COMMISSION

PHYLLIS BUSANSKY RODNEY COLSON PAM IORIO RUBIN E. PADGETT JAN KAMINIS PLATT HAVEN POE JAMES D. SELVEY



ROGER P. STEWART DIRECTOR

1900 - 9th AVE TAMPA, FLORIDA 33605

TELEPHONE (813) 272-5960

January 10, 1990

# RECEIVED

JAN 1 6 1990

DER - BAOM

Mr. Bill Thomas, P.E.
Division of Air Resources
Management
Florida Department of Environmental
Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

RE: Gardinier Permit Application

Dear Mr. Thomas:

The Environmental Protection Commission of Hillsborough County has received an application for a permit to construct a GTSP Truck Loading Station with a baghouse which we are forwarding to your section for review and issuance. The source will be a minor modification to a major facility and will also be RACT exempt (less than 1 ton per year particulate matter).

We would also request that the application be deemed incomplete for the following reasons. The applicant identified is not the person who signed the permit application as the applicant. Additionally, the applicant proposes to use a 0.02 gr./dscf baghouse. They have failed to identify the manufacturer of the baghouse and provide a basis for the baghouse efficiency.

Should you have any further questions or require our assistance, please do not hesitate to call me at Suncom 543-5530.

Sincerely

Edward J. Svec

Chief Environmental Engineer

bb

1031





# GARDINIER ING.

\$313 Hezy 41 South

Bivorview Florida 33560
 Telephone 813 — 677-9411
 FWX 810 — 876-0648

Telex 58666

Cable - Gardinphos

JAN 5

January 3, 1990

CERTIFIED MAIL: 296 372 470

Mr. Jerry Campbell Hillsborough County Environmental Protection Commission Air Pollution Control 1410 North 21st Street 33605 TAMPA, FLORIDA

SUBJECT:

AIR CONSTRUCTION PERMIT APPLICATION

GTSP TRUCK LOADING

Dear Mr. Campbell:

Enclosed are four certified copies of an air construction permit application for the Gardinier GTSP Truck Loading Station with appropriate state and county fees. This application is submitted in response to the EPC request and as indicated in draft permit AO29-168524 (GTSP Storage Buildings) specific condition 13.

If the EPC has any questions, please feel free to call.

Very truly yours,

Morris

vironmental Manager

cc: P-5

Attachments:

Permit Application

Check FDER \$200.00 (CK. #046190) Check EPC \$365.00 (CK. #046235)

### BEST AVAILABLE COPY

GARDINIER, INC.

TAMPA, FLORIDA

**577**046190

DOLLARS CENTS QQ CENTS \$ \*\*\*\*\*\*200

DATE

04/90 PAY EXACTLY

\*\*\*\*\*\*\*\* 200 DOLLARS AND

00

GARDINIER, INC.

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION ORDER 4520 DAK FAIR BOULEVARD TAMPA FL

33610

THE CITIZENS AND SOUTHERN NATIONAL BANK Atlanta, DeKalb County, Georgia

#577046190# #O61112788# O11 O7 O93#

-nequiation --Twin Towers Office Building

2600 Blair Stone Road Tallahassee, FL 32399-2400

Gardinier Permit Application

1511 Dear Mr. Thomas:

The Environmental Protection Commission of Hillsborough County has received an application for a permit to construct a GTSP Truck Loading Station with a baghouse which we are forwarding to your section for review and issuance. The source will be a minor modification to a major facility and will also be RACT exempt (less than 1 ton per year particulate matter).

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Should you have any further questions or require our assistance, please do not hesitate to call me at Suncom 543-5530.

Sincerel

Edward J. Svec

Chief Environmental Engineer

bb

1031

#### **BEST AVAILABLE COPY**

STATE OF FLORIDA

### DEPARTMENT OF ENVIRONMENTAL REGULATION

1-5-90 Rest#111690



AC 29-175044 JAN 5 1990

E.P.C. OF H.C. AIR PROGRAM

### APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOU	RCE TYPE: GTSP Truck Loading Station [ ] New [ [X] Existing [
APP	LICATION TYPE: $[X]$ Construction $[X]$ Operation $[X]$ Modification
COM	PANY NAME: Gardinier, Inc. COUNTY: Hillsborough
•	ntify the specific emission point source(s) addressed in this application (i.e. Lime GTSP Truck Loading n No. 4 with Venturi Scrubber; Peaking Unit No. 2, Gas Fired) Station w/baghouse
SOU	RCE LOCATION: Street 8813 Hwy 41 South City Riverview
	UTM: East 363.2 North 3082.3
	Latitude 27 ° 51' 28 "N Longitude 82 ° 23' 15"W
APP	LICANT NAME AND TITLE: Henk Mathot, President
AP P	LICANT ADDRESS: 8813 Hwy 41 South, Riverview, FL 33569
	SECTION I: STATEMENTS BY APPLICANT AND ENGINEER
Α.	APPLICANT
	I am the undersigned owner or authorized representative* of Gardinier, Inc.
	I certify that the statements made in this application for a construction permit are true, correct and complete to the best of my knowledge and belief. Furthe I agree to maintain and operate the pollution control source and pollution controfacilities in such a manner as to comply with the provision of Chapter 403, Floric Statutes, and all the rules and regulations of the department and revisions thereof. also understand that a permit, if granted by the department, will be non-transferab and I will promptly notify the department upon sale or legal transfer of the permitt establishment.
*At	tach letter of authorization Signed: BY (.). Man:
	E. O. MORRIS, ENVIRONMENTAL MANAGER  Name and Title (Please Type)
	Date: 1/3/6.0 Telephone No. (813) 677-9111
в.	PROFESSIONAL ENGINEER REGISTERED IN FLORIDA (where required by Chapter 471, F.S.)
	This is to certify that the engineering features of this pollution control project has 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 conformation of the conformat

1 See Florida Administrative Code Rule 17-2.100(57) and (104)

DER Form 17-1.202(1) Effective October 31, 1982

permit application. There is reasonable assurance, in my professional judgment, the

	pollution sources.	Signed David a. Buff
	William Co.	David A. Buff
المرادية	San	Name (Please Type)
		KBN Engineering and Applied Sciences, Inc.
3		Company Name (Please Type)
		1034 NW 57th Street, Gainesville, FL 32605
	The same of the sa	Mailing Address (Please Type)
19.	19011	Date: $1/2/90$ Telephone No. (904) 331-9000
10	rida Registration No. 19011	Date: 1/2/70 Telephone No.
	SECTION	II: GENERAL PROJECT INFORMATION
A.	and expected improvements in	nt of the project. Refer to pollution control equipment, source performance as a result of installation. State alt in full compliance. Attach additional sheet if
	Refer to Attachment	A
•		
в.		n this application (Construction Permit Application Only Completion of Construction $\frac{\mathrm{July}\ 1991}{\mathrm{Londer}}$
С.	Costs of pollution control sy for individual components/uni	stem(s): (Note: Show breakdown of estimated costs only ts of the project serving pollution control purposes. thall be furnished with the application for operation
	Baghouse: \$20,000	
D.		mits, orders and notices associated with the emission ince and expiration dates.
D.	Indicate any previous DER per	

the pollution control facilities, when properly maintained and operated, will dischar an effluent that complies with all applicable statutes of the State of Florida and th

<del></del>		
	this is a new source or major modification, answer the following questes or No)	ions.
1.	Is this source in a non-attainment area for a particular pollutant?	Yes
	a. If yes, has "offset" been applied?	No
	b. If yes, has "Lowest Achievable Emission Rate" been applied?	No
	c. If yes, list non-attainment pollutants. Ozone	
2.	Does best available control technology (BACT) apply to this source? If yes, see Section VI.	No
3.	Does the State "Prevention of Significant Deterioriation" (PSD) requirement apply to this source? If yes, see Sections VI and VII.	No
4.	Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source?	No
5.	Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this scurce?	No
	"Reasonably Available Control Technology" (RACT) requirements apply this source?	No*
	a. If yes, for what pollutants?	

E. Requested permitted equipment operating time: hrs/day\_\_\_\_; days/wk\_\_\_\_; wks/yr\_\_\_\_

\* This source has total allowable PM emissions of less than 1 TPY, and therefore,

cation for any answer of "No" that might be considered questionable.

Attach all supportive information related to any answer of "Yes". Attach any justifi

\* This source has total allowable PM emissions of less than 1 TPY, and therefore, the source is exempt from the RACT requirements.

#### SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

A. Raw Materials and Chemicals Used in your Process, if applicable:

	Contam	inants	Utilization Rate - lbs/hr	
Description	Type	≈ Wt.		Relate to Flow Diagram
GTSP	Particulate	100	400,000	1
· · · · · · · · · · · · · · · · · · ·				
	_			

B. Process Rate, if applicable: (See Section	n V	' <b>.</b> 1	item	1)	1
--	-----	--------------	------	----	---

1. Total Process Input Rate (lbs/hr): 400,000	1.	Total Process	Input 1	Rate	(1bs/hr):	400,000	
---	----	---------------	---------	------	-----------	---------	--

C. Airborne Contaminants Emitted: (Information in this table must be submitted for each emission point, use additional sheets as necessary)

Name of			Allowed <sup>2</sup> Emission Rate per	Allowable <sup>3</sup> Emission	Potential <sup>X</sup> Emission		Relate to Flow
Conteminant			Rule 17-2	lbs/hr	lbs/XX 7/yr hr		Diagram
Particulate	3.43	0.94	N/A	N/A	3.43	0.94	2
			· ·				· · · · · ·
	-						

<sup>1</sup>See Section V, Item 2.

<sup>&</sup>lt;sup>2</sup>Reference applicable emission standards and units (e.g. Rule 17-2.600(5)(b)2. Table II, E. (1) - 0.1 pounds per million BTU heat input)

<sup>3</sup>Calculated from operating rate and applicable standard.

<sup>&</sup>lt;sup>4</sup>Emission, if source operated without control (See Section V, Item 3).

D. Control Devices: (See Section V, Item 4)

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles Size Collected (in microns) (If applicable)	Basis for Efficiency (Section \ Item 5)
Baghouse (not yet	Particulate	+99%	+1 um	Design
selected)				
	·			

E. Fuels Not Applicable

	Consump		
Type (Be Specific)	avq/hr	max./hr	Maximum Heat Input (MMBTU/hr)
	·		

\*Units: Natural Gas--MMCF/hr; Fuel Oils--gallons/hr; Coal, wood, refuse, other--lbs/hr.

Fue	I A	an/	īν	si	. s :
-----	-----	-----	----	----	-------

Percent Sulfur:		Percent Ash:	
Density:	lbs/gal	Typical Percent Nitrogen:	<del></del>
Heat Capacity:	BTU/1b		BTU/ge
Other Fuel Contaminants (whic	ch may cause air p	ollution):	<u> </u>
E If conlingble indicate !	the persont of fun	1 wood for cases booting	

F. If applicable, indicate the percent of fuel used for space heating.

Annual Average N/A Maximum \_\_\_\_\_

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

Dust collected in baghouse is discharged back into No. 4 GTSP Storage Building

Stack Hein	ht:		38	ft.	Stack Diame	ter:	2.67
							nbient (90)
		: 5 (Ambient					•
			ION IV: Not Applic		TOR INFORMAT	rion .	
Type of Waste	Type O (Plastic	Type I s) (Rubbish)	Type II (Refuse)	Type I (Garbag	II Type IV e) (Pathological)	g⊣ (Liq.& Ga	Type VI s (Solid By-prod
Actual lb/hr Inciner- ated							
Uncon- trolled (lbs/hr)			·				
Total ∀eig Approximat	nt Incine: e Number :		r)	per day	Design Ca		/hr)wks/yr
					1 No		
		Volume (ft) <sup>3</sup>	Heat R (BTU		Fue Type	BTU/hr	Temperature (°F)
Primary C	hamber						· ·
Secondary	Chamber						
Stack Heig	ht:	ft.	Stack Dia	mter:		Stack	Temp.
Gas Flow R	ate:		_ACFM		DSCFM*	Yelocity:	
		per day des gas correct				sions rate	in grains per st
	,						
dard cubic		ontrol devic	e: [ ] C	yclone	[ ] Wet Scru	ibber []A	fterburner

Effective November 30, 1982

Brief	descripti	on of	oper	ating ch	aracte	risti	es of	control	devid	es:			<del></del>
					,					_			
								-					
	<del></del>			<del></del>					•				
			<del></del>		<del></del>			<del></del>	<del></del>				,
			·	<del></del>							<del></del>		
	ate dispos etc.):	al of	any (	effluent	other	than	thet	emitted	from	the	stack	(scrubber	water,
<del></del>		·											
													<del></del>
<del>-,</del>	<del> </del>			<del> </del>									<del></del>
•			<del>,</del>			<del>.</del> .							

NOTE: Items 2, 3, 4, 6, 7, 8, and 10 in Section V must be included where applicable.

#### SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

- 1. Total process input rate and product weight -- show derivation [Rule 17-2.100(127)]
- 2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.) and attach propose methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods use to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made.
- 3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test)...
- 4. With construction permit application, include design details for all air pollution cortrol systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, design pressure drop, etc.)
- 5. With construction permit application, attach derivation of control device(s) efficier cy. Include test or design data. Items 2, 3 and 5 should be consistent: actual emissions = potential (1-efficiency).
- 6. An 8 1/2" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where so identify and liquid waste exit, where gaseous emissions and/or airborne particles are evolve and where finished products are obtained.
- 7. An 8 1/2" x 11" plot plan showing the location of the establishment, and points of air borne emissions, in relation to the surrounding area, residences and other permaner structures and roadways (Example: Copy of relevant portion of USGS topographic map).
- 8. An 8 1/2" x 11" plot plan of facility showing the location of manufacturing processe and outlets for airborne emissions. Relate all flows to the flow diagram.

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9.	The appropriate	application fee in accordance with Rule 17-4.05.	The check should
	made payable to	the Department of Environmental Regulation.	

10.	With an	application	for op	eration	permit,	attach a	Cert	ificate	o f	Comple	tion o	of Co
	struction	n indicating	that	the so	urce was	constru	cted	as shown	in	the	const	ructi
	permit.											

		AVAILABLE CONTROL TECHNOLOGY Not Applicable
A.	Are standards of performance for ne applicable to the source?	w stationary sources pursuant to 40 C.F.R. Part
	[ ] Yes [ ] No	
	Contaminant	Rate or Concentration
8.	Has EPA declared the best available yes, attach copy)	e control technology for this class of sources (
	[ ] Yes [ ] No	
	Contaminant	Rate or Concentration
<del></del>	What emission levels do you propose	as best available control technology?
	Contaminant	Rate or Concentration
D.	Describe the existing control and tr	reatment technology (if any).
	1. Control Device/System:	2. Operating Principles:
	3. Efficiency:*	4. Capital Costs:
*Ex	plain method of determining	

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Page 8 of 12

	5.	Useful Life:		6.	Operating Costs:	
	7.	Energy:		8.	Maintenance Cost:	
	9.	Emissions:				
		Contaminant			Rate or Concentration	
			<del></del>			
			<del></del>			
	10.	. Stack Parameters				
•	a.	Height:	ft.	b.	Diameter:	ft
	c.	Flow Rate:	ACFM	d.	Temperature:	o t
	e.	Velocity:	FPS			
ε.		cribe the control and treatment additional pages if necessary).	techn	olog	y available (As many types as	applicabl
	1.					
	a.	Control Device:		ь.	Operating Principles:	
	c.	Efficiency: 1		d.	Capital Cost:	
	e.	Useful Life:		f.	Operating Cost:	
	g <b>.</b>	Energy: <sup>2</sup>		h.	Maintenance Cost:	
	i.	Availability of construction ma	terial	s an	d process chemicals:	
	j.	Applicability to manufacturing p	oroces	ses:		
	k.	Ability to construct with contr within proposed levels:	ol de	vice	, install in available space,	and opera
	· 2.					
	а.	Control Device:		ъ.	Operating Principles:	
	c.	Efficiency: 1		đ.	Capital Cost:	
	е.	Useful Life:		f.	Operating Cost:	
	g.	Energy: 2		h.	Maintenance Cost:	
	i.	Availability of construction mat	terial	s an	d process chemicals:	
1 <sub>Ex</sub> 2 <sub>En</sub>	plai ergy	n method of determining efficiend to be reported in units of elect	y. trical	pow	er - KWH design rate.	

Applicability to manufacturing processes: Ability to construct with control device, install in available space, and operat within proposed levels: 3. Control Device: b. Operating Principles: Efficiency: 1 d. Capital Cost: Useful Life: f. Operating Cost: Energy: 2 h. Maintenance Cost: g. i. Availability of construction materials and process chemicals: Applicability to manufacturing processes: Ability to construct with control device, install in available space, and operat within proposed levels: 4. Control Device: b. Operating Principles: Efficiency: 1 d. Capital Costs: c. Useful Life: f. Operating Cost: е. g. Energy: 2 h. Maintenance Cost: i. Availability of construction materials and process chemicals: Applicability to manufacturing processes: Ability to construct with control device, install in available space, and operat within proposed levels: F. Describe the control technology selected: 2. Efficiency: 1 1. Control Device: 3. Capital Cost: 4. Useful Life: 6. Energy: 2 5. Operating Cost: 7. Maintenance Cost: 8. Manufacturer: Other locations where employed on similar processes: a. (1) Company: (2) Mailing Address: (3) City: (4) State:  $^{\mathrm{l}}$ Explain method of determining efficiency.  $^{2}$ Energy to be reported in units of electrical power - KWH design rate.

Page 10 of 12

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Effective November 30, 1982

	(5) Environmental Manager:					
	(6) Telephone No.:					
	(7) Emissions: <sup>1</sup>					
	Contaminant			Rate o	r Concent:	ration
	(8) Process Rate: 1		-			
	b. (1) Company:					
	(2) Mailing Address:					
	(3) City:		(4) St	ate:		
	(5) Environmental Manager:					
	(6) Telephone No.:					
	(7) Emissions: 1					
	Contaminant			Rate o	r Concent:	ration
	(8) Process Rate: 1					
	10. Reason for selection and	daganiation	af ayat			
	plicant must provide this info ailable, applicant must state t SECTION VII - F	rmation whe he reason(s	n availa ) why.	ble. Shou		nformation not
	1no. sites	TSP _		() so <sup>2</sup> *		Wind spd/dir
	Period of Monitoring	month d	ay yea:	to month	/ /	
	Other data recorded					
	Attach all data or statistical	summaries	to this a	application	•	
*Sp	ecify bubbler (B) or continuous	(C).				
	Form 17-1.202(1) ective November 30, 1982	Page	ll of 12			

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	2.	Instrument	ation, Fleid	and Labor	atory				
	a.	Was instru	mentation EP	A reference	ed or its	equivalent?	[ ] Yes	[ ] No	•
	b.	Was instru	mentation ca	librated i	n accordan	ce with Dep	artment p	rocedure	s?
		[ ] Yes [	] No [ ] U	nknown					
в.	Met	eorological	Data Used fo	or Air Qua.	lity Model	ing			
	1.	Year	(s) of data	from	/ / day yea	to month	/ / day yea	r	
	2.	Surface da	ta obtained :	from (locat	tion)				
	3.	Upper air	(mixing heigt	nt) data ot	tained fr	om (locatio	n)		
	4.	Stability	wind rose (S)	TAR) data d	obtained f	rom (locati	on)		
c	Com	puter Hodel	s Used						
	1.		····			_ Modified?	If yes,	attach	description.
	2.								
	4.								. •
			of all final		•				
	cip	le output t	ables.	model Idns	s showing .	input uata,	receptor	1068610	ns, and pri
<b>).</b>	App	licants Max	imum Allowabl	e Emission	n Data				
	Pal	lutant		Emission	n Rate				
		TSP				gr	ams/sec		
	:	so <sup>2</sup>				gr	ams/sec		
Ξ.	Emi	ssion Data	Used in Model						
	Att	ach list of	emission sou	rces. Emi					

and normal operating time.

- F. Attach all other information supportive to the PSD review.
- G. Discuss the social and economic impact of the selected technology versus other applica ble technologies (i.e., jobs, payroll, production, taxes, energy, etc.). Include assessment of the environmental impact of the sources.
- H. Attach scientific, engineering, and technical material, reports, publications, jour nals, and other competent relevant information describing the theory and application o the requested best available control technology.

#### ATTACHMENT A

Gardinier currently operates a phosphate fertilizer manufacturing plant in Riverview, Florida, just south of Tampa. Gardinier is currently operating a truck loading station for the purpose of loading granular triple superphosphate (GTSP) into trucks for transport off-site. The truck loading station has been operating since the late 1960's. The Hillsborough County Environmental Protection Commission (HCEPC) has requested that Gardinier submit an air construction permit application for this source of particulate matter (PM) emissions.

The maximum loading rate of the truck loading system will be 40,000 tons per year (TPY) and 200 tons per hour (TPH). The system will operate a maximum of 550 hours per year.

Gardinier currently uses de-dusting agents on the truck loadout station to control fugitive dust emissions. Although not required by regulation, Gardinier is willing to implement extra controls, and proposes to enclose the truck loading station and vent the station to a baghouse. Engineering drawings showing the proposed system are attached. The baghouse manufacturer has not yet been selected, but the unit will have the following design parameters:

Air flow rate - 20,000 acfm

Air to cloth ratio - 6:1 (maximum)

Maximum outlet dust loading - 0.02 gr/dscf

Maximum emissions from the baghouse are calculated as follows:

Maximum hourly emissions -

20,000 dscfm x 0.02 gr/dscf x 60 min/hr / 7,000 gr/lb = 3.43 lb/hr

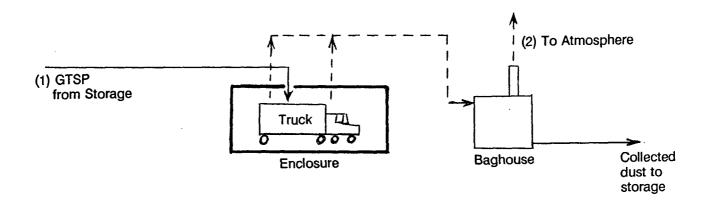
Maximum annual emissions -

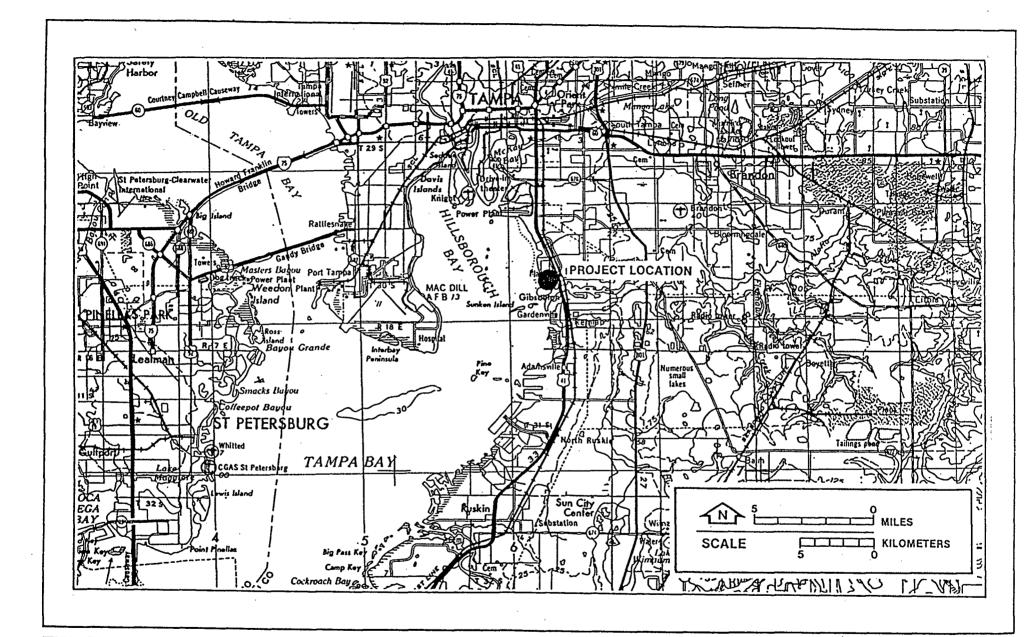
 $3.43 \text{ lb/hr} \times 550 \text{ hr/yr} / 2,000 \text{ lb/ton} = 0.94 \text{ TPY}$ 

Since the maximum allowable PM emissions from this source are less than 1.0 TPY, the RACT requirements of FAC Rule 17-2.650 do not apply.

## Simplified Flow Diagram

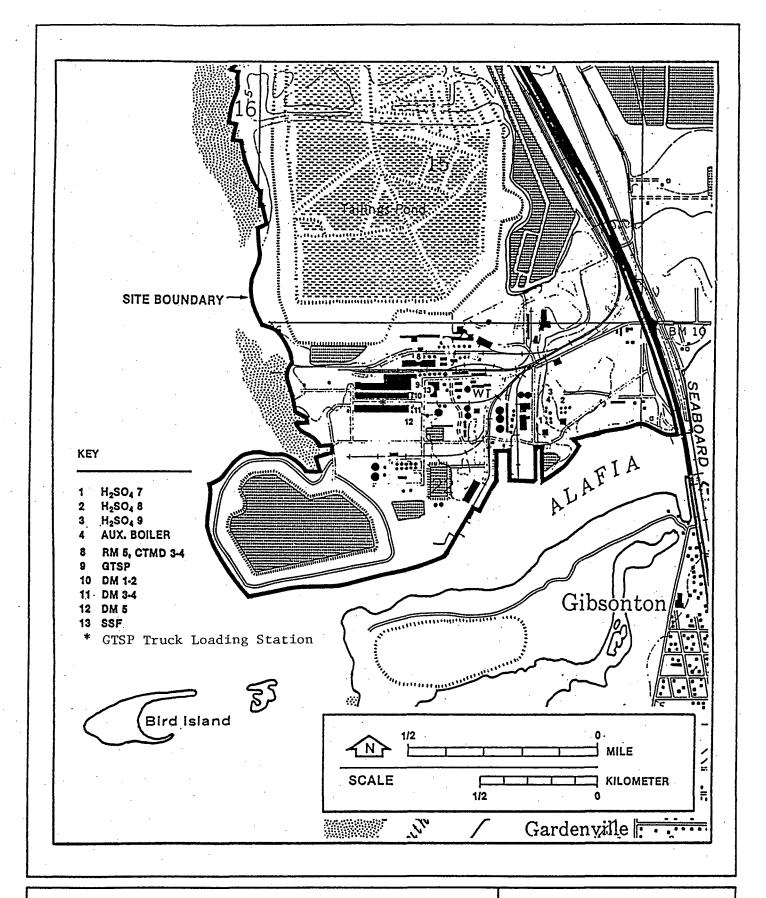
# GTSP Truck Loading Station





GENERAL LOCATION MAP OF GARDINIER, INC.

KBM



SITE LOCATION MAP OF GARDINIER, INC.

SOURCE: USGS, 1981.



