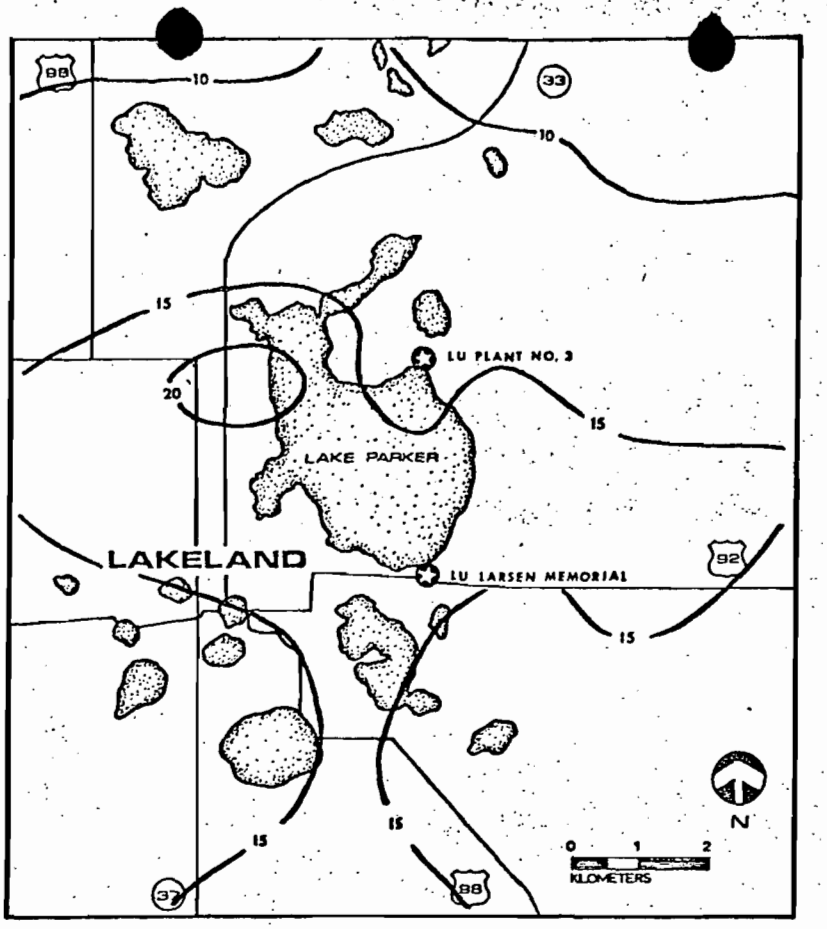


Figure 7-18. Predicted Annual Average Sulfur Dioxide Concentrations ($\mu g/m^3$) Near the City of Lakeland Power Plants, 1973.

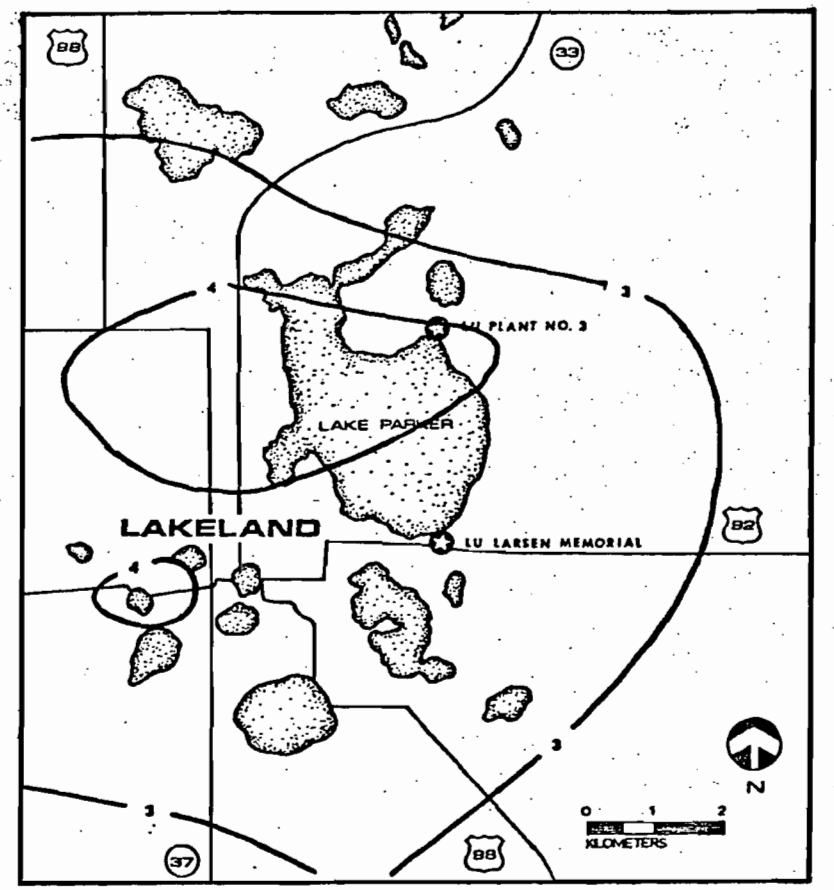


Figure 7-19. Predicted Annual Average Sulfur Dioxide Concentrations ($\mu g/m^3$) Near Lakeland Utilities Power Plants at 1 Percent Sulfur, 1975. Assumes all other sources in compliance with emission limitations.

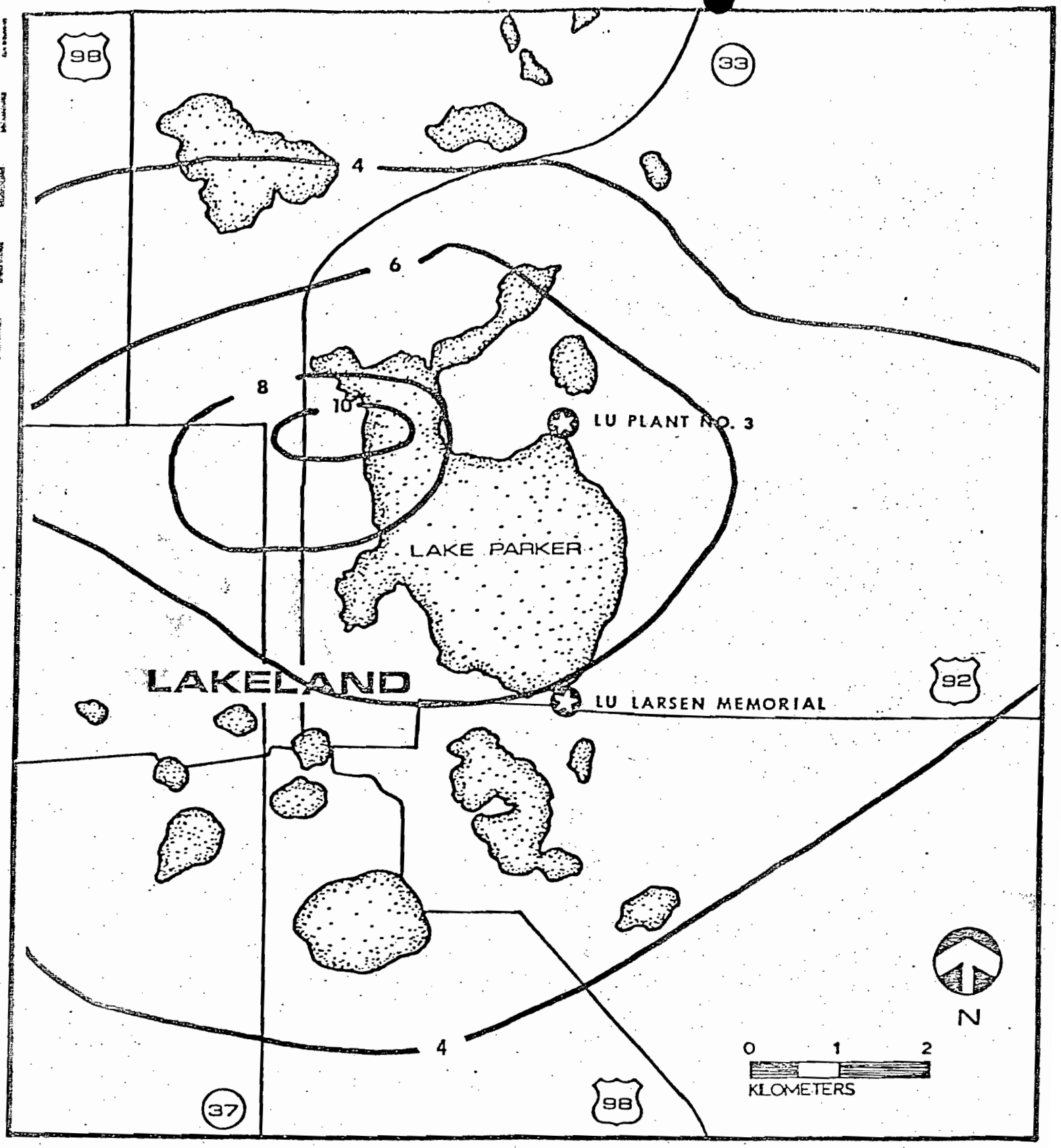


Figure 7-20. Predicted Annual Average Sulfur Dioxide Concentrations ($\mu g/m^3$) Near Lakeland Utilities Power Plants at 2.8 Percent Sulfur, 1975. Assumes all other sources in compliance with emission limitations.

53-211

D. P. C.

AUG 28 1973

WEST CENTRAL REGION

State of Florida
Department of Air and Water Pollution Control

60th DAY

Application For Permit to Operate Air Pollution Control Facilities

PAID 8-28-73

Applicant (Owner or authorized agent): C. D. McIntosh, Jr., Director
(Name and Title)

Name of Establishment: City of Lakeland, Plant No. 3, Gas Turbine
(Corporation, Company, Political SD, Firm, etc.)

Mailing Address: Department of Electric & Water Utilities
P. O. Box 368, Lakeland, Florida 33802

Location of Pollution Source: North-East Lake Parker Drive, Lakeland
(Number and Street) (City)

Polk
(County)

Nature of Industrial Operation: Electric Utility GAS TURBINE PEAKING UNIT, PLT. No. 3

Permit Applied For Operating:

- New Source ☒
- Existing Source ☐
- Existing Source after modification ☐
- Existing Source after Expansion ☐
- Existing Source After relocation, expansion or reconstruction ☐

Project Engineer:

William R. Lesnett
Name

City of Lakeland
Firm

Department of Electric & Water Utilities
P. O. Box 368, Lakeland, Florida 33802
Mailing Address

William R. Lesnett
Signature

4104
Florida Registration Number

For Department's Use Only Permit No. A053-2241 Date: 9/10/73 DF

1-D

The undersigned/owner/or/authorized representative* of City of Lakeland is fully aware that the statements made in this form and the attached exhibits and statements constitute the application for an Operating Permit from the Florida Department of Air and Water Pollution Control and certifies that the information in this application is true, correct and complete to the best of his knowledge and belief. Further, the undersigned agrees to comply with the provisions of Chapter 403 Florida Statutes and all the rules and regulations of the Department or revisions thereof. He also understands that the Permit is non transferable and, if granted a permit, will promptly notify the Department upon sale or legal transfer of the permitted establishment.

Signature of owner or agent.

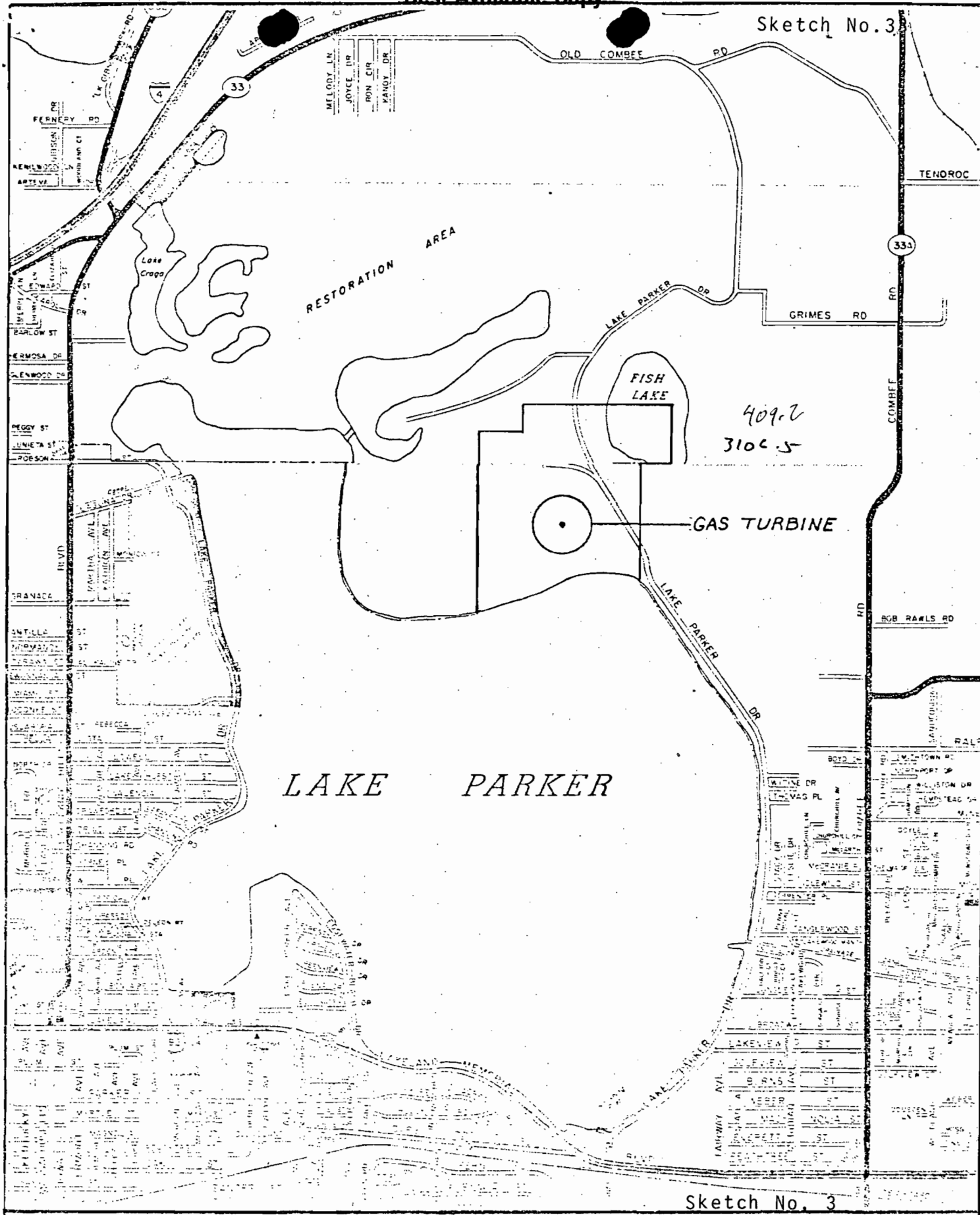
C. D. McIntosh, Jr., Director

Name and Title

Date: August 24, 1973

*Attach letter of authorization.

Sketch No. 3



Sketch No. 3

GAS TURBINE LOCATION	WELLMAN-POWER GAS, INC. LAKELAND, FLORIDA	Form No. 681
APPROVED / DATE / CHECKED / DATE	DRAWN BY:	STANDARD DRAWING
APPROVED / DATE	SCALE: 2" = 1 MILE / DATE:	No. 4122-M-29

Information Regarding Pollution Sources and Proposed Control Facilities

Air Pollution

1. Estimated cost of ~~proposed~~ control facilities $Stack $6000.00.

2. Prepare and attach an 8½" x 11" flow diagram, without revealing trade secrets, identifying the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particulates are evolved and where finished products are obtained.

Refer to Sketch No. 1

3. Include an 8½" x 11" plot plan showing location of manufacturing processes and location of outlets for airborne emissions. Relate all flows to the flow diagram.

Refer to Sketch No. 2

4. Submit an 8½" x 11" plot plan showing the exact location of the establishment and points of discharge in relation to the surrounding area, residences and other permanent structures and roadways.

Refer to Sketch No. 3

I General

A. Raw Materials and Chemicals Used.

Description	Utilization Tons/day, Lbs./day, etc.	Approximate Contaminant Content		Relate to Flow Diagram
		Type	Percent Dry Weight	
N/A				

B. Fuels

Type (Be Specific)	Daily Consumption	Gross Maximum Heat Output	Relate to Flow Diagram
No. 2 Fuel Oil	208.57 bbls.	12,280.6 Therms/Day	(Item B)

C. Products

Description	Average Daily Production (Tons/Day. Lbs/Hr. etc.)
Electricity	88 mwh/day av.
	22 mw @ 4hrs/day

D. Normal operation: Hours/Day _____ Day and Week _____

If operation or process is seasonal, describe: Peaking service - anticipated

total hours 1460 hrs./yr.

II Identification of Air Contaminants

Compounds of:		Also —			
Chlorine	☐	Hydrocarbons	☐	Acid Mists	☐
Flourine	☐	Smoke	☐	Odors	☐
Nitrogen	☒	Fly Ash	☒	Radioisotopes	☐
Sulfur	☒	Dusts	☐	Other _____	☐

Specific Compounds SO_x, NOx

III Air Pollution Control Devices

Contaminant	Control Device	Relate to Flow Diagram	Operating Efficiency	Conditions (Particle Size Range, Temp. etc.)
Fly Ash	Stack	Item C	N/A	*Exit gas 84.93 cfs at 965 F. Particle size unknown.
SO_x	Stack	Item C		
NO_x	Stack	Item C		

Provide a brief description of the control device or treatment system. Attach separate sheets giving details regarding principle of operation, manufacturer, model, size, type and capacity of control/treatment device and the basis for calculating its efficiency. Show any bypasses of the control device and specify when such bypasses are to be used and under what conditions.

Gas turbine is fired with low sulfur bearing No. 2 fuel oil.

NOTE: Values in this report are calculated for peak operating conditions with an ambient air temperature of 95 F.

#2 Fuel 208.57 bbls./day - 8759.9 gal/day - 1191.3 mm BTU/day

allowable
part. 119.1 #/day
Soxides 953.0 #/day

IV. Contaminant Balance

From contaminant content in raw materials, waste products, and manufactured products, summarize daily contaminant flow:

	Pounds Contaminant per Day	
	Input	Output
List Raw Materials:		
Fuel Sulfur	98.588 lbs./day	
Fuel Ash	3. 080 lbs./day	
List Manufactured Products:		
Electricity		
List Solid Wastes:		
Total Retained Ash		None
List Liquid Wastes:		
Totals	101.668 lbs.	

Airborne Wastes (Total input minus total output)

101.668 lbs.

Note: If more than one contaminant, specify each
Contaminants recovered in control devices should be shown as either a liquid or a solid waste.

Heavy Marine
Diesel Fuel

Information Regarding Pollution Sources and Proposed Control Facilities

Air Pollution

1. Estimated cost of proposed control facilities $ Stack $6000.00.

2. Prepare and attach an 8½" x 11" flow diagram, without revealing trade secrets, identifying the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particulates are evolved and where finished products are obtained.

   Refer to Sketch No. 1.

3. Include an 8½" x 11" plot plan showing location of manufacturing processes and location of outlets for airborne emissions. Relate all flows to the flow diagram.

   Refer to Sketch No. 2

4. Submit an 8½" x 11" plot plan showing the exact location of the establishment and points of discharge in relation to the surrounding area, residences and other permanent structures and roadways.

   Refer to Sketch No. 3

I General

A. Raw Materials and Chemicals Used.

Description	Utilization Tons/day, Lbs./day, etc.	Approximate Contaminant Content		Relate to Flow Diagram
		Type	Percent Dry Weight	
N/A				

B. Fuels

Type (Be Specific)	Daily Consumption	Gross Maximum Heat Output	Relate to Flow Diagram
Marine Diesel Oil	208.57 bbls/day	12,280.6 Therms/day	Item B

C. Products

Description	Average Daily Production (Tons/Day. Lbs/Hr. etc.)
Electricity	88 mwh/day av.
	22 mw @ 4 hrs/day

D. Normal operation: Hours/Day _____ Day and Week _____

If operation or process is seasonal, describe: Peaking service - anticipated total hours 1460 hrs/yr.

II Identification of Air Contaminants

Compounds of:		Also —			
Chlorine	☐	Hydrocarbons	☐	Acid Mists	☐
Flourine	☐	Smoke	☐	Odors	☐
Nitrogen	☒	Fly Ash	☒	Radioisotopes	☐
Sulfur	☒	Dusts	☐	Other _____	☐

Specific Compounds SO_x, NO_x

III Air Pollution Control Devices

Contaminant	Control Device	Relate to Flow Diagram	Operating Efficiency	Conditions (Particle Size Range, Temp. etc.)
Fly Ash	Stack	Item C	N/A	*Exit gas 84.93 cfs at 965 F. Particle size unknown
SO_x	Stack	Item C		
NO_x	Stack	Item C		

Provide a brief description of the control device or treatment system. Attach separate sheets giving details regarding principle of operation, manufacturer, model, size, type and capacity of control/treatment device and the basis for calculating its efficiency. Show any bypasses of the control device and specify when such bypasses are to be used and under what conditions.

Gas Turbine is fired with low sulfur bearing Marine Diesel fuel oil.

NOTE: Values in this report are calculated for peak operating conditions with an ambient air temperature of 95 F.

IV. Contaminant Balance

From contaminant content in raw materials, waste products, and manufactured products, summarize daily contaminant flow:

	Pounds Contaminant per Day	
	Input	Output
List Raw Materials:		
Fuel Sulfur	528.15 lbs/day	
Fuel Ash	3.18 lbs/day	
List Manufactured Products:		
Electricity		
List Solid Wastes:		
Total Retained Ash		None
List Liquid Wastes:		
Totals	531.33 lbs.	

Airborne Wastes (Total input minus total output)

531.33 lbs.

Note: If more than one contaminant, specify each
Contaminants recovered in control devices should be shown as either a liquid or a solid waste.

V. Discharged Emmissions to Atmosphere

A. Discharge Points and Design Conditions

Discharge Point Description	Relate to Flow Diagram	Height above Ground (ft.)	Cross Sect. Area (sq. ft.)	Periods of Flow Hrs./ Day	Hrs./ Wk.	Temp. of Discharge (°F)
Stack	Item C	35'-0"	66.2	Peaking Serv.		965

B. Tabulation of Discharged Contaminants **Calculated**

Discharge Point – Relate to Flow Diagram	Flow Rate at Std. Cond. (cfm)	Total Contaminants Discharged: Particulates Gr/ft3 (Std.Cond.)	Particulates lbs./ Day	Other Contaminants (F^-, SO_X, NO_X etc.) Gr/ft3 (Std. Cond.)	lbs/ Day	Gr/ft3 (Std.Cond)	lbs/ Day
Peak Condition Stack	188,718	0.0004927	3.18	SOx 0.1632	1056.3		
Totals		0.0004927	3.18	0.1632 SO_x	1056.3		

VI. Treatment and Disposal of Liquid and Solid Waste

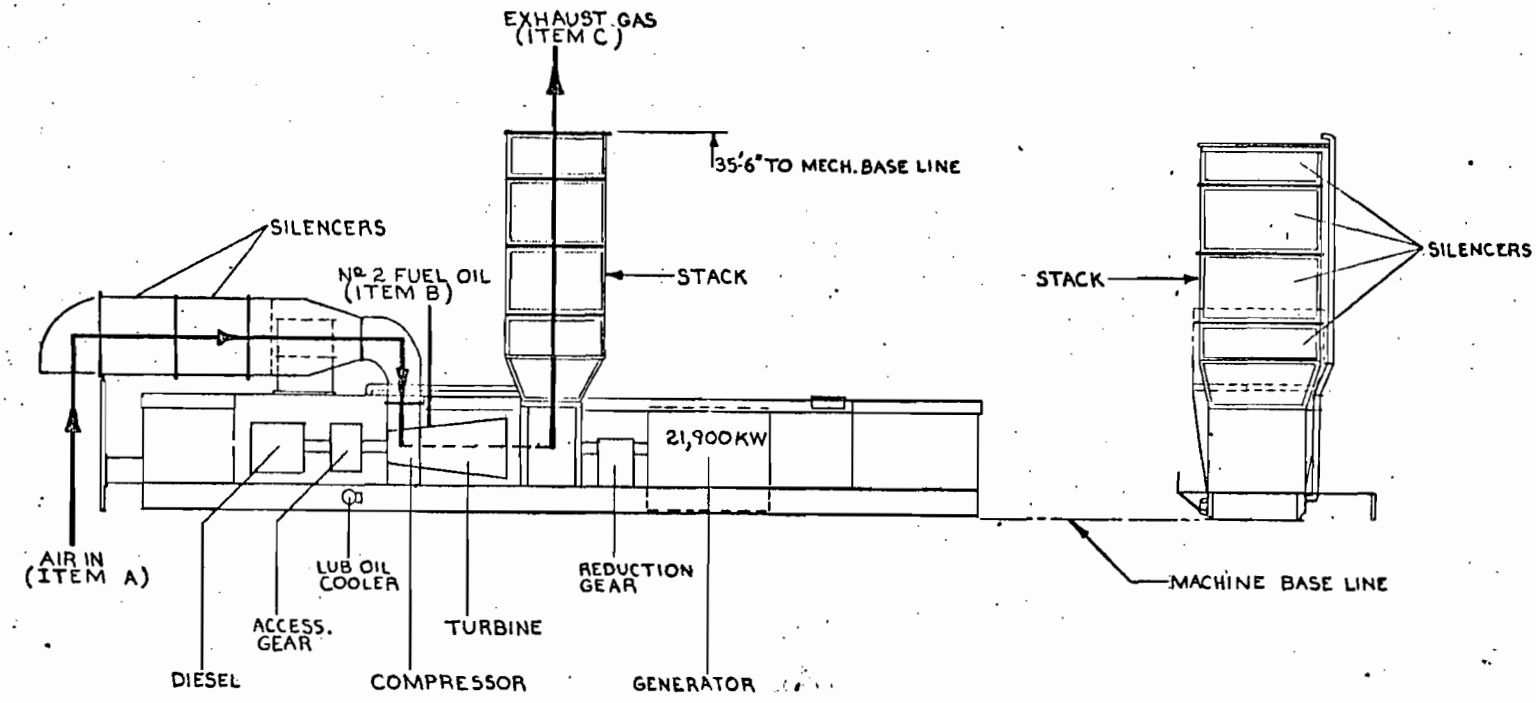
1. Identify the contaminants which will be discharged as liquid or solid wastes.

   Total Retained Ash

2. Describe the treatment and disposal of liquid and solid wastes. Indicate the concentrations and volume of individual contaminants in treated wastes before disposal.

   No disposal required on Marine Diesel fuel oil.

Best Available Copy



BILL OF MATERIAL

ITEM	QUAN.	DESCRIPTION	ORD

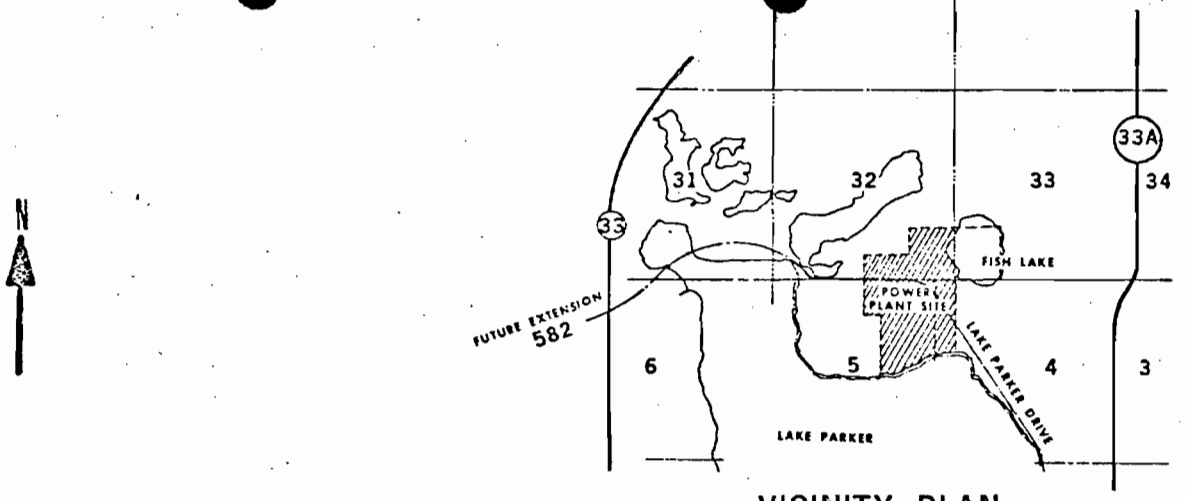
WELLMAN-POWER GAS, INC.
LAKELAND, FLORIDA

GAS TURBINE CYCLE

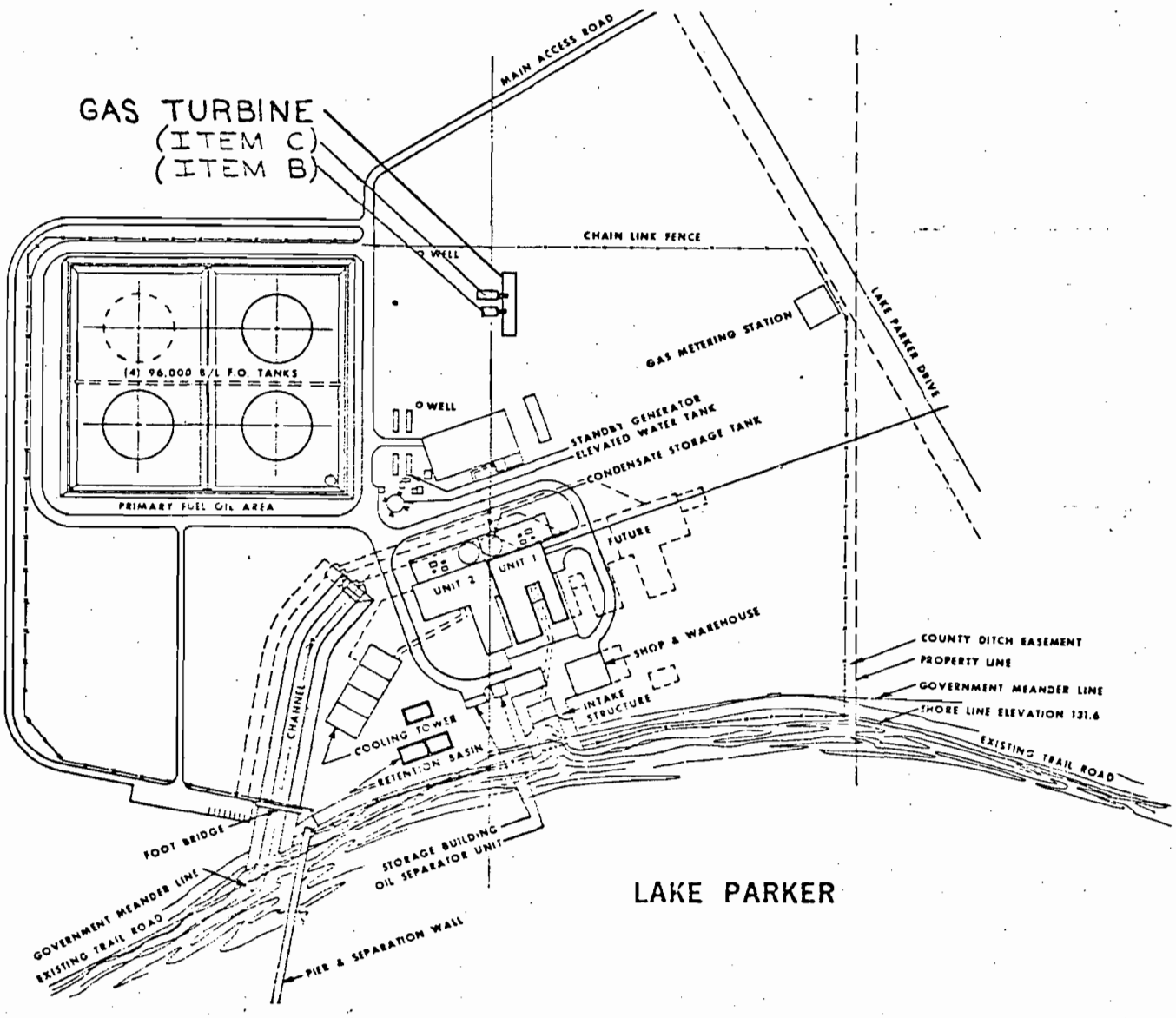
PROJECT NO. 4122 | DRAWING NO. M-28

Sketch No. 1

Sketch No. 2



VICINITY PLAN



Sketch No. 2

PLOT PLAN				WELLMAN-POWER GAS, INC. LAKELAND. FLORIDA	Form No. 681
APPROVED	DATE	CHECKED	DATE	DRAWN BY:	STANDARD DRAWING
APPROVED	DATE	SCALE NONE		DATE:	No 4122-M-27

V. Discharged Emmissions to Atmosphere

A. Discharge Points and Design Conditions

Discharge Point Description	Relate to Flow Diagram	Height above Ground (ft.)	Cross Sect. Area (sq. ft.)	Periods of Flow Hrs./ Day	Hrs./ Wk.	Temp. of Discharge (°F)
Stack	Item C	35' -0"	66.2	Peaking Serv.		965

B. Tabulation of Discharged Contaminants Calculated

Discharge Point – Relate to Flow Diagram	Flow Rate at Std. Cond. (cfm)	Total Contaminants Discharged: Particulates Gr/ft3 (Std.Cond.)	Particulates lbs./ Day	Other Contaminants (F^-, SO_X, NO_X etc.) Gr/ft3 (Std. Cond.)	Other Contaminants lbs/ Day	Other Contaminants Gr/ft3 (Std.Cond)	Other Contaminants lbs/ Day
Peak Condition Stack	188,718	0.0004769	3.08	SOx 0.03047	197.176		
Totals		0.0004769	3.08	0.03047 SO_X	197.176		

VI. Treatment and Disposal of Liquid and Solid Waste

1. Identify the contaminants which will be discharged as liquid or solid wastes.

   Total Retained Ash

2. Describe the treatment and disposal of liquid and solid wastes. Indicate the concentrations and volume of individual contaminants in treated wastes before disposal.

   No disposal required on No. 2 fuel oil.

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301

PAID SEP 2 1983

D.E.R.

SEP 2 1983

SOUTHWEST DISTRICT
TAMPA

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

APPLICATION FOR RENEWAL OF PERMIT TO OPERATE AIR POLLUTION SOURCE(S)

If major alterations have occurred, the applicant should complete the Standard Air Permit Application Form.

Source Type: Diesel Turbine Renewal of DER Permit No. A053-12366

Company Name: City of Lakeland County: Polk

Identify the specific emission point source(s) addressed in this application (i.e., Lime Kiln No. 4 with Venturi Scrubber; Peaking Unit No. 2, Gas Fired):

Peaking Unit No.3, fuel oil fired

Source Location: Street: 3030 East Lake Parker Drive City: Lakeland

UTM: East 408.500 North 3105.800

Latitude: 28° 04' 30"N. Longitude: 81° 55' 45"W.

---

1. Attach a check made payable to the Department of Environmental Regulation in accordance with operation permit fee schedule set forth in Florida Administrative Code Rule 17-4.05.

2. Have there been any alterations to the plant since last permitted? [ ] Yes [X] No If minor alterations have occurred, describe on a separate sheet and attach.

3. Attach the last compliance test report required per permit conditions if not submitted previously.

4. Have previous permit conditions been adhered to? [X] Yes [ ] No If no, explain on a separate sheet and attach.

5. Has there been any malfunction of the pollution control equipment during tenure of current permit? [ ] Yes [X] No If yes, and not previously reported, give brief details and what action was taken on a separate sheet and attach.

6. Has the pollution control equipment been maintained to preserve the collection efficiency last permitted by the Department? [X] Yes [ ] No

7. Has the annual operating report for the last calendar year been submitted? [X] Yes [ ] No If no, please attach.

8. Please provide the following information if applicable:

A. Raw Materials and Chemical Used in Your Process:

Description	Contaminant Type	Contaminant %Wt	Utilization Rate	Utilization lbs/hr

B. Product Weight (lbs/hr): _____

C. Fuels

Type (Be Specific)	Consumption* Avg/hr*	Consumption* Max/hr**	Maximum Heat Input (MMBTU/hr)
No.2 fuel oil with an average of 0.1% sulfur .2	81.5 .30	1428.6 4.8	28

D. Normal Equipment Operating Time: hrs/day _____; days/wk _____; wks/yr _____; hrs/yr (power plants only) _____; if seasonal, describe _____

Peaking Unit - Average 4 hours/day when needed.

The undersigned owner or authorized representative*** of _____ is fully aware that the statements made in this application for a renewal of a permit to operate an air pollution source are true, correct and complete to the best of his knowledge and belief. Further, the undersigned agrees to maintain and operate the pollution source and pollution control facilities in such a manner as to comply with the provisions of Chapter 403, Florida Statutes, and all the rules and regulations of the Department. He also understands that a permit, if granted by the Department, will be non-transferable and he will promptly notify the Department upon sale or legal transfer of the permitted facility.

*During actual time of operation.
**Units: Natural Gas-MMCF/hr; Fuel Oils-barrels/hr; Coal-lbs/hr.
***Attach letter of authorization if not previously submitted

Ronald L. Foster
Signature, Owner or Authorized Representative (Notarization is mandatory)

Ron J. Foster, Superintendent
Typed Name and Title

3030 East Lake Parker Drive
Address

Lakeland FL 33805
City State Zip

7/26/83 (813) 665-1556
Date Telephone No.

STATE OF FLORIDA
COUNTY OF POLK

Before me personally appeared Ronald J. Foster to me well known and known to me to be the person described in and who executed the foregoing instrument, and acknowledged to and before me that Ronald J. Foster executed said instrument for the purposes therein expressed.

WITNESS my hand and official seal, this 31st day of August, A.D., 1983.

Sylvia P. Johnson
Notary Public
State of Florida at Large

Notary Public, State of Florida
My Commission Expires Oct. 19, 1984
Bonded Thru Troy Fain Insurance, Inc.

My commission expires

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301

PAID SEP 2 1983

D.E.R.

SEP 2 1983

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

SOUTHWEST DISTRICT
TAMPA

APPLICATION FOR RENEWAL OF PERMIT TO OPERATE AIR POLLUTION SOURCE(S)

If major alterations have occurred, the applicant should complete the Standard Air Permit Application Form.

Source Type: Gas Turbine Renewal of DER Permit No. A053-6980

Company Name: City of Lakeland County: Polk

Identify the specific emission point source(s) addressed in this application (i.e., Lime Kiln No. 4 with Venturi Scrubber; Peaking Unit No. 2, Gas Fired):

Peaking Unit No.1 Gas & fuel oil fired.

Source Location: Street: 3030 East Lake Parker Drive City: Lakeland

UTM: East 408.500 North 3105.800

Latitude: 28° 04' 30"N. Longitude: 81° 55' 45"W.

---

1. Attach a check made payable to the Department of Environmental Regulation in accordance with operation permit fee schedule set forth in Florida Administrative Code Rule 17-4.05.

2. Have there been any alterations to the plant since last permitted? [ ] Yes [X] No If minor alterations have occurred, describe on a separate sheet and attach.

3. Attach the last compliance test report required per permit conditions if not submitted previously.

4. Have previous permit conditions been adhered to? [X] Yes [ ] No If no, explain on a separate sheet and attach.

5. Has there been any malfunction of the pollution control equipment during tenure of current permit? [ ] Yes [X] No If yes, and not previously reported, give brief details and what action was taken on a separate sheet and attach.

6. Has the pollution control equipment been maintained to preserve the collection efficiency last permitted by the Department? [X] Yes [ ] No

7. Has the annual operating report for the last calendar year been submitted? [X] Yes [ ] No If no, please attach.

8. Please provide the following information if applicable:

A. Raw Materials and Chemical Used in Your Process:

Description	Contaminant Type	Contaminant %Wt	Utilization Rate lbs/hr

B. Product Weight (lbs/hr): N/A

C. Fuels

Type (Be Specific)	Consumption* Avg/hr*	Consumption* Max/hr**	Maximum Heat Input (MMBTU/hr)
Natural Gas	200 .2	250 .25	210
No. 2 fuel oil with an average of 0.1% sulfur	14686 49.0	16255 54.0	320 7.56
.2			

D. Normal Equipment Operating Time: hrs/day _____; days/wk _____; wks/yr _____; hrs/yr (power plants only) _____; if seasonal, describe _____

Peaking unit Average 4 hours/day when needed

The undersigned owner or authorized representative*** of _____ is fully aware that the statements made in this application for a renewal of a permit to operate an air pollution source are true, correct and complete to the best of his knowledge and belief. Further, the undersigned agrees to maintain and operate the pollution source and pollution control facilities in such a manner as to comply with the provisions of Chapter 403, Florida Statutes, and all the rules and regulations of the Department. He also understands that a permit, if granted by the Department, will be non-transferable and he will promptly notify the Department upon sale or legal transfer of the permitted facility.

*During actual time of operation.
**Units: Natural Gas-MMCF/hr; Fuel Oils-barrels/hr; Coal-lbs/hr.
***Attach letter of authorization if not previously submitted

Ronald J. Foster
Signature, Owner or Authorized Representative (Notarization is mandatory)

Ron J. Foster, Superintendent
Typed Name and Title

3030 East Lake Parker Drive
Address

Lakeland FL 33805
City State Zip

7/26/83 (813) 665-1556
Date Telephone No.

STATE OF FLORIDA
COUNTY OF POLK

Before me personally appeared Ronald J. Foster to me well known and known to me to be the person described in and who executed the foregoing instrument, and acknowledged to and before me that Ronald J. Foster executed said instrument for the purposes therein expressed.

WITNESS my hand and official seal, this 31st day of August, A.D., 1983.

Sylvia Johnson
Notary Public
State of Florida at Large

Notary Public, State of Florida
My Commission Expires Oct. 19, 1984
Bonded Thru Fain Insurance Inc.

My commission expires

FILED
7-18-78
AO 53-6980

D.E.R.
JUL 18 1978
SOUTHWEST DISTRICT
TAMPA

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

Source Type: Air Pollution [X] Incinerator [ ]
Type application: [X] Operation [ ] Construction
Source Status: [ ] New [X] Existing [ ] Modification

Source Name: C.D.McINTOSH JR., POWER PLANT GAS TURBINE County POLK

Source Location: Street NORTH EAST LAKE PARKER DRIVE City LAKELAND

UTM: East 17409.2 North 3106.5

Appl. Name and Title: CITY OF LAKELAND DEPT. OF ELECTRIC AND WATER UTILITIES
Appl. Address: P. O. BOX 368 LAKELAND, FL. 33802

STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

The undersigned owner or authorized representative of * CITY OF LAKELAND is fully aware that the statements made in this application for a OPERATING permit are true, correct and complete to the best of his knowledge and belief. Further, the undersigned agrees to maintain and operate the pollution control source and pollution control facilities in such a manner as to comply with the provisions of Chapter 403, Florida Statutes, and all the rules and regulations of the Department or revisions thereof. He also understands that a permit, if granted by the Department, will be non-transferable and he will promptly notify the Department upon sale or legal transfer of the permitted establishment.

Mike Palmieri
Signature of the Owner or Authorized Representative

Date: 7/7/78 Telephone No.: (813) 682-8163

*Attach a letter of authorization. If applicant is a corporation, a Certificate of Good Standing must be submitted with application. This may be obtained, for a $5.00 charge, from the Secretary of State, Bureau of Corporate Records, Tallahassee, Florida 32304.

B. PROFESSIONAL ENGINEER REGISTERED IN FLORIDA

This is to certify that the engineering features of this pollution control project have been designed/examined by me and found to be in conformity with modern engineering principles applicable to the treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my profesional judgment, that the pollution control facilities, when properly maintained and operated, will discharge an effluent that complies with all applicable statutes of the State of Florida and the rules and regulations of the Department. It is also agreed that the undersigned will furnish the applicant a set of instructions for the proper maintenance and operation of the pollution control facilities and, if applicable, pollution sources.

Signature: Jack A. Libey
Name: JACK A. LIBEY (Please Type)
Company Name: CITY OF LAKELAND
Florida Registration Number: 18741 (Affix Seal)

Mailing Address: P. O. Box 368 Lakeland, Fl. 33803
Telephone No.: (813) 682-8163
Date:

REGISTERED ENGINEER STATE OF FLORIDA 18741

DETAILED DESCRIPTION OF SOURCE

A. Describe the nature and extent of the project. Refer to existing pollution control facilities, expected improvement in performance of the facilities and state whether the project will result in full compliance. Attach additional sheet if necessary.

The gas turbine is a 20 MW peaking unit that can burn No. 2 fuel oil with an average sulfur content of 0.10%. The unit is used when needed to meet peak demands or supply temperary emergency power due to based load unit malfunction.

B. Schedule of Project Covered in this Application (Construction Permit Application Only).

Start of Construction NA

Completion of Construction

C. Costs of Construction (Show a breakdown of costs for individual components/units of the project serving pollution control purpose only). Information on actual costs shall be furnished with the application for operation permit.

NA

D. For this source indicate any previous DER permit: issuance dates, and expiration dates; and orders and notices.

PERMIT	ISSUED	EXPIRES
A053 2241	Sept. 10, 1973	Sept. 10, 1978

E. Is this application associated with or part of a Development of Regional Impact (DRI) pursuant to Chapter 380, Florida Statutes, and Chapter 22F-2, Florida Administrative Code ? .....Yes X.....No

AIR POLLUTION SOURCES & CONTROL DEVICES
(other than incinerators)

A. Identification of Air Contaminants

1) [X] Particulates
   a) [ ] Dust b) [X] Fly Ash c) [ ] Smoke d) [ ] Other (Identify)

2) [X] Sulfur Compounds
   a) a) [X] SO_x as SO_2 b) [ ] Reduced Sulfur as H_2S c) [ ] Other (Identify)

3) [X] Nitrogen Compounds
   a) [X] NO_x as NO_2 b) [ ] NH_3 c) [ ] Other (Identify)

4) [ ] Flourides 5) [ ] Acid Mist 6) [ ] Odor

7) [ ] Hydrocarbons 8) [ ] Volatile Organic Compounds

9) [ ] Other (Specify) _____

B. Raw Materials and Chemicals Used (Be Specific)

Description	Utilization Rate lbs./hr.	Approximate Contaminant Content		Relate to Flow Diagram
		Type	% Wt.	
NA				

C. Process Rate:

1) Total Process input Rate* NA Units.
2) Product Weight* NA Units.
3) Normal Operating Time PEAKING SERVICE, if seasonal describe: AVERAGE DAILY USE 4 hrs./day WHEN NEEDED days/wk. ____ wks/yr. ____

D. Airborne Contaminants Discharged:

Name of Contaminant	Actual** (1) Discharge (2) lbs./hr.	T/yr.	Discharge Criteria Rate*	Allowable Discharge Lbs./hr.	Relate to Flow Diagram
SULFUR DIOXIDE	29.7	1.8	NA	NA	ITEM C
OPACITY	---	---	% OPACITY	20%	ITEM C

*Refer to Chapter 17-2.04(2), Florida Administrative Code. (Discharge Criteria: Rate= #/ton P_2O_5, #/M BTU/hr., etc.)

**Estimate only if this is an application to construct.

(1) @ average conditions
(2) Based on 1977 annual use

D. Airborne Contaminants Discharged. (Cont'd.)

Name of Contaminant	Hourly Emission (lb./hr.) (1)	Daily Emission (lb./day) (2)	Yearly Emission (T/yr.) (3)	Basis for Emission Estimate (Test Data, Material Balance)
SULFUR DIOXIDE	32.5	117.6	1.8	MATERIAL BALANCE
(1) @ maximum load				
(2) @ average load, 4 hrs/day				
(3) based on 1977				

E. Control Devices:

Name and Type (Model and Serial No.)	Contaminant	Efficiency*	Conditions of Operations	Basis for Efficiency Operational Data, Test, Design, Data)

*See required supplement.
(Include any test data and/or design data for efficiency substantiation)

F. Fuels 0.10% sulfur No. 2 oil

Type (Be Specific, includes %S, etc.)	Daily Consumption *		Maximum Heat Input MBTU/hr.
	Avg./hr.	Max./hr.	
No. 2 oil	14686	16255	320

* Units: Natural Gas—MCF/hr.; Fuel Oils, Coal—lbs./hr.

Fuel Analysis:

Percent Sulfur 0.10 Percent Ash 0.01

Density 7.03 lb./gal.

Heat Capacity 19610 BTU/lb. 137283 BTU/gal.

Other Fuel Contaminants

G. Describe briefly, without revealing trade secrets, the processes/operations generating the airborne emissions identified in this application.

Ambient air is compressed, mixed with atomized fuel oil, or natural gas, and burned in combustors. The products of combustion are directed against a two stage turbine driving a generator to produce electric power

H. Indicate liquid or solid wastes generated and method of disposal.

There are no solid or liquid wastes generated

I. Emission Stack Geometry and Flow Characteristics, (Provide Date for each Stack).

Stack Height 35.6 ft, Stack Diameter 9.2 ft.

Gas Flow Rate 5095 ACFM, Gas Exit Temperature 965 °F

J. Required Supplements:

1. Total process input rate and product weight – show deviation.

2. Efficiency Estimation.

3. An 8½" x 11" flow diagram, which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate whether raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particulates are evolved and where finished products are obtained.

4. An 8½" x 11" plot plan showing the exact location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.

5. An 8½" x 11" plot plan showing the exact location of the establishment, and points of airborne emissions in relation to the surrounding area, residences and other permanent structures and roadways.

6. If applicable, provide a brief description of the control device or treatment system serving the discharge point for airborne contaminants identified in this application. Include details of the manufacturer, model, size, type and capacity for control/treatment device and the features of the discharge point (height above ground, diameter, period(s) of discharge and discharge temperature).

7. Plans for storm water control during and after construction.

INCINERATOR INFORMATION

Type of Waste	Type O (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Patho-logical)	Type V (Liq. & Gas By-prod.)	Type VI (Solid By-prod.)
Lbs./Hr. incinerated							

Description of Waste _____

Total Weight Incinerated lbs./hr. _____ Design Capacity lbs./hr. _____

Approximate Number of Hours of Operation per Day _____, days/week _____

Manufacturer _____ Model No.: _____

Date Constructed: _____

	Volume (ft. *)³	Heat Release (BTU/hr.)	Fuel		Temp. (° F)
			Type	BTU/hr.	
Primary Chamber					
Secondary Chamber					

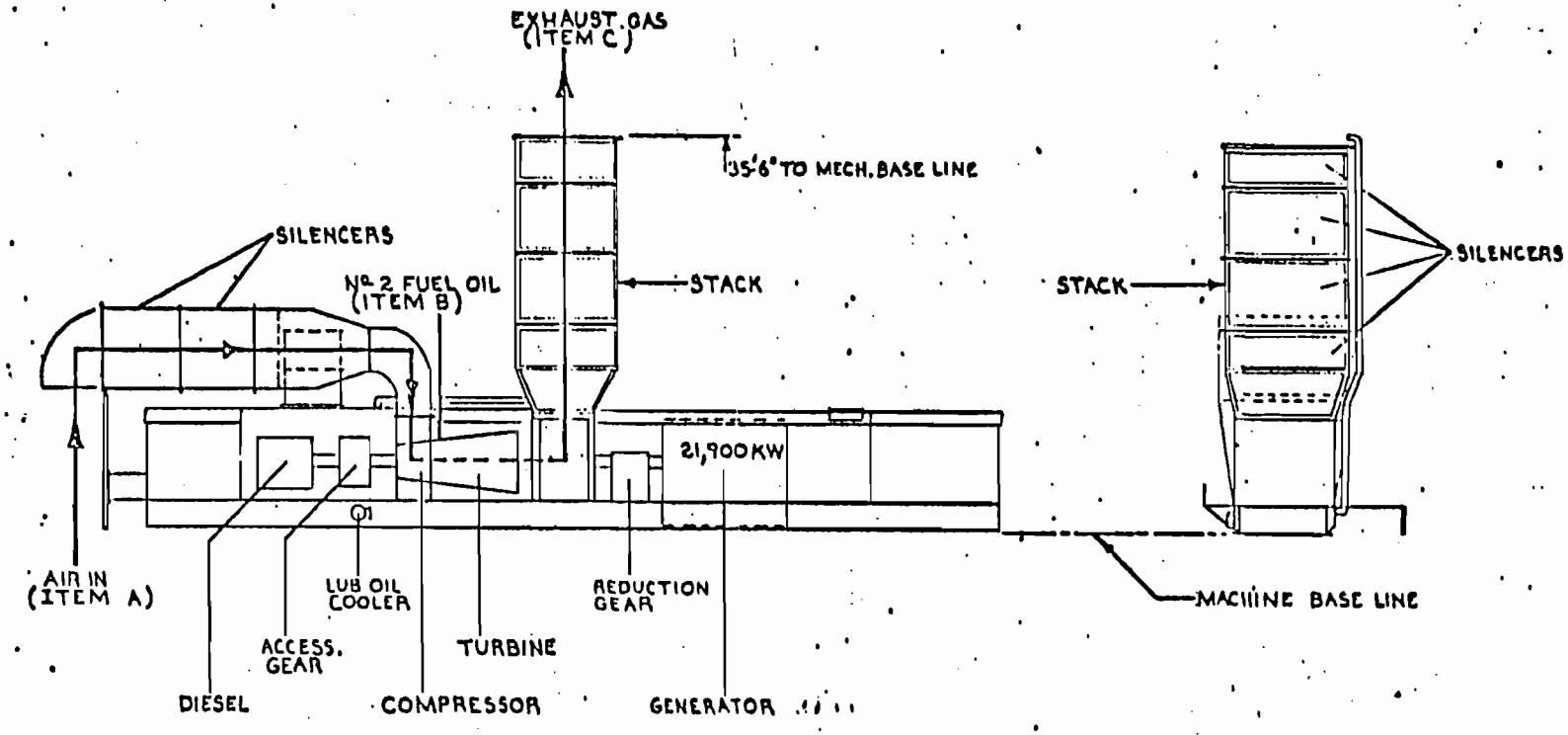
Stack Height: _____ ft. Stack Diameter: _____ Stack Temp.: _____ °F

Type of Pollution Control Device [ ] Cyclone [ ] Wet scrubber [ ] Afterburner
[ ] Other (Specify): _____

Brief Description of Operating Characteristics of Control Device: _____

Ultimate disposal of any effluent other than that emitted from the stack (scrubber water, ash, etc.) _____

Best Available Copy



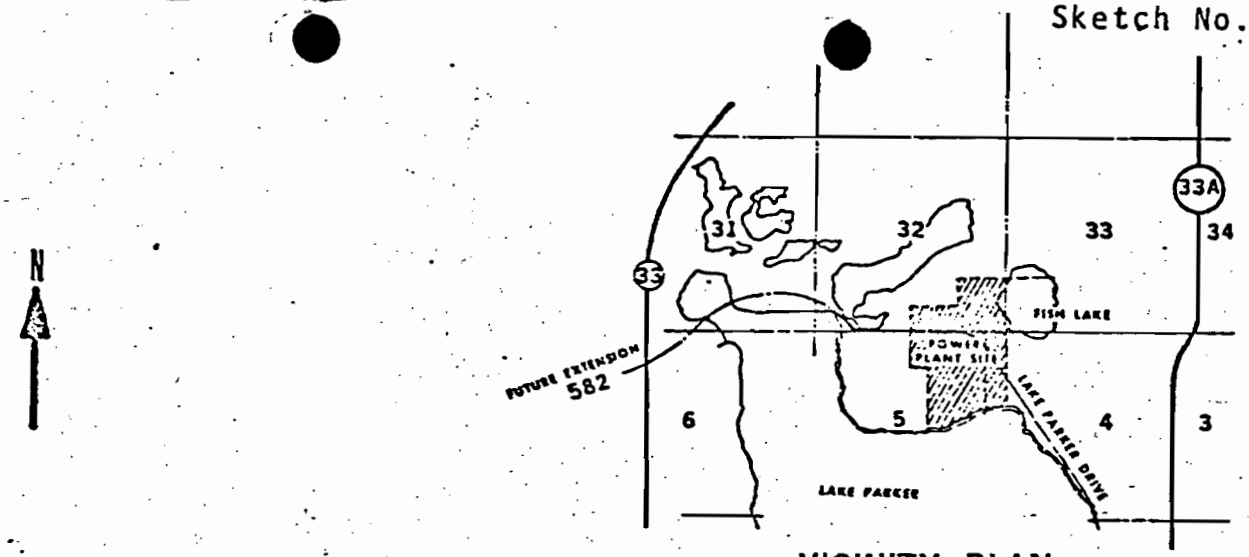
WELLMAN-POWER GAS, INC.

GAS TURBINE CYCLE

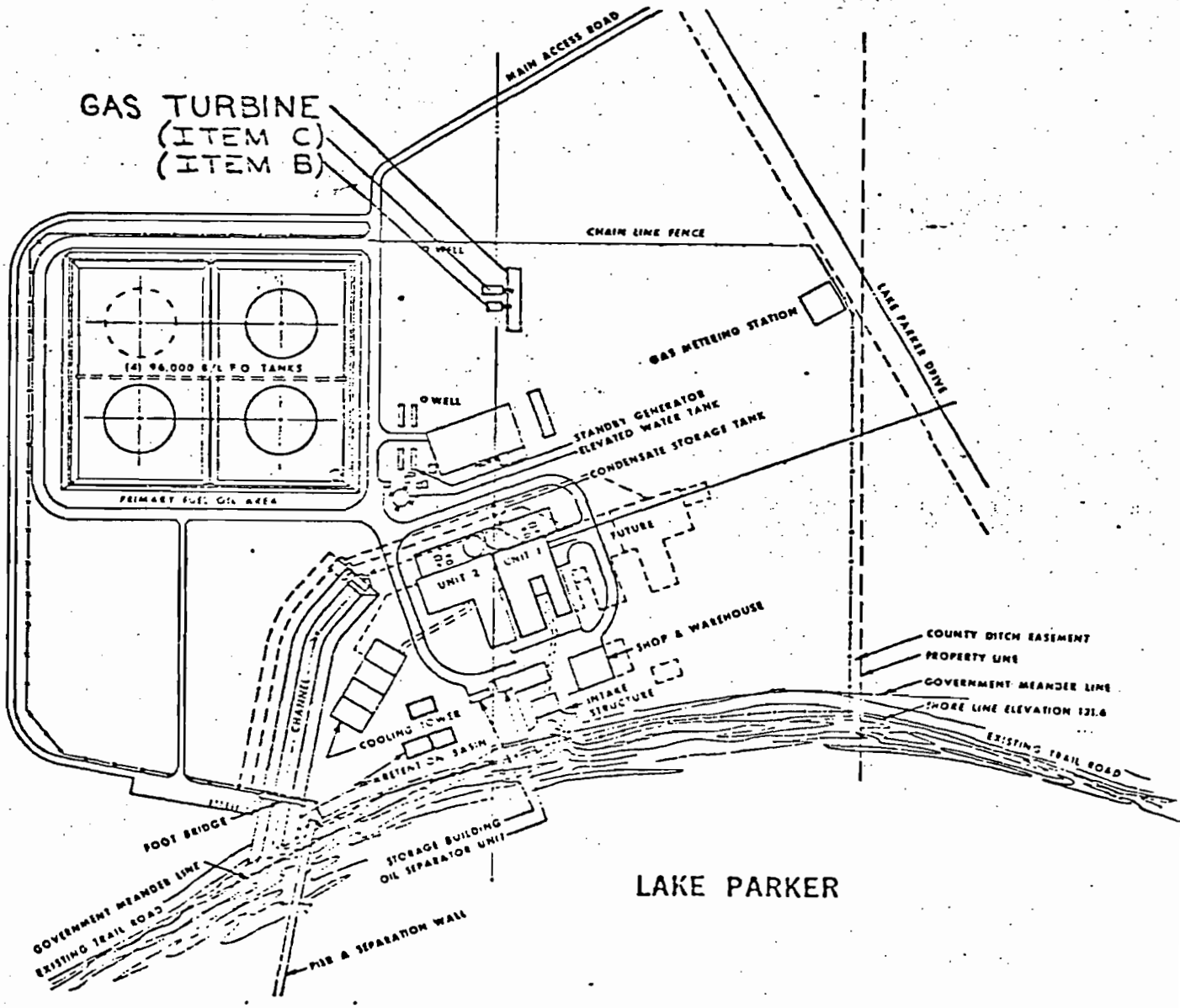
4122 M-28 1

Sketch No. 1

Sketch No. 2



VICINITY PLAN



Sketch No. 2

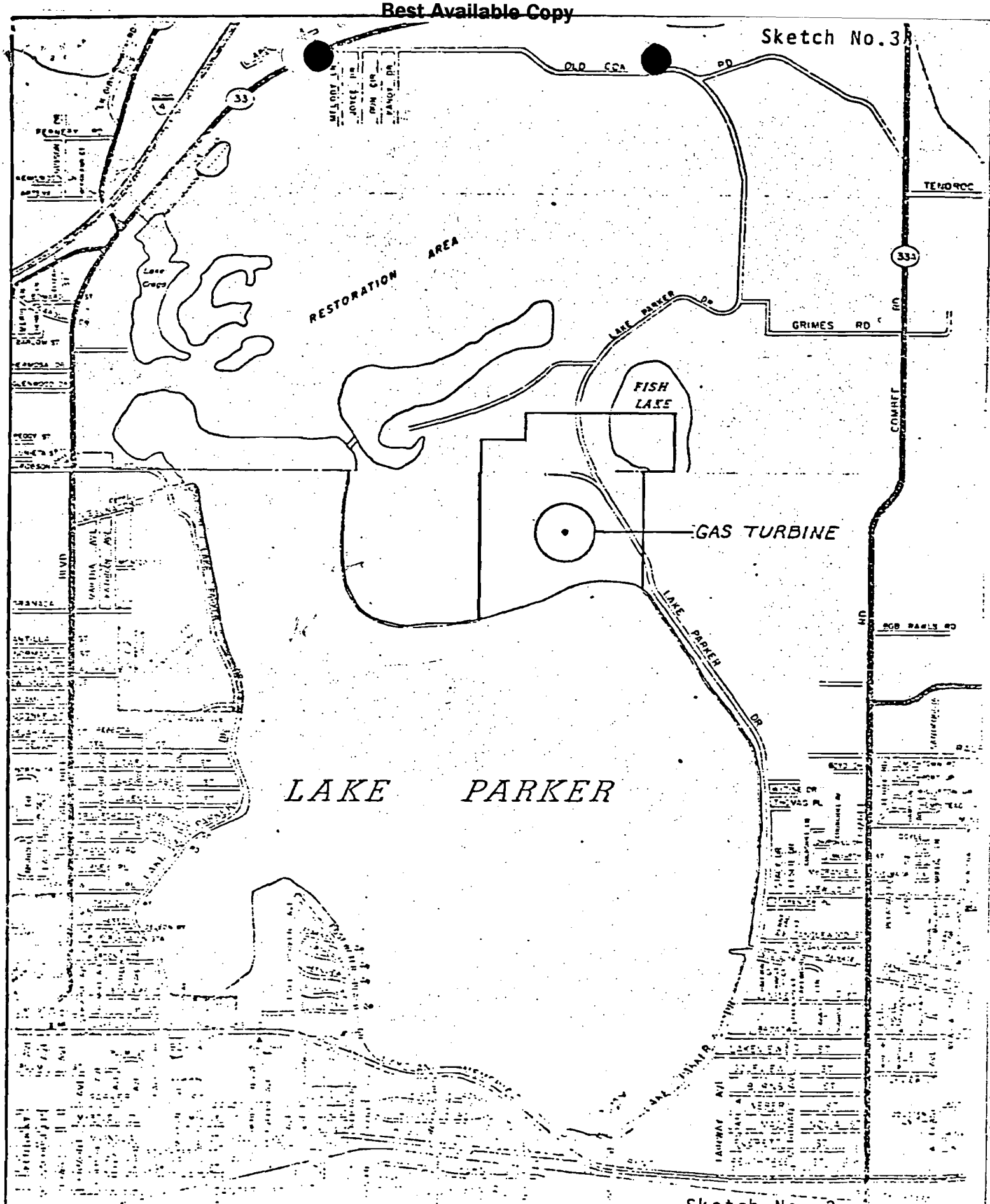
PLOT PLAN

WELLMAN-POWER GAS, INC.
LAKELAND, FLORIDA

Form No. 681

APPROVED	DATE	CHECKED	DATE	DRAWN BY:	STANDARD DRAWING
APPROVED	DATE	SCALE NONE		DATE:	Nº 4122-M-27

Sketch No. 3



Sketch No. 3

GAS TURBINE LOCATION	WELLMAN-POWER GAS, INC. LAKELAND, FLORIDA	Form No. 651
APPROVED / DATE / CHECKED / DATE	DRAWN BY:	STANDARD DRAWING
APPROVED / DATE	SCALE: 2" = 1 MILE	DATE: No. A122-M-29