P16 7682431

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL
(See Reverse)

SENT TO
Malcolm Brant

STREET AND NO.
1250 Hobbs Rd.

P.O., STATE AND ZIP CODE
Auburndale, FL 32823

POSTAGE		$
CONSULT POSTMASTER FOR FEES — CERTIFIED FEE		¢
OPTIONAL SERVICES — SPECIAL DELIVERY		¢
OPTIONAL SERVICES — RESTRICTED DELIVERY		¢
OPTIONAL SERVICES — RETURN RECEIPT SERVICE — SHOW TO WHOM AND DATE DELIVERED		¢
OPTIONAL SERVICES — RETURN RECEIPT SERVICE — SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY		¢
OPTIONAL SERVICES — RETURN RECEIPT SERVICE — SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY		¢
OPTIONAL SERVICES — RETURN RECEIPT SERVICE — SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY		¢
TOTAL POSTAGE AND FEES		$

POSTMARK OR DATE
10/28/82

PS Form 3800, Apr. 1976

PS Form 3811, Jan. 1978

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

SENDER: Complete items 1, 2, and 3.
Add your address in the "RETURN TO" space on reverse.

1. The following service is requested (check one.)
- ☒ Show to whom and date delivered..... ¢
- ☐ Show to whom, date and address of delivery.... ¢
- ☐ RESTRICTED DELIVERY
  Show to whom and date delivered..... ¢
- ☐ RESTRICTED DELIVERY.
  Show to whom, date, and address of delivery.$ ____

(CONSULT POSTMASTER FOR FEES)

2. ARTICLE ADDRESSED TO:
Mr. Malcolm Brant
1250 Hobbs Road
Auburndale, FL 33823

3. ARTICLE DESCRIPTION:

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	7682431	

(Always obtain signature of addressee or agent)

I have received the article described above.
SIGNATURE ☐Addressee ☐Authorized agent

4. Marty Bowers
DATE OF DELIVERY 10/30/82
POSTMARK

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE: CLERK'S INITIALS

☆GPO : 1979-300-459

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

BOB GRAHAM
GOVERNOR

Victoria J. Tschinkel
SECRETARY

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

October 27, 1982

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Malcolm Brant
President
Superior Metal Finishers
1250 Hobbs Road
Auburndale, Florida 33823

Dear Mr. Brant:

Enclosed is Permit Number AC 53-58478, dated October 22, 1982 to Superior Metal Finishers issued pursuant to Section 403, Florida Statutes.

Acceptance of the permit constitutes notice and agreement that the Department will periodically review this permit for compliance, including site inspections where applicable, and may initiate enforcement actions for violation of the conditions and requirements thereof.

Sincerely,

C. H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality
Management

CHF/pa

Enclosure

cc: Stephen L. Neck, Environmental Science and Engineering, Inc.
Dan Williams, DER Southwest District Office

DER Form 17-1.122(65)

Final Determination

Superior Metal Finishers
Metal Finishing Plant
Polk County, Florida

Permit Number
AC 53-58478

Florida Department of Environmental Regulation
Bureau of Air Quality Management
Central Air Permitting

October 15, 1982

NOTICE OF PROPOSED AGENCY ACTION

The Department of Environmental Regulation gives notice of its intent to issue a permit to Superior Metal Finishers for the construction of a metal finishing plant in Auburndale, Polk County, Florida. A determination of Best Available Control Technology (BACT) was not required.

A person who is substantially affected by the Department's proposed permitting decision may request a hearing in accordance with Section 120.57, Florida Statutes, and Chapters 17-1 and 28-5, Florida Administrative Code. The request for hearing must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Twin Towers Office Building, Tallahassee, Florida 32301, within fourteen (14) days of publication of this notice. Failure to file a request for hearing within this time period shall constitute a waiver of any right such person may have to request a hearing under Section 120.57, Florida Statutes.

The application, technical evaluation and departmental intent are available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at the following locations:

DER, Bureau of Air Quality Mgmt.
2600 Blair Stone Road
Tallahassee, Florida 32301

DER, Southwest District
7601 Highway 301 North
Tampa, Florida 33610

Comments on this action shall be submitted in writing to Bill Thomas of the Tallahassee office within thirty (30) days of this notice.

Response to Public Comment
(AC 53-58478)
Superior Metal Finishers
Metal Finishing Plant

The company's construction permit application for installation of a metal finishing plant in Auburndale, Polk County, Florida has been reviewed by FDER. Public Notice of the Department's Intent to Issue was published in the Winter Haven Daily News-Chief on September 15, 1982. Copies of the preliminary determination and application were available for public inspection at DER's Southwest District Office in Tampa and the Bureau of Air Quality Management in Tallahassee.

There were no comments from the public as a result of the public notice period.

The final action of the Department will be to issue the permit as noticed in the public review process.

STATE OF FLORIDA
DEPARTMENT OF
ENVIRONMENTAL REGULATION

CONSTRUCTION
PERMIT

NO. AC 53-58473

SUPERIOR METAL FINISHERS

METAL FINISHING PLANT

DATE OF ISSUANCE

Oct 22, 1982

Terry Cole

VICTORIA J. TSCHINKEL

SECRETARY

DATE OF EXPIRATION

MARCH 31, 1983

DER FORM PERM 11-42

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

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

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

APPLICANT:

Superior Metal Finishers
1250 Hobbs Road
Auburndale, Florida 33823

PERMIT/CERTIFICATION
NO. AC 53-58478

COUNTY: Polk

PROJECT: Metal Finishing Plant

This permit is issued under the provisions of Chapter 403, Florida Statutes; and Chapter 17-2 and 17-4, Florida Administrative Code. The above named applicant, hereinafter called Permittee, is hereby authorized to perform the work or operate the facility shown on the approved drawing(s), plans, documents, and specifications attached hereto and made a part hereof and specifically described as follows:

For the construction of aluminum metal finishing plant at a new plant site located in Auburndale, Florida. The UTM Coordinates of the proposed plant are 422.9 km East and 3102.7 km North.

Construction shall be in accordance with the attached permit application except as otherwise noted on page 3, Specific Conditions.

Attachment(s)

Application to Construction Air Pollution Sources, DER Form 17-1.122(16), received on July 20, 1982.

PERMIT NO.: AC 53-58478
APPLICANT: Superior Metal Finishers

SPECIFIC CONDITIONS:

1. The proposed plant shall be constructed in accordance with the capacities and specifications stated in the application supplied by the applicant.

2. The operating time of the proposed plant shall not exceed 8 hours per day, 6 days per week, 50 weeks per year or 2400 hours per year.

3. Natural gas is the only fuel fired in the plant, the fuel use shall not exceed 24.0×10^6 CF/yr.

4. The volatile organic compound (VOC) emissions from the plant shall be limited to 170 lbs/hr and 204 tons/yr.

5. The opacity from any stack at the site shall be limited to 10%.

6. The maximum allowable particulate matter emission will be 3.83 lbs/hr and 4.6 tons/yr.

7. Compliance with the emission limits required in conditions 4 and 6 shall be determined by performance tests while the plant is at or close to full operating capacity. The performance tests shall be conducted in accordance with EPA reference methods (40 CFR 60, Appendix A), such as Method 25 used to determine VOC emissions.

8. Compliance with the total VOC emission control shall be determined by a material balance of VOC purchased and those reclaimed. The removing efficiency of the after burner shall be tested and recorded for material balance calculation. A material balance procedure for total VOC control shall be submitted to DER's Southwest District Office for approval while the operating permit is in progress.

PERMIT NO.: AC 53-58478
APPLICANT: Superior Metal Finishers

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions:, and as such are binding upon the permittee and enforceable pursuant to the authority of Section 403.161(1), Florida Statutes. Permittee is hereby placed on notice that the department will review this permit periodically and may initiate court action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.

2. This permit is valid only for the specific processes and operations indicated in the attached drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit shall constitute grounds for revocation and enforcement action by the department.

3. 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 notify and provide the department with the following information: (a) a description of and cause of non-compliance; and (b) the period of non-compliance, including exact dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance. 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 revocation of this permit.

4. As provided in subsection 403.087(6), Florida Statutes, the issuance of this permit does not convey any vested rights or 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.

5. This permit is required to be posted in a conspicuous location at the work site or source during the entire period of construction or operation.

6. 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 arising under the Florida Statutes or department rules, except where such use is proscribed by Section 403.111, F.S.

7. In the case of an operation permit, permittee 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.

8. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, plant, or aquatic life or property and penalities therefore 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, except where specifically authorized by an order from the department granting a variance or exception from department rules or state statutes.

9. This permit is not transferable. Upon sale or legal transfer of the property or facility covered by this permit, the permittee shall notify the department within thirty (30) days. The new owner must apply for a permit transfer within thirty (30) days. The permittee shall be liable for any non-compliance of the permitted source until the transferee applies for and receives a transfer of permit.

10. The permittee, by acceptance of this permit, specifically agrees to allow access to permitted source at reasonable times by department personnel presenting credentials for the purposes of inspection and testing to determine compliance with this permit and department rules.

11. This permit does not indicate a waiver of or approval of any other department permit that may be required for other aspects of the total project.

12. This permit conveys no title to land or water, nor constitutes state recognition or acknowledgement of title, and does not constitute authority for the reclamation 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.

13. This permit also constitutes:

[ ] Determination of Best Available Control Technology (BACT)
[ ] Determination of Prevention of Significant Deterioration (PSD)
[ ] Certification of Compliance with State Water Quality Standards (Section 401, PL 92-500)

PERMIT NO.: AC 53-58478
APPLICANT: Superior Metal Finishers

Expiration Date: March 31, 1983

_____ Pages Attached.

Issued this 22 day of October, 1982.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

Terry Cole
Signature

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

INTEROFFICE MEMORANDUM

For Routing To District Offices And/Or To Other Than The Addressee		
To: _____	Loctn.: _____	
To: _____	Loctn.: _____	
To: _____	Loctn.: _____	
From: _____	Date: _____	
Reply Optional [ ]	Reply Required [ ]	Info. Only [ ]
Date Due: _____	Date Due: _____	

TO: Victoria J. Tschinkel

FROM: Clair Fancy

DATE: October 18, 1982

SUBJ: Approval and Signature of Attached Air Construction Permit

Attached please find one Air Construction Permit for which the applicant is Superior Metal Finishers. The proposed construction is a metal finishing plant in Auburndale, Polk County, Florida.

Day 90, after which the permit would be issued by default, is November 8, 1982.

The Bureau recommends your approval and signature.

CF/pa

Attachment

Superior Metal Finishers Sales, Inc.

DER
SEP 29 1982
AM PM

APPLICATORS OF:

- Fluoropolymers
- Acrylic Enamels
- Modified Acrylic Enamels
- Polyesters
- Textured Finishes
- Transparent Flash Coatings
- Multi-coat Systems

APPLICATIONS:

- Curtain Wall
- Cladding
- Extrusions
- Sheet & Plate
- Brake Forms
- Fabrications
- Assemblies
- Up to 40' length
- Up to 7'6" high
- Up to 30" wide
- Aluminum
- Steel

Sept. 25, 1982

Bureau of Air Quality
Management
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301-8241

Attn: C. H. Fancy, P.E.
Deputy Chief

Dear Mr. Fancy,

In accordance with Rule 17-1.62, proof of published public notice is attached for Superior Metal Finishers, Inc. Environmental Control Equipment Permit.

Sincerely,

G. T. Feld
Manager - Operating Services

Attachments

cc: M.V. Brant

1250 HOBBS ROAD, AUBURNDALE, FLORIDA 33823 PHONE (813) 965-2561

AFFIDAVIT OF PUBLICATION

The Winter Haven Daily News-Chief

Published Daily

WINTER HAVEN, POLK COUNTY, FLORIDA

Case No. ..... **Docket** ..... **Page No.** .....

STATE OF FLORIDA
COUNTY OF POLK } ss

Before the undersigned authority personally appeared ..... E W Clifton ....., who on oath says that he is ..... publisher ..... of The Winter Haven Daily News-Chief, a newspaper published at Winter Haven, in Polk County, Florida; that the attached copy of advertisement, being a ..... Notice of Proposed Agency Action ..... in the matter of ..... Permit to Superior Metal Finishers for the construction of a metal fisnishing plant in Auburndale ..... in the ..... Department of Environmental Regulation ..... Court, was published in said newspaper in the issues of ..... September 15, 1982 .....

Affiant further says that The Winter Haven Daily News-Chief is a newspaper published at Winter Haven, in said Polk County, Florida, and that said newspaper has heretofore been continuously published in said Polk County, Florida, each week day, except Saturday, and has been entered as second class matter at the post office in Winter Haven, in said Polk County, Florida, for a period of one year next preceding the first publication of the attached copy of advertisement; and affiant further says that he has neither paid nor promised any person, firm, or corporation any discount, rebate, commission, or refund for the purpose of securing this advertisement for publication in said newspaper.

Signed E W Clifton

Sworn to and subscribed before me this ..... 15th ..... day of ..... September ..... A.D. 19 82.

Shirley E. Fry
Notary Public

My Commission Expires: NOTARY PUBLIC STATE OF FLORIDA AT LARGE MY COMMISSION EXPIRES OCT 26 1983 BONDED THRU GENERAL INS UNDERWRITERS

NOTICE OF PROPOSED AGENCY ACTION

The Department of Environmental Regulation gives notice of its intent to issue a permit to Superior Metal Finishers for the construction of a metal finishing plant in Auburndale, Polk County, Florida. A determination of Best Available Control Technology (BACT) was not required.

A person who is substantially affected by the Department's proposed permitting decision may request a hearing in accordance with Section 120.57, Florida Statutes, and Chapters 17-1 and 28-5, Florida Administrative Code. The request for hearing must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Twin Towers Office Building, Tallahassee, Florida 32301, within fourteen (14) days of publication of this notice. Failure to file a request for hearing within this time period shall constitute a waiver of any right such person may have to request a hearing under Section 120.57, Florida Statutes.

The application, technical evaluation and departmental intent are available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at the following locations:
DER, Bureau of Air Quality Mgmt. 2600 Blair Stone Road, Tallahassee, Florida 32301.
DER, Southwest District, 7601 Highway 301 North, Tampa, Florida 33610.

Comments on this action shall be submitted in writing to Bill Thomas of the Tallahassee office within thirty (30) days of this notice.
Sept. 15, 1982 — 0463

☆ 4685

Check Sheet

Company Name: Superior Metal Finishers
Permit Number: AC 53-58478
PSD Number:
Permit Engineer:

Application:

- ☐ Initial Application
  - ☐ Incompleteness Letters
  - ☐ Responses
  - ☐ Waiver of Department Action
  - ☐ Department Response
  - ☐ Other

Cross References:
- ☐
- ☐
- ☐

Intent:

- ☐ Intent to Issue
- ☑ Notice of Intent to Issue
- ☑ Technical Evaluation
- ☐ BACT or LAER Determination
- ☑ Unsigned Permit

  Correspondence with:
  - ☐ EPA
  - ☐ Park Services
  - ☐ Other
- ☐ Proof of Publication
  - ☐ Petitions - (Related to extensions, hearings, etc.)
  - ☐ Waiver of Department Action
  - ☐ Other

Final Determination:

- ☑ Final Determination
- ☑ Signed Permit
- ☐ BACT or LAER Determination
  - ☐ Other

Post Permit Correspondence:

- ☐ Extensions/Amendments/Modifications
- ☐ Other

RW

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

INTEROFFICE MEMORANDUM

For Routing To District Offices And/Or To Other Than The Addressee

To: Dan Williams Loctn.: Tampa
To: _____ Loctn.: _____
To: _____ Loctn.: _____
From: _____ Date: _____

Reply Optional [ ] Reply Required [ ] Info. Only [ ]
Date Due: _____ Date Due: _____

D. H. D.

NOV 3 1982

SOUTHWEST DISTRICT
TAMPA

TO: Dan Williams

FROM: Clair Fancy

RE: Superior Metal Finishers

In signing the Air Construction Permit (AC 53-58478), Terry Cole requested that I ask the district to check on groundwater impacts from this source (maybe industrial wastewater permit).

Thanks.

CHF/ks

cc: Air Permit File

James Chastain - PE
location - Auburndale

Pedro,
Please have someone investigate and get back with me. Thanks
Dan

3.5 gpm pre-treated & discharged to City of Auburndale STP. No direct discharge to surface or groundwaters. No DER-IW permit necessary.

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP

ACTION NO.

ACTION DUE DATE

1. TO: (NAME, OFFICE, LOCATION) Clair Fancy	INITIAL	
	DATE	
2. file: AC 53-58478	INITIAL	
	DATE	
3.	INITIAL	
	DATE	
4.	INITIAL	
	DATE	

REMARKS:

FYI

DER
NOV 29 1982
BAQM

INFORMATION	
	REVIEW & RETURN
	REVIEW & FILE
	INITIAL & FORWARD
DISPOSITION	
	REVIEW & RESPOND
	PREPARE RESPONSE
	FOR MY SIGNATURE
	FOR YOUR SIGNATURE
	LET'S DISCUSS
	SET UP MEETING
	INVESTIGATE & REPT
	INITIAL & FORWARD
	DISTRIBUTE
	CONCURRENCE
	FOR PROCESSING
	INITIAL & RETURN

FROM: Dan A Williams

DATE: 11-24-82

PHONE

PS Form 3811, Jan. 1979

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

SENDER: Complete items 1, 2, and 3. Add your address in the "RETURN TO" space on reverse.

1. The following service is requested (check one.)
   - ☒ Show to whom and date delivered..... ¢
   - ☐ Show to whom, date and address of delivery..... ¢
   - ☐ RESTRICTED DELIVERY
     Show to whom and date delivered..... ¢
   - ☐ RESTRICTED DELIVERY.
     Show to whom, date, and address of delivery.$

(CONSULT POSTMASTER FOR FEES)

2. ARTICLE ADDRESSED TO:

Mr. Malcolm Brant
1250 Hobbs Road
Auburndale, FL 33823

3. ARTICLE DESCRIPTION:

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	7682419	

(Always obtain signature of addressee or agent)

I have received the article described above.

SIGNATURE ☐Addressee ☐Authorized agent

X Malcolm Brant

4. DATE OF DELIVERY 9-10-82 POSTMARK

AUBURNDALE FLA SEP 10 AM 1982 33823

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE: CLERK'S INITIALS

☆GPO : 1979-300-459

P16 7682419

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL
(See Reverse)

SENT TO
Malcolm Brant
STREET AND NO.
1250 Hobbs Rd.
P.O., STATE AND ZIP CODE
Auburndale, FL 33823

POSTAGE			$
CONSULT POSTMASTER FOR FEES	CERTIFIED FEE		¢
	OPTIONAL SERVICES	SPECIAL DELIVERY	¢
		RESTRICTED DELIVERY	¢
		RETURN RECEIPT SERVICE — SHOW TO WHOM AND DATE DELIVERED	¢
		RETURN RECEIPT SERVICE — SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY	¢
		RETURN RECEIPT SERVICE — SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY	¢
		RETURN RECEIPT SERVICE — SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY	¢
TOTAL POSTAGE AND FEES			$

POSTMARK OR DATE

9/8/82

PS Form 3800, Apr. 1976

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301-8241

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

September 3, 1982

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Malcolm Brant, President
Superior Metal Finishers
1250 Hobbs Road
Auburndale, Florida

Dear Mr. Brant:

Pursuant to Section 403.815, Florida Statutes, and Florida Administrative Code Rule 17-1.62, you are required to publish (at your own expense) the attached notice. This notice should be published, one time only, in the legal ad section of either the Winter Haven Daily News-Chief or the Lakeland Ledger as soon as possible.

The Department, in accordance with Rule 17-1.62, is required to have proof that the public notice was given. Therefore, please have the newspaper prepare an affidavit of publication to submit to the Department.

Sincerely,

C. H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality
Management

Attachment

NOTICE OF PROPOSED AGENCY ACTION

The Department of Environmental Regulation gives notice of its intent to issue a permit to Superior Metal Finishers for the construction of a metal finishing plant in Auburndale, Polk County, Florida. A determination of Best Available Control Technology (BACT) was not required.

A person who is substantially affected by the Department's proposed permitting decision may request a hearing in accordance with Section 120.57, Florida Statutes, and Chapters 17-1 and 28-5, Florida Administrative Code. The request for hearing must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Twin Towers Office Building, Tallahassee, Florida 32301, within fourteen (14) days of publication of this notice. Failure to file a request for hearing within this time period shall constitute a waiver of any right such person may have to request a hearing under Section 120.57, Florida Statutes.

The application, technical evaluation and departmental intent are available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at the following locations:

DER, Bureau of Air Quality Mgmt.
2600 Blair Stone Road
Tallahassee, Florida 32301

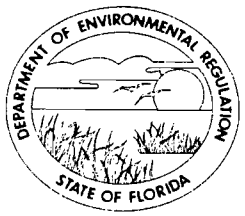
DER, Southwest District
7601 Highway 301 North
Tampa, Florida 33610

Comments on this action shall be submitted in writing to Bill Thomas of the Tallahassee office within thirty (30) days of this notice.

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301-8241



BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

MEMORANDUM

TO: Malcolm Brant, Superior Metal Finishers
Stephen L. Neck, Environmental Science and Engineering, Inc.
Dan Williams, DER Southwest District Office

FROM: C. H. Fancy, Deputy Chief, Bureau of Air Quality Management

DATE: September 3, 1982

SUBJ: Preliminary Determination - Superior Metal Finishers AC 53-58478, Polk County

Attached is one copy of the application, Technical Evaluation and Preliminary Determination, and proposed permit to construct a metal finishing plant in Auburndale, Florida.

Please submit any comments which you wish to have considered concerning this action, in writing, to Bill Thomas of the Bureau of Air Quality Management.

CHF/bjm

Attachment

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP

ACTION NO.

ACTION DUE DATE

	INITIAL	DATE
1. TO: (NAME, OFFICE, LOCATION) ~~Bill Thomas~~ BT		
2. Clair Fancy CF		
3.		
4.		

REMARKS:

Attached is the revised preliminary determination for Superior Metal Finishers

- INFORMATION
  - REVIEW & RETURN
  - REVIEW & FILE
  - INITIAL & FORWARD
- DISPOSITION
  - REVIEW & RESPOND
  - PREPARE RESPONSE
  - FOR MY SIGNATURE
  - FOR YOUR SIGNATURE
  - LET'S DISCUSS
  - SET UP MEETING
  - INVESTIGATE & REPT
  - INITIAL & FORWARD
  - DISTRIBUTE
  - CONCURRENCE
  - FOR PROCESSING
  - INITIAL & RETURN

FROM: Bob King

DATE 8/7/82

PHONE

NOTICE OF PROPOSED AGENCY ACTION

The Department of Environmental Regulation gives notice of its intent to issue a permit to Superior Metal Finishers for the construction of a metal finishing plant in Auburndale, Polk County, Florida. A determination of Best Available Control Technology (BACT) was not required.

A person who is substantially affected by the Department's proposed permitting decision may request a hearing in accordance with Section 120.57, Florida Statutes, and Chapters 17-1 and 28-5, Florida Administrative Code. The request for hearing must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Twin Towers Office Building, Tallahassee, Florida 32301, within fourteen (14) days of publication of this notice. Failure to file a request for hearing within this time period shall constitute a waiver of any right such person may have to request a hearing under Section 120.57, Florida Statutes.

The application, technical evaluation and departmental intent are available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at the following locations:

DER, Bureau of Air Quality Mgmt.
2600 Blair Stone Road
Tallahassee, Florida 32301

DER, Southwest District
7601 Highway 301 North
Tampa, Florida 33610

Comments on this action shall be submitted in writing to Bill Thomas of the Tallahassee office within thirty (30) days of this notice.

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP

ACTION NO.

ACTION DUE DATE

1. TO: (NAME, OFFICE, LOCATION)	INITIAL / DATE
~~Bill Thomas~~, BOT	
2. Chair Fancy	INITIAL / DATE
3. Lets us discuss	INITIAL / DATE
4.	INITIAL / DATE

REMARKS:

1. The attached is Preliminary Determination for Superior Metal Finishers.

2. For your approval before it out.

not a min source by our definition

need records on this one to insure <250 tpy VOC emissions. Controls obviously to get out of DSP review.

INFORMATION
- REVIEW & RETURN
- REVIEW & FILE
- INITIAL & FORWARD

DISPOSITION
- REVIEW & RESPOND
- PREPARE RESPONSE
- FOR MY SIGNATURE
- FOR YOUR SIGNATURE
- LET'S DISCUSS
- SET UP MEETING
- INVESTIGATE & REPT
- INITIAL & FORWARD
- DISTRIBUTE
- CONCURRENCE
- FOR PROCESSING
- INITIAL & RETURN

FROM: Bob King

DATE 8/30/82

PHONE

RULES OF THE ADMINISTRATIVE COMMISSION
MODEL RULES OF PROCEDURE
CHAPTER 28-5
DECISIONS DETERMINING SUBSTANTIAL INTERESTS

28-5.15 Requests for Formal and Informal Proceedings

(1) Requests for proceedings shall be made by petition to the agency involved. Each petition shall be printed typewritten or otherwise duplicated in legible form on white paper of standard legal size. Unless printed, the impression shall be on one side of the paper only and lines shall be double spaced and indented.

(2) All petitions filed under these rules should contain:

(a) The name and address of each agency affected and each agency's file or identification number, if known;

(b) The name and address of the petitioner or petitioners;

(c) All disputed issues of material fact. If there are none, the petition must so indicate;

(d) A concise statement of the ultimate facts alleged, and the rules, regulations and constitutional provisions which entitle the petitioner to relief;

(e) A statement summarizing any informal action taken to resolve the issues, and the results of that action;

(f) A demand for the relief to which the petitioner deems himself entitled; and

(g) Such other information which the petitioner contends is material.

Preliminary Determination
and
Technical Evaluation

Superior Metal Finishers
Metal Finishing Plant
Polk County, Florida

Permit Number
AC 53-58478

Florida Department of Environmental Regulation
Bureau of Air Quality Management
Central Air Permitting

August 31, 1982

Preliminary Determination
and
Technical Evaluation

Contents

I. Applicant and Source Location

Superior Metal Finishers
1250 Hobbs Road
Auburndale, Florida 33823

The proposed construction is a new conveyorized extruded aluminum metal finishing plant located in Auburndale, Florida. The UTM Coordinates are 17-422.9 km East and 3102.7 km North.

II. Project and Process Descriptions

The metal finishing plant will be a new source at the new site. The plant consists of a 5 stage washer, a drying oven, four electrostatic spray booths, and a natural gas fired bake oven with a thermal oxidizer for control of VOC emissions and dryer heat supply. The process schematic is shown on the attached figure.

III. Emissions and Control

The major pollutant from the proposed plant will be hydrocarbon (VOC). A Torrid Fume Incinerator will be used for part of VOC emission control. Spray booth wet washers will be used for particulate matter (PM) emission control. The potential (actual) emissions and emissions before control from the plant are listed in the following table.

Name of Pollutant	Emissions Without Control		Potential Emissions	
	lbs/hr	Ton/yr	lbs/hr	Ton/yr
VOC (HC)	262	314	170	204
PM	37.5	45.0	3.83	4.59
SO_2	0.005	0.006	0.005	0.006
CO	0.16	0.19	0.16	0.19
NO_2	1.15	1.22	1.15	1.22

IV. Rule Applicability

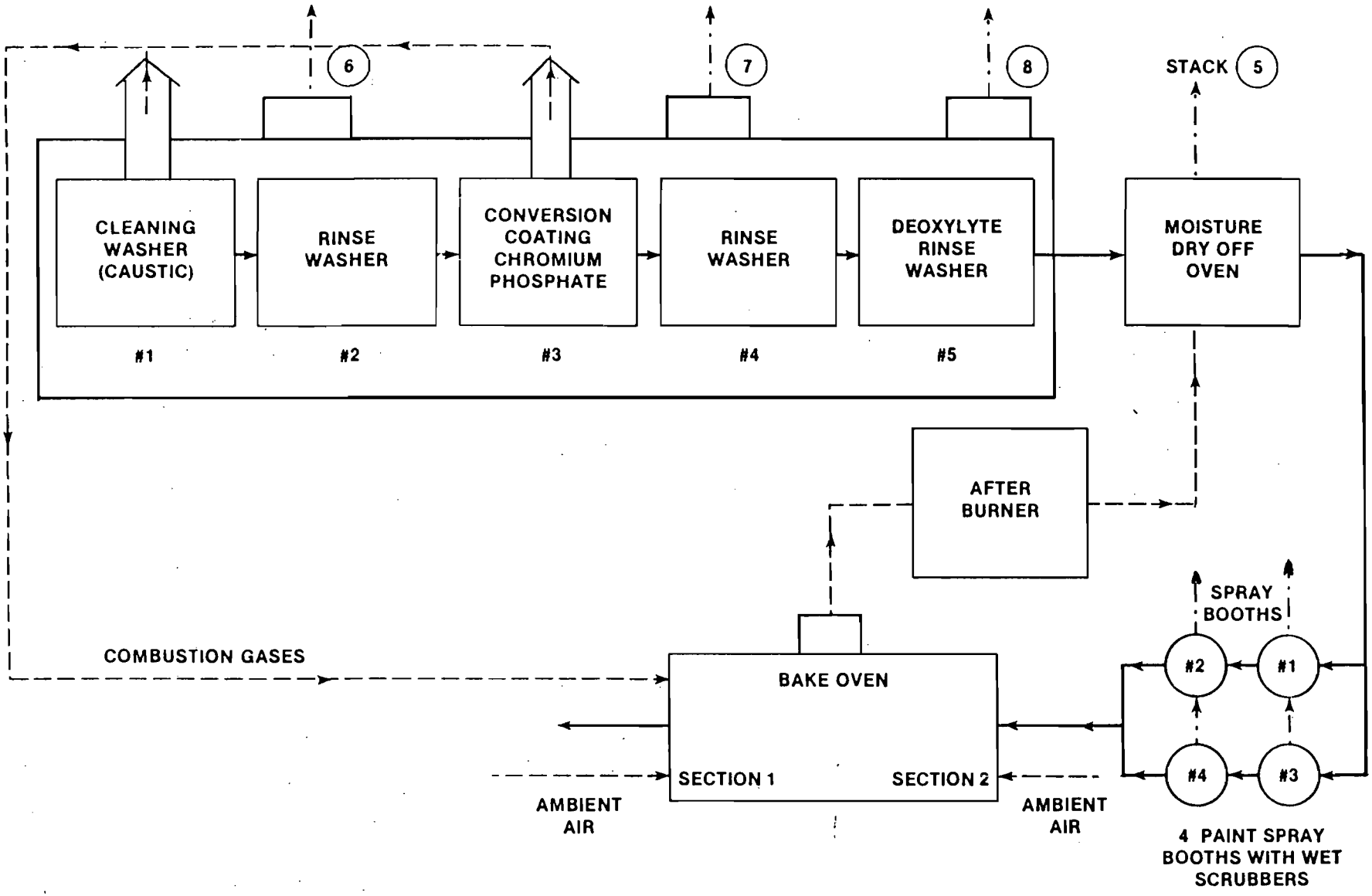
The proposed project is subject to preconstruction review under the provisions of Chapter 403, Florida Statutes, and Chapter 17-2, Florida Administrative Code (FAC).

The new plant will be a major source in a new emitting facility located in an attainment area for all the pollutants. The facility would not belong to any of the facility categories listed in Table 500-1, Major Facility Categories, and the potential VOC emissions are less than 250 tons per year. Therefore, the project is not subject to the provisions of Section 17-2.500, Prevention of Significant Deterioration (PSD) which requires an air quality impact analysis and the use of Best Available Control Technology (BACT).

V. Conclusions

Based on an evaluation of the application, FDER believes that compliance with related State air regulations will be achieved provided certain specific conditions are met.

The general and specific conditions are listed in the attached draft State permit (AC 53-58478).


6
7
8
STACK
5
CLEANING WASHER (CAUSTIC)
RINSE WASHER
CONVERSION COATING CHROMIUM PHOSPHATE
RINSE WASHER
DEOXYLYTE RINSE WASHER
MOISTURE DRY OFF OVEN
#1
#2
#3
#4
#5
AFTER BURNER
SPRAY BOOTHS
COMBUSTION GASES
BAKE OVEN
#2
#1
#4
#3
SECTION 1
SECTION 2
AMBIENT AIR
AMBIENT AIR
4 PAINT SPRAY BOOTHS WITH WET SCRUBBERS
MATERIAL FLOW
COMBUSTION GAS FLOW
SOURCE EMISSION FLOW

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

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

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

APPLICANT:

Superior Metal Finishers
1250 Hobbs Road
Auburndale, Florida 33823

PERMIT/CERTIFICATION
NO. AC 53-58478

COUNTY: Polk

PROJECT: Metal Finishing Plant

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Chapter 17-2 and 17-4, Florida Administrative Code. The above named applicant, hereinafter called Permittee, is hereby authorized to perform the work or operate the facility shown on the approved drawing(s), plans, documents, and specifications attached hereto and made a part hereof and specifically described as follows:

For the construction of aluminum metal finishing plant at a new plant site located in Auburndale, Florida. The UTM Coordinates of the proposed plant are 422.9 km East and 3102.7 km North.

Construction shall be in accordance with the attached permit application except as otherwise noted on page 3, Specific Conditions.

Attachment(s)

Application to Construction Air Pollution Sources, DER Form 17-1.122(16), received on July 20, 1982.

PERMIT NO.: AC 53-58478
APPLICANT: Superior Metal Finishers

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions:, and as such are binding upon the permittee and enforceable pursuant to the authority of Section 403.161(1), Florida Statutes. Permittee is hereby placed on notice that the department will review this permit periodically and may initiate court action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.

2. This permit is valid only for the specific processes and operations indicated in the attached drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit shall constitute grounds for revocation and enforcement action by the department.

3. 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 notify and provide the department with the following information: (a) a description of and cause of non-compliance; and (b) the period of non-compliance, including exact dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance. 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 revocation of this permit.

4. As provided in subsection 403.087(6), Florida Statutes, the issuance of this permit does not convey any vested rights or 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.

5. This permit is required to be posted in a conspicuous location at the work site or source during the entire period of construction or operation.

6. 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 arising under the Florida Statutes or department rules, except where such use is proscribed by Section 403.111, F.S.

7. In the case of an operation permit, permittee 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.

8. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, plant, or aquatic life or property and penalities therefore 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, except where specifically authorized by an order from the department granting a variance or exception from department rules or state statutes.

9. This permit is not transferable. Upon sale or legal transfer of the property or facility covered by this permit, the permittee shall notify the department within thirty (30) days. The new owner must apply for a permit transfer within thirty (30) days. The permittee shall be liable for any non-compliance of the permitted source until the transferee applies for and receives a transfer of permit.

10. The permittee, by acceptance of this permit, specifically agrees to allow access to permitted source at reasonable times by department personnel presenting credentials for the purposes of inspection and testing to determine compliance with this permit and department rules.

11. This permit does not indicate a waiver of or approval of any other department permit that may be required for other aspects of the total project.

12. This permit conveys no title to land or water, nor constitutes state recognition or acknowledgement of title, and does not constitute authority for the reclamation 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.

13. This permit also constitutes:

[ ] Determination of Best Available Control Technology (BACT)
[ ] Determination of Prevention of Significant Deterioration (PSD)
[ ] Certification of Compliance with State Water Quality Standards (Section 401, PL 92-500)

PERMIT NO.: AC 53-58478
APPLICANT: Superior Metal Finishers

SPECIFIC CONDITIONS:

1. The proposed plant shall be constructed in accordance with the capacities and specifications stated in the application supplied by the applicant.

2. The operating time of the proposed plant shall not exceed 8 hours per day, 6 days per week, 50 weeks per year or 2400 hours per year.

3. Natural gas is the only fuel fired in the plant, the fuel use shall not exceed 24.0 X 10^6 CF/yr.

4. The volatile organic compound (VOC) emissions from the plant shall be limited to 170 lbs/hr and 204 tons/yr.

5. The opacity from any stack at the site shall be limited 10%.

6. The maximum allowable particulate matter emission will be 3.83 lbs/hr and 4.6 tons/hr.

7. Compliance with the emission limits required in conditions 4 and 6 shall be determined by performance tests while the plant is at or close to full operating capacity. The performance tests shall be conducted in accordance with EPA reference methods (40 CFR 60, Appendix A), such as Method 25 used to determine VOC emissions.

8. Compliance with the total VOC emission control shall be determined by a material balance of VOC purchased and those reclaimed. The removing efficiency of the after burner shall be tested and recorded for material balance calculation. A material balance procedure for total VOC control shall be submitted to DER's Southwest District Office for approval while the operating permit is in progress.

PERMIT NO.: AC 53-58478
APPLICANT: Superior Metal Finishers

Expiration Date: March 31, 1983

_____ Pages Attached.

Issued this _____ day of _____, 19_____.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

_____
Signature

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301-8241

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

July 28, 1982

Malcolm Brant, President
Superior Metal Finishers
1250 Hobbs Road
Auburndale, Florida 33823

Dear Mr. Brant:

This is to acknowledge receipt of your application to construct a metal finishing plant in Auburndale, Florida. Your receipt for the processing fee of $1,000.00 is attached. The permit processing number assigned to your application is AC 53-58478.

If we may be of further assistance, please feel free to call at (904) 488-1344.

Sincerely,

Patty Adams

Patty Adams
Bureau of Air Quality
Management

PA/bjm

Attachment

ESE ENVIRONMENTAL SCIENCE AND ENGINEERING, INC.

5406 HOOVER BOULEVARD, SUITE D
AIRPORT SERVICE CENTER
TAMPA, FLORIDA 33614
813/886-6672

July 20, 1982

Mr. Dan Williams
Florida Department of Environmental Regulation
7601 U. S. Highway 301 North
Tampa, Florida 33610

Dear Mr. Williams;

Enclosed is an application to operate/construct a metal finishing plant. Since this plant is scheduled to start production in September the expeditious processing of the application would be greatly appreciated.

If you or your staff need any additional information, please contact either Stephen Neck in our Gainesville office or me.

Sincerely,

Walter A. W. Jetter

Walter A. W. Jetter
Group Leader, Environmental
Permitting and Impact Analysis

WAJ/kje

DER
JUL 23 1982
BAQM

D.E.R.
JUL 20 1982
SOUTHWEST DISTRICT
TAMPA

SUPERIOR METAL FINISHERS, INC.
P. O. BOX 2186
HIALEAH, FL 33012

No 1011

July 16, 19 82

63-60/660

PAY TO THE ORDER OF Florida Department of Environmental Regulations $ 1,000.00

One Thousand and 00/100---------- DOLLARS

FLAGSHIP NATIONAL BANK OF MIAMI
Flagship Center Office, Miami, Florida 33131

FOR Air Permit

[redacted]

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

No 33621

RECEIPT FOR APPLICATION FEES AND MISCELLANEOUS REVENUE

Received from Superior Metal Finishers, Inc. Date July 27, 1982

Address 1250 Hobbs Rd., Auburndale FL 33823 Dollars $ 1,000.00

Applicant Name & Address Malcolm Grant, President (same as above)

Source of Revenue

Revenue Code 0101 Application Number AC 53-58478

By Patricia D Adams

AC 53-58478

DER

JUL 23 1982

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

BAQM APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

D.E.R.

JUL 20 1982

SOUTHWEST DISTRICT
TAMPA

SOURCE TYPE: Metal Finishing Plant [X] New[1] [ ] Existing[1]

APPLICATION TYPE: [x] Construction [ ] Operation [ ] Modification

COMPANY NAME: Superior Metal Finishers COUNTY: Polk

Identify the specific emission point source(s) addressed in this application (i.e. Lime Kiln No. 4 with Venturi Scrubber; Peeking Unit No. 2, Gas Fired) Paint Mixing Room, Spray Washer Vents, Electrostatic Paint Spray Booths, Drying Oven, and Curing Oven.

SOURCE LOCATION: Street Blue Lake Ind. Site City Auburndale, Fla.

UTM: East 422875m North 3102750m

Latitude 28 ° 02 ' 57 "N Longitude 81 ° 47 ' 03 "W

APPLICANT NAME AND TITLE: Malcolm Brant, President

APPLICANT ADDRESS: 1250 Hobbs Road, Auburndale, Fl., 33823

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Superior Metal Finishers

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. Further, I agree to maintain and operate the pollution control source and pollution control facilities in such a manner as to comply with the provision of Chapter 403, Florida Statutes, and all the rules and regulations of the department and revisions thereof. I also understand that a permit, if granted by the department, will be non-transferable and I will promptly notify the department upon sale or legal transfer of the permitted establishment.

*Attach letter of authorization

Signed: Malcolm Brant.

Malcolm Brant, President
Name and Title (Please Type)

Date: 7-16-82 Telephone No. 813-965-1502

B. 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 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 professional 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, if authorized by the owner, the applicant a set of instructions for the proper maintenance and operation of the pollution control facilities and, if applicable, pollution sources.

Signed: Stephen L. Neck

Stephen L. Neck
Name (Please Type)

(Affix Seal)

STEPHEN L. NECK REGISTERED ENGINEER No. 20020 STATE OF FLORIDA

ESE, Inc.
Company Name (Please Type)

P.O. Box ESE, Gainesville, FL., 32602
Mailing Address (Please Type)

Florida Registration No. 20020 Date: July 9, 1982 Telephone No. 904-372-3318

[1]See Section 17-2.02(15) and (22), Florida Administrative Code (F.A.C.)

SECTION II: GENERAL PROJECT INFORMATION

A. Describe the nature and extent of the project. Refer to pollution control equipment, and expected improvements in source performance as a result of installation. State whether the project will result in full compliance. Attach additional sheet if necessary.

A new conveyorized extruded aluminum metal finishing plant. Process consists of a 5 stage washer, drying oven, four electrostatic spray booths, and a bake oven with a thermal oxidizer for control of VOC emissions and dryer heat supply. Process schematic shown in appendix A.

B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction May, 1982 Completion of Construction October, 1982

C. Costs of pollution control system(s): (Note: Show breakdown of estimated costs only for individual components/units of the project serving pollution control purposes. Information on actual costs shall be furnished with the application for operation permit.)

See Appendix B

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

None

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

F. Normal equipment operating time: hrs/day 8 ; days/wk 6 ; wks/yr 50 ; if power plant, hrs/yr ____ ; if seasonal, describe: ____

G. If this is a new source or major modification, answer the following questions. (Yes or No)

1. Is this source in a non-attainment area for a particular pollutant? — No
   a. If yes, has "offset" been applied? —
   b. If yes, has "Lowest Achievable Emission Rate" been applied? —
   c. If yes, list non-attainment pollutants. —
2. Does best available control technology (BACT) apply to this source? If yes, see Section VI. — No. Not a Major Source ~~and less than 250 TPY~~ all pollutants.
3. Does the State "Prevention of Significant Deterioriation" (PSD) requirements 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 source? — No

Attach all supportive information related to any answer of "Yes". Attach any justification for any answer of "No" that might be considered questionable.

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

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

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		
	SEE TABLE 1			

B. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): 15 FPM of 14 square feet of wettable surface(220 SF/MIN.

2. Product Weight (lbs/hr): _____

C. Airborne Contaminants Emitted:

SEE TABLE AND APPENDIX G

Name of Contaminant	Emission[1]		Allowed Emission[2] Rate per Ch. 17-2, F.A.C.	Allowable[3] Emission lbs/hr	Potential Emission[4]		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
Non VOC	0.40	0.4768	NA	NA	2.65	3.1788	
VOC	169.82	203.7846	NA	NA	262.05	314.4658	
Particulates	3.83	4.5943	NA	NA	37.52	45.0295	
SO_2	0.005	0.0061	NA	NA	0.005	0.0061	
CO	0.161	0.1929	NA	NA	0.161	0.1929	
NO_2	1.15	1.2180	NA	NA	1.15	1.2180	

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

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles[5] Size Collected (in microns)	Basis for Efficiency (Sec. V, It[5]
Torrid Fume Incinerator	VOC	90 %	NA	EPA-450/3-79-024
4 Spray Booth Wet Washers	VOC	0 %	NA	Assumed
	Particulate	90 %	NA	Assumed
SEE APPENDIX C				

[1] See Section V, Item 2.

[2] Reference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. – 0.1 pounds per million BTU heat input)

[3] Calculated from operating rate and applicable standard

[4] Emission, if source operated without control (See Section V, Item 3)

[5] If Applicable

Table 1. Summary of Material Use, Emissions, Liquid or Solid Wastes

Description	Name of Contaminant	Utilization Rate			Volatiles	Actual Emissions		Uncontrolled Emissions		Liquid or Solid Wastes Generated (TPY)
		Gallons/Year	lb/hr	TPY		lbs/hr	TPY	lbs/hr	TPY	
Washer System Chemicals										
Hydrofluoric Acid	-	-	0.33	0.4008	0%	0	0	-	-	0.4008
Chromic Acid	-	-	1.19	1.4245	0%	0	0	-	-	1.4245
Hydrogen Peroxide	-	-	0.01	0.0060	0%	0	0	-	-	0.0060
Phosphoric Acid	-	-	3.15	3.7774	0%	0	0	-	-	3.7774
Surfactants	-	-	0.03	0.0411	0%	0	0	-	-	0.0411
Soldium Hydroxide	-	-	24.77	29.7263	0%	0	0	-	-	29.7263
Sodium Alpha Gluconate	-	-	3.41	4.0870	0%	0	0	-	-	4.0870
Diethanolamine	VOC	-	3.41	4.0870	100%	3.41	4.0870	3.41	4.0870	4.0870
Cold Cleaner										
Methylene Chloride	Non VOC	577.50	2.65	3.1788	100%	0.40	0.4768	2.65	3.1788	2.7020
Toluol	VOC	82.5	0.38	0.4541	100%	0.06	0.0681	0.38	0.4541	0.3860
Paints										
Acrylics	VOC	57888	229.14	274.9680	4.7 lb/gal	73.01	87.6077	113.36	136.0368	48.4291
Fluoropolymers	VOC	11232	44.46	53.3520	5.4 lb/gal	16.28	19.5302	25.27	30.3264	10.7961
High Solids	VOC	17280	68.40	82.0800	2.7 lb/gal	12.52	15.0232	19.44	23.328	8.3049
Additional Paint Thinners										
(Toluol, Xylol, Butyl Carbitol, and Pine Oil)	VOC	32015	100.13	120.1523	100%	64.48	77.3781	100.13	120.1523	-

Source: ESE, 1982

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
Natural gas	9.78×10^{-3}	1.63×10^{-2}	16.3
SEE APPENDIX D			

*Units Natural Gas, MMCF/hr; Fuel Oils, barrels/hr; Coal, lbs/hr

Fuel Analysis:

Percent Sulfur: negligible Percent Ash: negligible

Density: NA lbs/gal Typical Percent Nitrogen: 5.15

Heat Capacity: 1000 BTU/FT^3 BTU/lb _____ BTU/gal

Other Fuel Contaminants (which may cause air pollution): See Appendix C

F. If applicable, indicate the percent of fuel used for space heating. Annual Average _____ Maximum _____

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

See Table 1. Scrubber paints recovered and sent to landfill after moisture removal. Cold cleaning tank Solvents recovered and sent to commercial regenerator when exhausted. Washer chemicals recovered at site treatment plant.

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack): SEE APPENDIX E

Stack Height: _____ ft. Stack Diameter: _____ ft.

Gas Flow Rate: _____ ACFM Gas Exit Temperature: _____ °F.

Water Vapor Content: _____ % Velocity: _____ FPS

SECTION IV: INCINERATOR INFORMATION

Type of Waste	Type 0 (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	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 _____

Date Constructed _____ Model No. _____

	Volume $(ft)^3$	Heat Release (BTU/hr)	Fuel		Temperature (°F)
			Type	BTU/hr	
Primary Chamber					
Secondary Chamber					

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

Gas Flow Rate: _____ ACFM _____ DSCFM* Velocity _____ FPS

*If 50 or more tons per day design capacity, submit the emissions rate in grains per standard cubic foot dry gas corrected to 50% excess air.

Type of pollution control device: [ ] Cyclone [ ] Wet Scrubber [ ] Afterburner [ ] Other (specify) _____

Brief description of operating characteristics of control devices: _____

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

SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

1. Total process input rate and product weight — show derivation.
2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.,) and attach proposed 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 used 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 control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, etc.).
5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3, and 5 should be consistent: actual emissions = potential (1-efficiency).
6. An 8½" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.

   SEE ATTACHED DRAWING AND APPENDICES A and F
7. An 8½" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).

   SEE APPENDIX F
8. An 8½" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.

   SEE APPENDIX F

9. An application fee of $20, unless exempted by Section 17-4.05(3), F.A.C. The check should be made payable to the Department of Environmental Regulation.

10. With an application for operation permit, attach a Certificate of Completion of Construction indicating that the source was constructed as shown in the construction permit.

SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY

A. Are standards of performance for new stationary sources pursuant to 40 C.F.R. Part 60 applicable to the source?
[ ] Yes [ ] No

Contaminant	Rate or Concentration

B. Has EPA declared the best available control technology for this class of sources (If yes, attach copy) [ ] Yes [ ] No

Contaminant	Rate or Concentration

C. What emission levels do you propose as best available control technology?

Contaminant	Rate or Concentration

D. Describe the existing control and treatment technology (if any).

1. Control Device/System:
2. Operating Principles:
3. Efficiency:*
4. Capital Costs:
5. Useful Life:
6. Operating Costs:
7. Energy:
8. Maintenance Cost:
9. Emissions:

Contaminant	Rate or Concentration

*Explain method of determining D 3 above.

10. Stack Parameters

a. Height: ft. b. Diameter: ft.

c. Flow Rate: ACFM d. Temperature: °F

e. Velocity: FPS

E. Describe the control and treatment technology available (As many types as applicable, use additional pages if necessary).

1.

a. Control Device:

b. Operating Principles:

c. Efficiency*: d. Capital Cost:

e. Useful Life: f. Operating Cost:

g. Energy*: h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

2.

a. Control Device:

b. Operating Principles:

c. Efficiency*: d. Capital Cost:

e. Useful Life: f. Operating Cost:

g. Energy**: h. Maintenance Costs:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

*Explain method of determining efficiency.

**Energy to be reported in units of electrical power – KWH design rate.

3.

a. Control Device:

b. Operating Principles:

c. Efficiency*: d. Capital Cost:

e. Life: f. Operating Cost:

g. Energy: h. Maintenance Cost:

*Explain method of determining efficiency above.

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space and operate within proposed levels:

4.

a. Control Device

b. Operating Principles:

c. Efficiency*:

d. Capital Cost:

e. Life:

f. Operating Cost:

g. Energy:

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

F. Describe the control technology selected:

1. Control Device:

2. Efficiency*:

3. Capital Cost:

4. Life:

5. Operating Cost:

6. Energy:

7. Maintenance Cost:

8. Manufacturer:

9. Other locations where employed on similar processes:

a.

(1) Company:

(2) Mailing Address:

(3) City:

(4) State:

(5) Environmental Manager:

(6) Telephone No.:

*Explain method of determining efficiency above.

(7) Emissions*:

Contaminant	Rate or Concentration

(8) Process Rate*:

b.

(1) Company:

(2) Mailing Address:

(3) City:

(4) State:

*Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions*:

Contaminant	Rate or Concentration

(8) Process Rate*:

10. Reason for selection and description of systems:

*Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

SECTION VII – PREVENTION OF SIGNIFICANT DETERIORATION

A. Company Monitored Data

1. _____ no sites _____ TSP _____ ( ) SO^2* _____ Wind spd/dir

Period of monitoring ____/____/____ to ____/____/____
month day year month day year

Other data recorded _____

Attach all data or statistical summaries to this application.

2. Instrumentation, Field and Laboratory

a) Was instrumentation EPA referenced or its equivalent? _____ Yes _____ No

b) Was instrumentation calibrated in accordance with Department procedures? _____ Yes _____ No _____ Unknown

B. Meteorological Data Used for Air Quality Modeling

1. _____ Year(s) of data from ____/____/____ to ____/____/____
month day year month day year

2. Surface data obtained from (location) _____

3. Upper air (mixing height) data obtained from (location) _____

4. Stability wind rose (STAR) data obtained from (location) _____

C. Computer Models Used

1. _____ Modified? If yes, attach description.

2. _____ Modified? If yes, attach description.

3. _____ Modified? If yes, attach description.

4. _____ Modified? If yes, attach description.

Attach copies of all final model runs showing input data, receptor locations, and principle output tables.

D. Applicants Maximum Allowable Emission Data

Pollutant	Emission Rate
TSP	_____ grams/sec
SO^2	_____ grams/sec

E. Emission Data Used in Modeling

Attach list of emission sources. Emission data required is source name, description on point source (on NEDS point number), UTM coordinates, stack data, allowable emissions, and normal operating time.

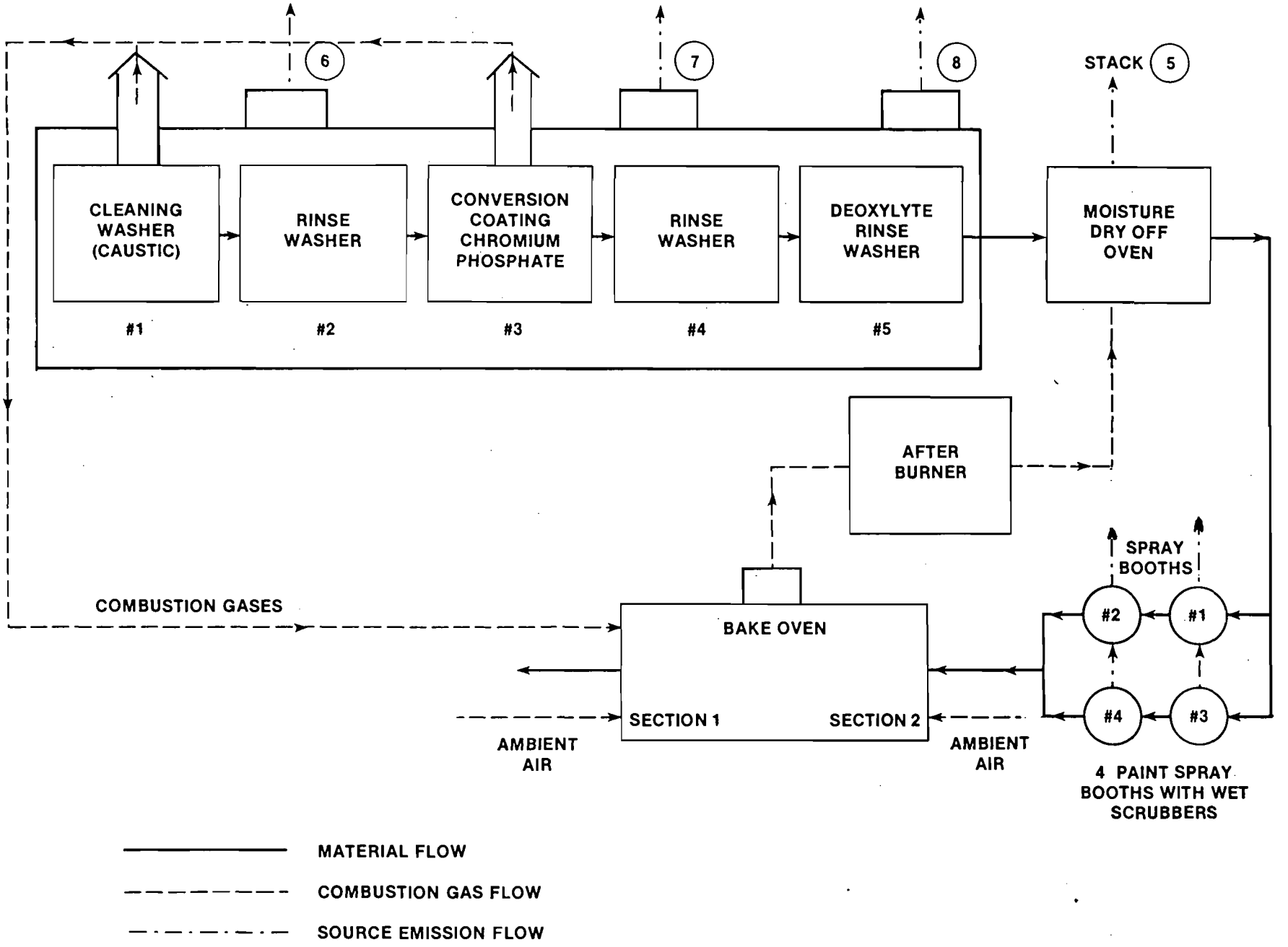
F. Attach all other information supportive to the PSD review.

*Specify bubbler (B) or continuous (C).

G. Discuss the social and economic impact of the selected technology versus other applicable 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, journals, and other competent relevant information describing the theory and application of the requested best available control technology.

APPENDIX A


6
7
8
STACK
5
CLEANING WASHER (CAUSTIC)
RINSE WASHER
CONVERSION COATING CHROMIUM PHOSPHATE
RINSE WASHER
DEOXYLYTE RINSE WASHER
MOISTURE DRY OFF OVEN
#1
#2
#3
#4
#5
AFTER BURNER
SPRAY BOOTHS
COMBUSTION GASES
BAKE OVEN
#2
#1
#4
#3
SECTION 1
SECTION 2
AMBIENT AIR
AMBIENT AIR
4 PAINT SPRAY BOOTHS WITH WET SCRUBBERS
MATERIAL FLOW
COMBUSTION GAS FLOW
SOURCE EMISSION FLOW

APPENDIX B

TORRID OVEN LIMITED
P.O. BOX 6500, TORONTO AMF, ONTARIO, CANADA L5P 1C1
TELEPHONE (416) 678-2200 TELEX NO. 06-968537

June 28, 1982

Mr. Steve Neck
Environmental Science and
Engineering, Inc.
P.O. Box ESE
Gainesville, Fla. 32602

Subject: Cost of Air and Waste Water
Pollution Control Equipment

Gentlemen:

At Mr. John Taylor's request, we are pleased to submit the cost figures of the pollution control equipment we will be providing for the Superior Metal Finishers, Inc., plant in Winter Haven.

1)	Paint Fume Afterburner c/w Ductwork,	
	Materials	$ 34,057
	Installation	$ 9,606
	Total	$ 43,663
2)	Paint Spray Water Scrubbers (total four),	
	Materials	$ 28,190
	Installation	$ 9,380
	Total	$ 37,570
3)	Waste Water Treatment System Including Filter Press,	
	Materials	$ 46,573
	Installation	$ 14,359
	Total	$ 60,932

For your reference, we have only included two (2) prints each of the following since the drawings for the afterburner and waste water treatment system were submitted to you previously. Enclosed are:

...2...

General Arrangement of
Paint Finishing System — Drawing No. F-C2788-0-1/F
Cross Section of Paint
Spray Water Scrubbers — Drawing No. 81-149-5010-2

Should you require any further information, please contact our Mr. Helmut Meier or the writer directly.

Yours very truly,

TORRID OVEN LIMITED

Jef P. Muyshondt
Vice President

JPM:mjg
encl.

cc: John Taylor

APPENDIX C

THERMAL INCINERATOR

1 only Torrid, fume incinerator to be designed to incinerate solvents common to solvent based paints expelled from the paint bake oven. The maximum amount of solvents entering the oven has been calculated at 8 gallons per hour.

CAPACITY

The incinerator will have sufficient heating capacity to raise the fumes for the time-temperature cycle as specified below:

Purpose	-	oxidize hydro carbon emissions
Type	-	thermal
Work Load	-	solvents laden air, 2,800 SCFM
Quantity of Solvents	-	avg. 4 GPH
Temperature of Entering Fumes	-	varying 375°F - 550°F
Retention Time in Combustion Zone	-	0.5 sec.
Maximum Temperature	-	1500°F
Operating Temperature	-	1350°F
Installed Heat Capacity	-	4,000,000 BTU/hr.
Auxiliary Heat Released by Solvents	-	520,000 BTU/hr.
Gross Operating Capacity	-	2,500,000 BTU/hr.
Net Operating Capacity	-	1,980,000 BTU/hr.
Fuel	-	natural gas
Pressure Entering Manifold	-	14" W.C.
Power Supply	-	460/3/60
Control Voltage	-	115/1/60

GENERAL CONSTRUCTION

The incinerator shall be built of 1/4" mild steel plate cylinder adequately reinforced to form a solid structure. The end plates are fabricated of 3/8" plate which is bolted to angle iron rings on the cylinder. To the plates attached will be structural members to afford a substantial free-standing piece of machinery.

The insulation shall consist of 7" tapered cut insulating fire bricks with special consideration given to the expansion and contraction movements. The refractory lining shall be kept in place by stainless steel studs welded to the outer skin to minimize through metal. The insulating brick is rated for temperatures up to 2000°F thus ensuring a long service life. Furthermore, the texture of the bricks enhance the incineration process and improve rapid oxidation.

PRINCIPAL DIMENSIONS

Diameter	-	8'-0"
Height	-	10'-0"
Length	-	18'-0"
Approximate Weight	-	14,000 lbs.

COMBUSTION EQUIPMENT

The combustion equipment provided for this incinerator shall be of Maxon, or equal, manufacture and of the combusti-fume type, having a maximum capacity of 4,000,000 BTU/hr. at the specified pressures. This type of burner provides excellent turndown which affords maximum temperature uniformity with fluctuating solvent loads and thus a high degree of incineration. A turndown ratio of 15:1 is available.

The burner is mounted in the combustion chamber by a suitable support bracket and the entire combustion system shall be supplied complete with an electrically ignited pilot burner, pilot solenoid valve, ignition transformer, limiting orifice valve, main gas line, safety shut-off valves, pilot gas pressure regulators, and the necessary lubricated shut-off cocks.

The combustion equipment will be neatly piped by Torrid's pipefitter ready for connection to the gas services.

TEMPERATURE CONTROLLER

The correct temperature shall be controlled and recorded by means of one (1) only Honeywell recording controller. This instrument will be mounted on the control enclosure described later in this quotation. The instrument is a modified dial-trol controller and has a range of 200°F - 1600°F. It shall be electrically connected to the fuel valve actuators. The instrument will be complete with appropriate thermocouple and sufficient lead wire as required. The point of temperature measurement shall be the temperature of air leaving the incinerator. The recorder will be equipped with a round, 7-day chart which can be easily exchanged.

SUPPLY FAN

The oven exhaust fan is close coupled to the incinerator and serves as its supply fan. For details, please refer to the paint bake oven write up.

HEAT RECOVERY DUCTWORK

The heat recovery ductwork which leads the clean hot gases from the incinerator into the dry-off oven mixing chamber will be fabricated of 20 ga. 304 stainless steel to prevent deterioration. The duct will be designed for velocities of 3,000 fpm and equipped with gas tight, all welded stainless steel expansion joints suitable for the temperatures involved, up to 1500°F.

The entire duct will be insulated with two (2) layers of high density insulation to ensure that the outside surface temperature will not exceed 50°F over plant ambient. The insulation will be finished with a solid backing material for rigidity and appearance.

SAFETY CONTROLS

The combustion equipment will be supplied with full safety controls in accordance with Factory Mutual Insurance requirements.

The Ultra-Voilet scanner will supervise the pilot burner flame. The supply fan motor shall have its starter electrically interlocked with safety shut-off valve to ensure that the equipment will immediately shut down if this fan should fail. As a further safety against fan or V-belt failure, a Cleveland, or equal, Airflo switch will supervise the fan discharge pressures. The equipment will immediately shut down should the pressure on the Airflo switch be interrupted.

A Honeywell high limit thermal cut-out will be provided to supervise the combustion chamber temperature and will prevent excessive temperatures occurring within the chamber for any reason. Should the temperature even reach a dangerous limit, the entire system will immediately shut down. The thermal cut-out must be manually reset prior to start-up of the equipment.

An Agastat solid state purge timer will be provided and preset in order that equipment may be purged in accordance with insurance requirements prior to ignition of the pilot and main burner flames.

All safety circuits will be electronically carried through the E.C.A. "Fireye" relay which will be mounted in the electrical control panel.

As indicated above, the final safety on the combustion equipment shall be effected by an electrically energized shut-off valve provided in the gas line immediately downstream of the manual shut-off cock. Should any of the above features fail, the safety shut-off solenoid will immediately close and the trouble ascertained and corrected prior to re-ignition of the combustion equipment.

ELECTRICAL CONTROLS

The incinerator controls are combined with the main oven control panel and located within same.

A prewired control panel of suitable size and shape, conforming to NEMA 12 requirements and complete with gasketted swinging door will be provided.

Within this enclosure and upon the removable white enamelled backplate will be mounted the necessary control circuit, panduit, transformer, terminal boards, relays, etc. The door mounted items will include push buttons, pilot lights, legend plates, disconnect, etc.

An internal, heavy duty, 3-pole, 460/3/60, disconnect switch shall be mounted on the panel with the operating handle outside the door of the panel. By tripping this switch, the power is disconnected to the electrical controls and the door catch released for access to the interior.

Appropriately colored pilot lights will each indicate: control panel power ON, pilot burner ON, and main burner ON.

"Green" pilot lights will indicate when each fan is operating safely. The panel shall be entirely prewired prior to shipment with all internal wiring brought back to clearly marked terminal blocks to facilitate field wiring and/or maintenance.

PIPING

All piping of the combustion equipment and safety controls will be done by Torrid. It shall be the Buyer's responsibility to undertake the connections from his gas main to the terminal points of our manifold piping, as well as to vent the gas regulators.

WIRING

All wiring of the control panel as well as from the panel to the terminal points on the equipment will be done by Torrid. Appropriate interlocks to meet Environmental Regulations are also included.

ERECTION OF EQUIPMENT

In the price quoted hereinafter, Torrid has included the installation of the incinerator and its associated heat recovery ductwork to the dry-off oven, including insulation and the placing of said equipment in good operating order.

APPROVALS

All equipment shall comply with the regulations and rules as set forth by the Associated Factory Mutual Insurance Underwriters. In addition, approval shall be obtained from the local branch of the E.P.A.

PRICE

Please refer to Price Summary Sheet.

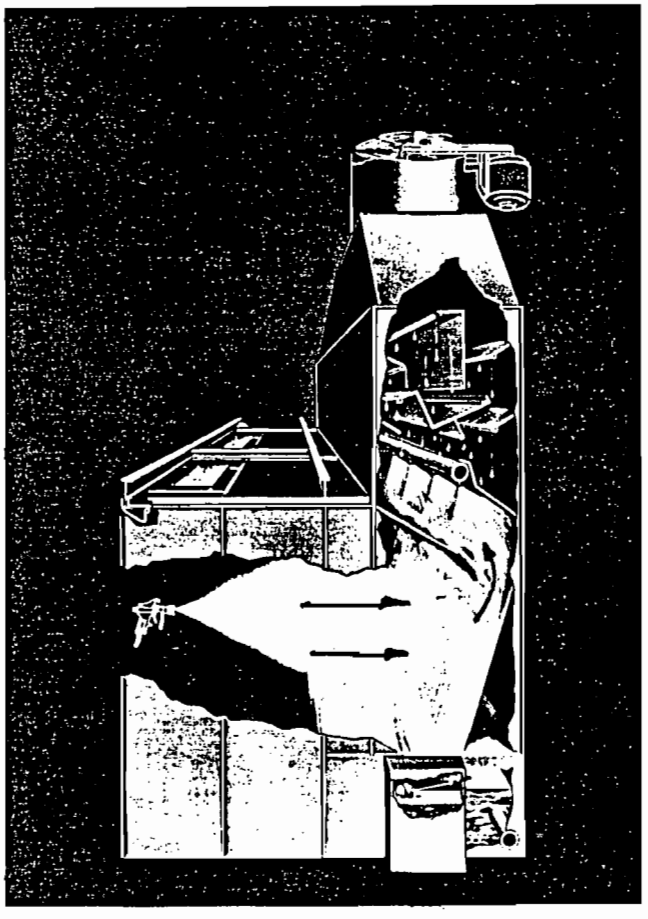
#6 AFTERBURNER INFO:

- WASTE: PAINT & SOLVENT FUME FROM PAINT BAKE OVEN
- VOLUME: 3,600 CFM @ 550°F
- CHAMBER VOLUME: 88 cu.ft.
- RETENTION TIME: 0.75 sec.
- CHAMBER HEAT RELEASE: 2,000,000 BTU/HR. (MAXIMUM OPERATING)
- CHAMBER TEMPERATURE: 1350°F (OPERATING); 1500°F (MAXIMUM)
- EXHAUST: 3,600 CFM @ 1350°F INTO DRY-OFF OVEN

elevated and low type chambers

ceiling height required: 14 feet, or more

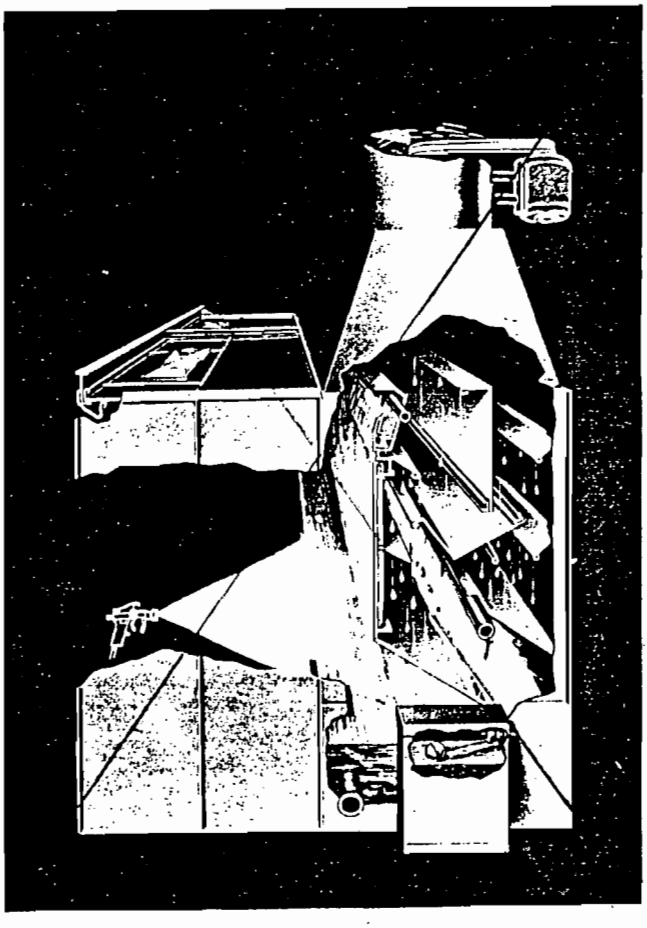
- air washed twice—passing through sheet of water from spill baffle—scrubbed and agitated in dense, overlapping spray from nozzles.
- simple piping—single, large-diameter header pipe with flush-out line.
- water flow 21, 42 and 56 gallons per minute per foot of booth width.
- entire volume of water on wash-down sheet.
- wash-down sheet extends into water—accumulated paint and scum stays in front for easy removal.
- very low resistance to flow of air.
- convenient inspection and clean-out doors.



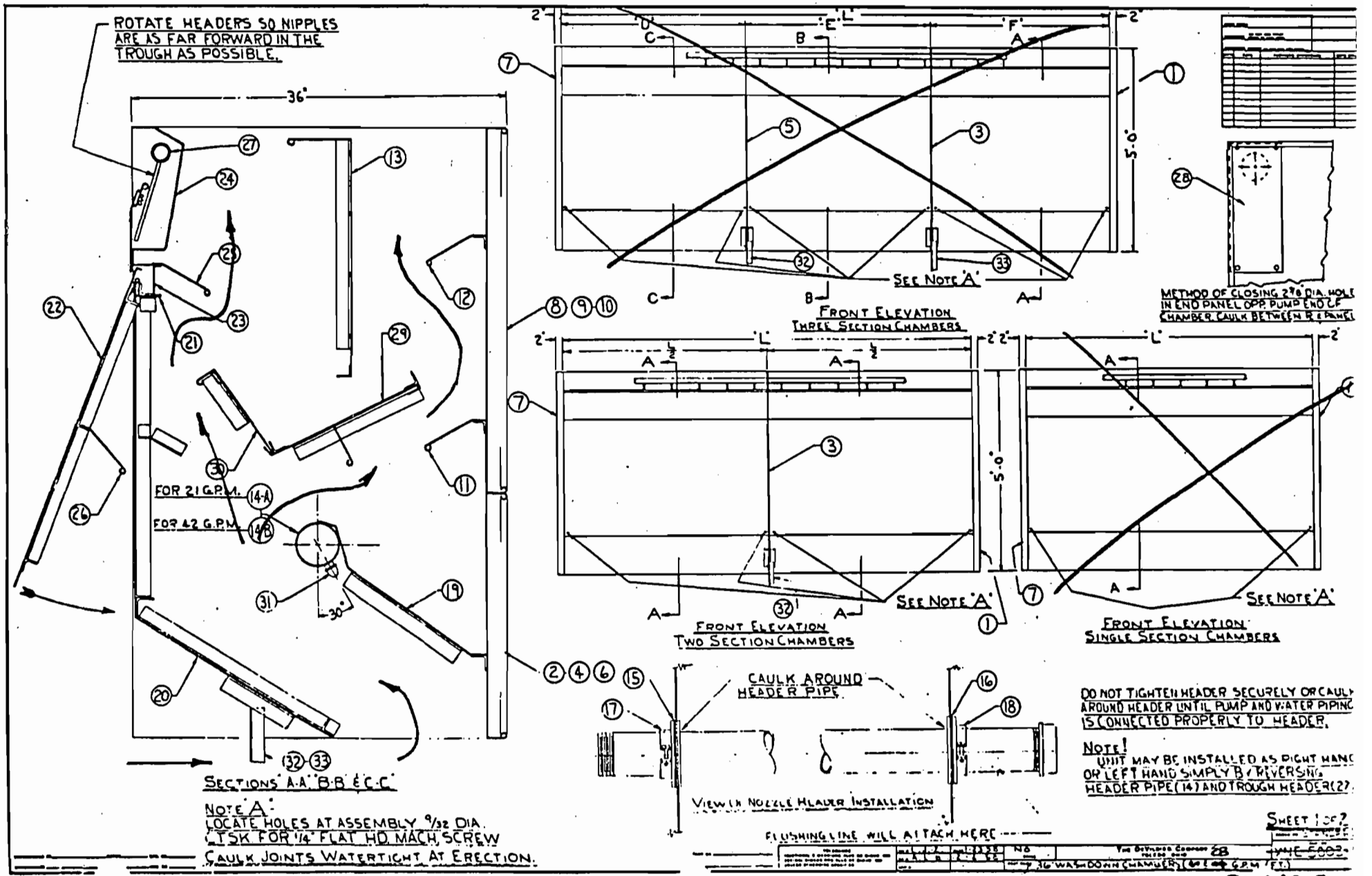
elevated type

ceiling height required: 10 feet, 6 inches

- air washed twice — passing through curtain of water from wash-down sheet — scrubbed and agitated in dense, overlapping spray from the closely spaced nozzles.
- simple piping—single, large-diameter header pipe with flush-out line—separate line with adjustment to supply correct amount of water to wash-down sheet.
- water flow on wash-down sheet ample to catch paint, keep surface clean and provide first stage washing.
- water flow 21, 42 and 56 gallons per minute per foot of booth width, plus 5 gallons per minute per foot for wash-down sheet.
- ample clearance over entire tank for removing scum from front of chamber.
- convenient inspection and clean-out doors.



low type



APPENDIX D

FUEL USAGE

OPERATION	CUBIC FEET CONSUMPTION Avg/hr	Max/hr	MAX. HEAT INPUT BTU/hr
Stage 1 Washer	2280	3800	3,800,000
Stage 3 Washer	900	1500	1,500,000
Afterburner	1200	2000	2,000,000
Air Make-UP Unit 1	1200	2000	2,000,000
Air Make-Up Unit 2	1800	3000	3,000,000
Paint Bake Oven 1	1200	2000	2,000,000
Paint Bake Oven 2	1200	2000	2,000,000
TOTALS	9780	16300	16,300,000

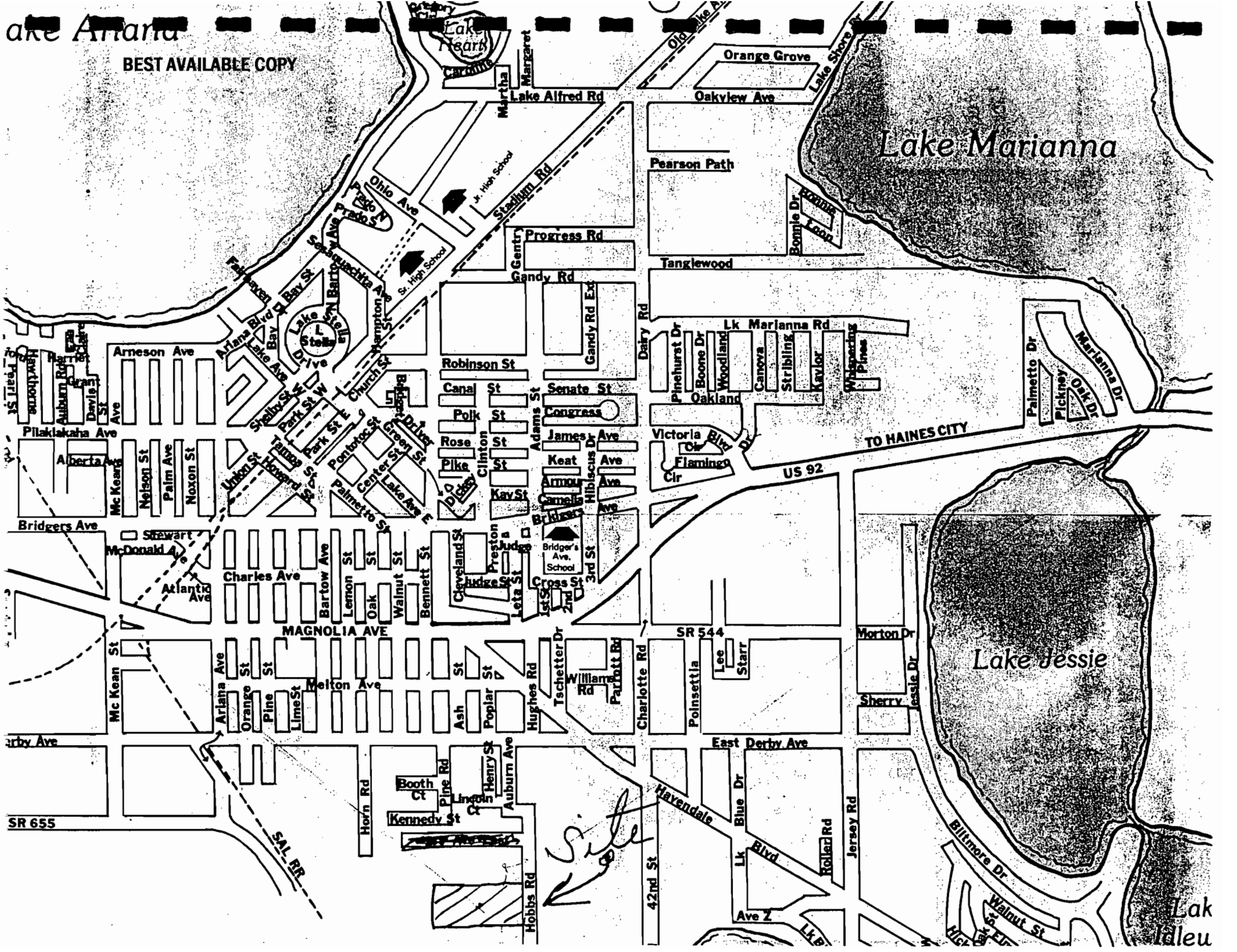
APPENDIX E

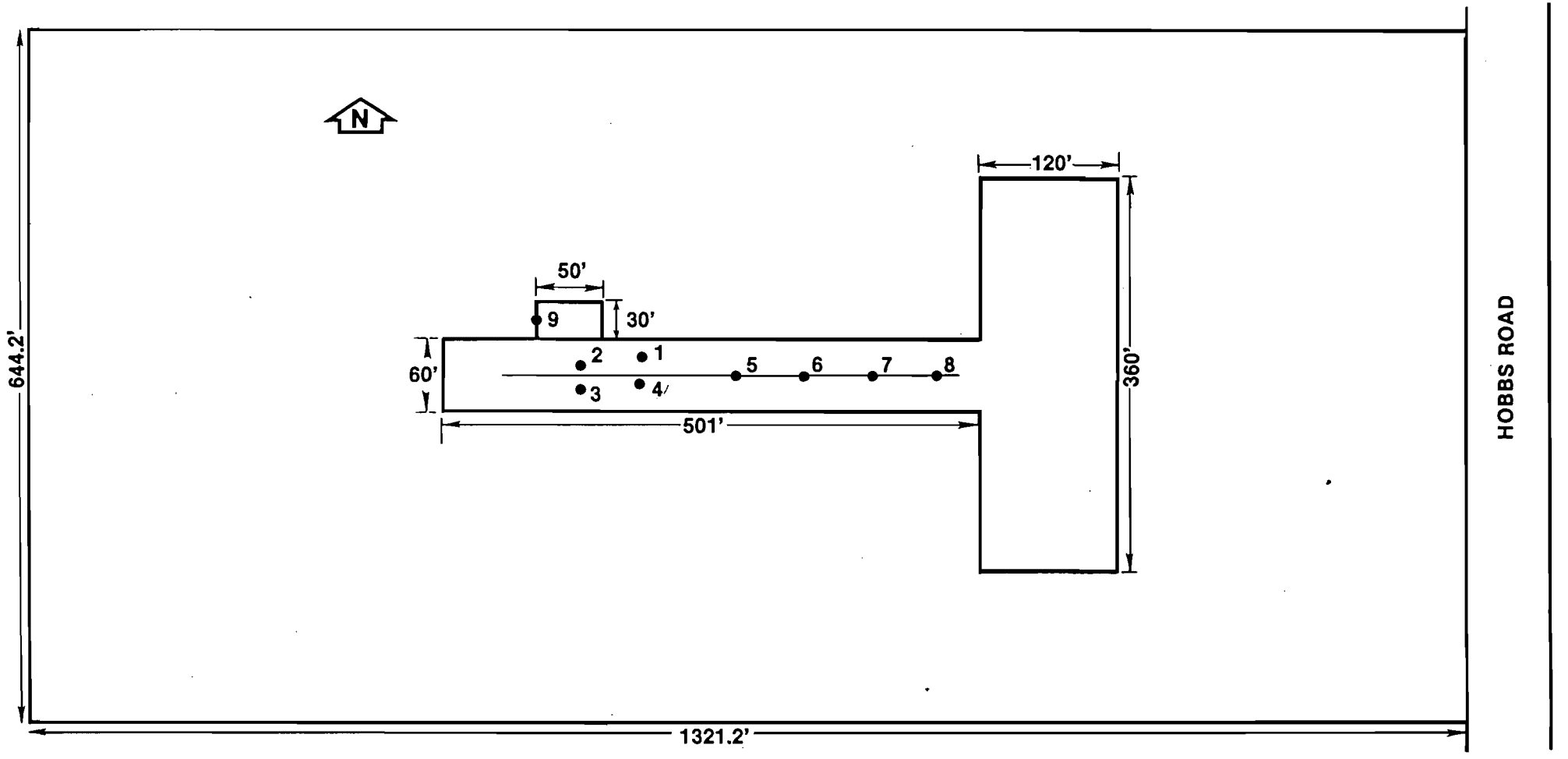
EXHAUST STACK DATA

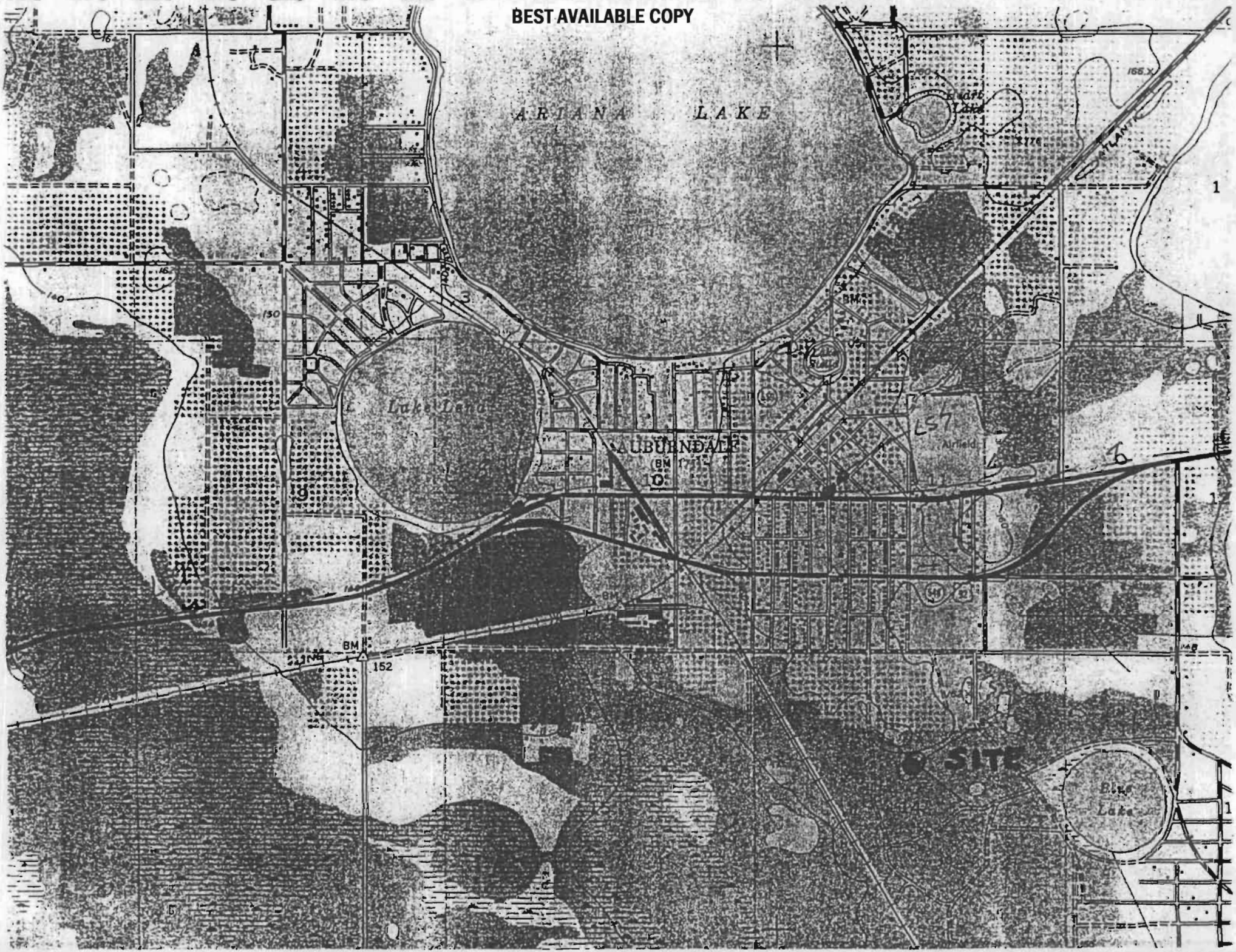
OPERATION	STACK NO.	OPERATING TEMP.	EXHAUST VOLUME	SIZE	VELOCITY	CONTENTS
Water Wash Type Spray Booth	1 thru 4	70°F	20,000 cfm	48" dia. w/ 35" cone	50 fps	- water droplets - paint and solvent fumes
Dry-Off Oven	5	450°F	5,800 cfm	14-3/8"by 19-3/8"	50 fps	-afterburner gases -water vapor
Washers	6	100°F	10,500 cfm	30" dia.	35 fps	
	7	100°F	4,400 cfm	24" dia.	23 fps	- water vapor
	8	100°F	4,400 cfm	24" dia.	23 fps	
Paint Mix Room	8	100°F	1,000 cfm	24" x 24"	4.2 fps	- fumes

ALL STACKS 22.5' FROM GROUND EXCEPT NO. 9 WHICH IS 8.6' FROM GROUND

APPENDIX F




N
644.2'
1321.2'
HOBBS ROAD
120'
360'
50'
30'
60'
501'
9
2
1
3
4
5
6
7
8



APPENDIX G

CALCULATIONS

1. Cold cleaner tank is used to immerse parts for paint stripping. Tank has a water blanket. From historical experience, 20 percent of total volatiles in bath will be lost to evaporation while 80 percent is eventually sent to solvent reclamation contractor.

2. Source number 9 is an exhaust fan in the paint mix room. Ten percent of total VOC content is assumed exhausted at this point. Twenty percent overspray is estimated for the electrostatic spray booths with air atomization. The spray booth scrubber efficiency is assumed 90 percent for particulate and 0 percent for VOC. Average paint density is 9.5 pounds/gallon. A flash-off time of an average of ten minutes follows the spray booth. As per AP 40 curve 5 of Figure 655, 45 percent of VOC content is lost at flash-off. Although the ambient air into which loss occurs is mostly fed to the curing oven in the form of combustion and make-up air, no credit is taken in the calculations.

   Total VOC loss from paints and thinners is therefore:

   (Px .10) loss at mix + (.2)(.9)P overspray + (.45)(.8)(.9)P loss at flash off + (.1)(.55)(.8)(.9)P at thermal oxidizer.

   Total Loss = .10P + .180P + .324P + .04P = .644P
   = (309.8435 TPY)(.644) = 199.54 TPY
   = 166.28 lb/hr

3. Total particulate emission taken at spray booth scrubber outlets considering an overspray of 20 percent of total solids, 90 percent scrubber efficiency and an average paint solids of 5.2 lb/gal.

   (86400 gal/yr) (.20 overspray) (.1 emission) (5.2 lb/gal) ÷ 2000
   = 4.4928 TPY
   = 3.74 lb/hr

4. A breakdown for total chemical use in the five stage washers is given. This breakdown comes from propriatory information supplied by Adchem Products, Inc. The following product usage was used:

Cold Stripper	825 gal/yr
Alodine 47	450 gal/yr
Alodine 407	1200 gal/yr
Ridosol 510	27.5 gal/yr
Ridoline 100	4500 gal/yr
Ridoline 34	6000 gal/yr
Deoxylyte 10	37.5 gal/yr

Emissions from Natural Gas

Avg Use: 9780 CFH

Time: 8 hrs/Day 5 days/week

Annual N.G. usage

$$9780\ CFH \times \frac{8\ hrs}{Day} \times \frac{5\ days}{week} \times \frac{52\ wks}{yr} = 20.3 \times 10^6\ CF/yr$$

Pollutant	AP42 Factor	Emissions
Particulates	10 lbs/10^6 CF	203 lbs/yr
SO_2	0.6 lbs/10^6 CF	12.2 lbs/yr
CO	19 lbs/10^6 CF	385.7 lbs/yr
HC	8 lbs/10^6 CF	162.4 lbs/yr
NO_2	120 lbs/10^6 CF	2436 lb/yr

1.4 NATURAL GAS COMBUSTION

Revised by Thomas Lahre

1.4.1 General [1,2]

Natural gas has become one of the major fuels used throughout the country. It is used mainly for power generation, for industrial process steam and heat production, and for domestic and commercial space heating. The primary component of natural gas is methane, although varying amounts of ethane and smaller amounts of nitrogen, helium, and carbon dioxide are also present. The average gross heating value of natural gas is approximately 1050 Btu/stdft^3 (9350 kcal/Nm^3), varying generally between 1000 and 1100 Btu/stdft^3 (8900 to 9800 kcal/Nm^3).

Because natural gas in its original state is a gaseous, homogenous fluid, its combustion is simple and can be precisely controlled. Common excess air rates range from 10 to 15 percent; however, some large units operate at excess air rates as low as 5 percent to maximize efficiency and minimize nitrogen oxide (NO_x) emissions.

1.4.2 Emissions and Controls [3-16]

Even though natural gas is considered to be a relatively clean fuel, some emissions can occur from the combustion reaction. For example, improper operating conditions, including poor mixing, insufficient air, etc., may cause large amounts of smoke, carbon monoxide, and hydrocarbons to be produced. Moreover, because a sulfur-containing mercaptan is added to natural gas for detection purposes, small amounts of sulfur oxides will also be produced in the combustion process.

Nitrogen oxides are the major pollutants of concern when burning natural gas. Nitrogen oxide emissions are a function of the temperature in the combustion chamber and the rate of cooling of the combustion products. Emission levels generally vary considerably with the type and size of unit and are also a function of loading.

In some large boilers, several operating modifications have been employed for NO_x control. Staged combustion, for example, including off-stoichiometric firing and/or two-stage combustion, can reduce NO_x emissions by 30 to 70 percent. In off-stoichiometric firing, also called "biased firing," some burners are operated fuel-rich, some fuel-lean, while others may supply air only. In two-staged combustion, the burners are operated fuel-rich (by introducing only 80 to 95 percent stoichiometric air) with combustion being completed by air injected above the flame zone through second-stage "NO-ports." In staged combustion, NO_x emissions are reduced because the bulk of combustion occurs under fuel-rich, reducing conditions.

Other NO_x-reducing modifications include low excess air firing and flue gas recirculation. In low excess air firing, excess air levels are kept as low as possible without producing unacceptable levels of unburned combustibles (carbon monoxide, hydrocarbons, and smoke) and/or other operational problems. This technique can reduce NO_x emissions by 10 to 30 percent primarily because of the lack of availability of oxygen during combustion. Flue gas recirculation into the primary combustion zone, because the flue gas is relatively cool and oxygen deficient, can also lower NO_x emissions by 20 to 60 percent depending on the amount of gas recirculated. At present only a few systems have this capability, however.

Combinations of the above combustion modifications may also be employed to further reduce NO_x emissions. In some boilers, for instance, NO_x reductions as high as 70 to 90 percent have been produced as a result of employing several of these techniques simultaneously. In general, however, because the net effect of any of these combinations varies greatly, it is difficult to predict what the overall reductions will be in any given unit.

Emission factors for natural gas combustion are presented in Table 1.4-1. Flue gas cleaning equipment has not been utilized to control emissions from natural gas combustion equipment.

Table 1.4-1. EMISSION FACTORS FOR NATURAL-GAS COMBUSTION
EMISSION FACTOR RATING: A

Pollutant	Type of unit: Power plant lb/10^6 ft^3	Power plant kg/10^6 m^3	Industrial process boiler lb/10^6 ft^3	Industrial process boiler kg/10^6 m^3	Domestic and commercial heating lb/10^6 ft^3	Domestic and commercial heating kg/10^6 m^3
Particulates[a]	5-15	80-240	5-15	80-240	5-15	80-240
Sulfur oxides (SO_2)[b]	0.6	9.6	0.6	9.6	0.6	9.6
Carbon monoxide[c]	17	272	17	272	20	320
Hydrocarbons (as CH_4)[d]	1	16	3	48	8	128
Nitrogen oxides (NO_2)[e]	700[f-h]	11,200[f-h]	(120-230)[i]	(1920-3680)[i]	(80-120)[i]	(1280-1920)[i]

[a] References 4,7,8,12.
[b] Reference 4 (based on an average sulfur content of natural gas of 2000 gr/10^6 $stdft^3$ (4600 g/10^6 Nm^3).
[c] References 5, 8-12.
[d] References 8, 9, 12.
[e] References 3-9, 12-16.
[f] Use 300 lb/10^6 $stdft^3$ (4800 kg/10^6 Nm^3) for tangentially fired units.
[g] At reduced loads, multiply this factor by the load reduction coefficient given in Figure 1.4-1.
[h] See text for potential NO_x reductions due to combustion modifications. Note that the NO_x reduction from these modifications will also occur at reduced load conditions.
[i] This represents a typical range for many industrial boilers. For large industrial units (> 100 MMBtu/hr) use the NO_x factors presented for power plants.
[j] Use 80 (1280) for domestic heating units and 120 (1920) for commercial units.

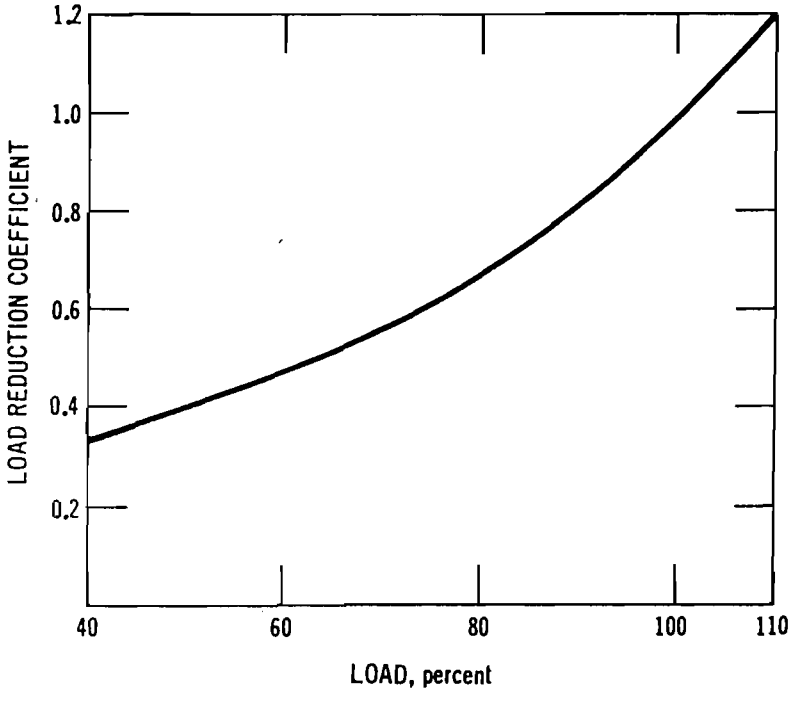


Figure 1.4-1. Load reduction coefficient as function of boiler load. (Used to determine NO_x reductions at reduced loads in large boilers.)

ing coated. An advantage of electrocoating compared with dipping, flowcoating, or electrostatic spraying is its built-in property of producing uniform thickness on all solution-wetted surfaces, including sharp edges and remote areas.

Roller Coating Machines

Roller coating machines are similar to printing presses in principle. The machines usually have three or more power-driven rollers. One roller runs partially immersed in the coating and transfers the coating to a second, parallel roller. The strip or sheet to be coated is run between the second and third roller and is coated by transfer of coating from the second roller. The quantity of coating applied to the sheet or strip is established by the distance between the rollers.

THE AIR POLLUTION PROBLEM

Air Contaminants from Paint Spray Booths

The discharge from a paint spray booth consists of particulate matter and organic solvent vapors. The particulate matter, representing solids in the coating, derives from that portion of the coating which does not adhere to the target of the spraying, the inside of the booth, or its accessories. The organic solvent vapors derive from the organic solvent, diluent, or thinner which is used with the coating and evaporates from coating suspended in the airstream, on the target of the spraying, or on the inside surfaces of the booth and its accessories. The choice of the spraying method, air atomization, electrostatic, or other, is a factor in determining the amount of overspray, that is, the amount of sprayed coating which misses the article being coated. The configuration of the surface to be sprayed is another factor influencing the amount of overspray. Table 232 gives some typical overspray percentages.

The particulate matter consists of fine coating particles, whose concentration seldom exceeds 0.01 grain per scf of unfiltered exhaust. Despite this small concentration, the location of the exhaust stack must be carefully selected so as to prevent the coating from depositing or spotting on neighboring or company property.

Solvent concentrations in spray booth effluents vary from 100 to 200 ppm. Solvent emissions from the spray booth stacks vary widely with extent of operation, from less than 1 to over 3,000 pounds per day. Organic solvent vapors, in general, take part in atmospheric photochemical reactions leading to eye irritation and other photochemical smog effects. A more detailed discussion and listing of the principal photochemically reactive and nonphotochemically reactive solvents are found in the section "Solvents and Their Uses." Solvent odors also may cause local public nuisances.

Table 232. PERCENT OF OVERSPRAY AS A FUNCTION OF SPRAYING METHOD AND SPRAYED SURFACE

Method of spraying	Flat surfaces	Table leg surface	Bird cage surface
Air atomization	50	85	90
Airless	20 to 25	90	90
Electrostatic			
Disc	5	5 to 10	5 to 10
Airless	20	30	30
Air-atomized	25	35	35

Essentially, all the solvent in or added to the coating mixture eventually is evaporated and emitted to the atmosphere. A notable exception, however, would be the styrene diluent in a polyester resin coating mixture. The styrene diluent is polymerized along with the polyester resin, thus classifying it as a reactant. Although organic solvents have different evaporation rates, solvent emissions by flash-off can be estimated at various times following the coating operation from the specific composite solvent formulation. Figure 655 relates solvent flash-off time with percent solvent emission for various classifications of coatings. Flash-off can be defined as that quantity (in terms of percent or weight) of solvent evaporated, under ambient or forced conditions, from the surfaces of coated parts during a specified time period.

The following examples show some factors to be considered in determining the solvent control measures required to operate the surface coating equipment in compliance with air pollution emission standards. Note that the solvent emission due to flash-off of solvent in the air space surrounding the coated article after it leaves a spray booth is added to other emissions because of the provisions of Rule 66(b) and (c).

Problem:

1. Calculate the weight of solvent emitted from a spray booth and associated oven.

2. Evaluate spray booth emissions with respect to Rule 66.

Given:

A conveyorized air-atomized electrostatic spray booth in which 15 gallons per day of reduced alkyd enamel (5 gallons of enamel plus 10 gallons of

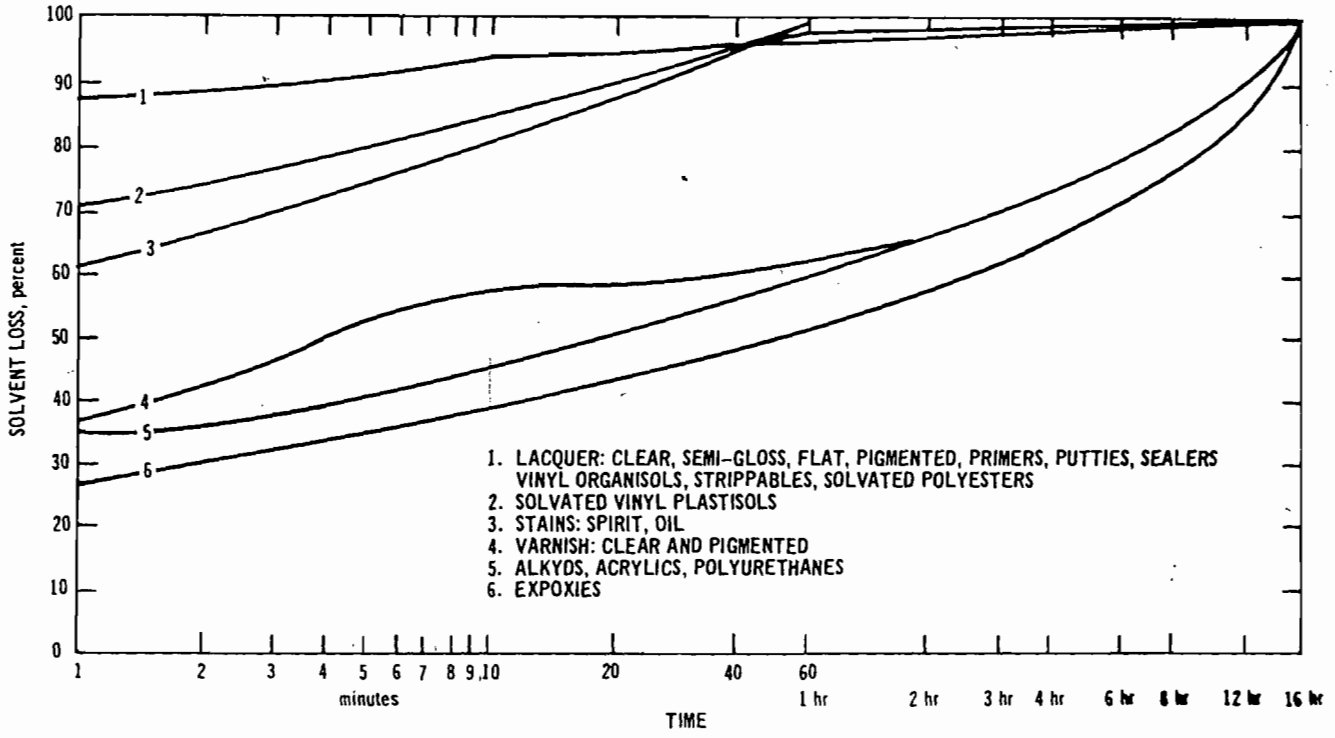


Figure 655. Evaporation curves relating percent solvent losses to solvent flash-off times.

toluene as thinner) are sprayed onto flat surfaces. After spraying, solvent is allowed to flash-off from the coated parts for 2 minutes before the parts enter the bake oven.

Alkyd enamel: Percent volatiles 53% by weight
(fictitious) 50% by volume

Weight 9.7 lb/gal

Xylene 58% by volume of solvent in unthinned paint

Saturated aliphatic hydrocarbons 42% by volume of solvent in unthinned paint

Toluene thinner 7.2 lb/gal

Solution:

1. Solvent emissions from spray booth and oven:

Total solvent sprayed

$$S = (G)(\rho_1)(V) + T(\rho_2)$$

where

S = solvent sprayed, lb/day

V = volatile fraction = $\frac{\%\ \text{volatiles by weight}}{100}$

G = unthinned paint sprayed, gal/day

ρ_1 = density of unthinned paint, lb/gal

T = thinner added, gal/day

ρ_2 = density of thinner, lb/gal.

$S = (5)(9.7)(0.53) + (10)(7.2) = 25.6 + 72$

$= 97.6$ lb/day

Solvent emissions from spray booth and flash-off area

$$E = (S)(M) + (S)(1-M)(F)$$

where

S = solvent sprayed, lb/day

M = overspray fraction = $\frac{\%\ \text{overspray}}{100}$
(from Table 232)

F = flash-off fraction = $\frac{\%\ \text{flash-off}}{100}$
(from Figure 655).

Table 232 indicates an overspray factor of 25 percent for flat-surface, air-atomized electrostatic spraying. Figure 655, Curve 5, indicates a weight loss of 36 percent from the coating during a 2-minute flash-off period.

$E = (97.6)(0.25) + (97.6)(1-0.25)(0.36)$

$= 50.8$ lb/day