State of Florida

DEPARTMENT OF ENVIRONMENTAL REGULATION

INTEROFFICE MEMORANDUM

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

To: _____ Loctn.: _____

To: _____ Loctn.: _____

To: _____ Loctn.: _____

From: _____ Date: _____

TO: Jake Varn, Secretary, FDER

FROM: Steve Smallwood, Chief, BAQM

DATE: July 22, 1980

SUBJ: Approval and Signature of Attached Air Construction Permits described below.

Attached please find nine (9) Air Construction Permits for which the applicant is Florida Mining and Materials Corporation. The proposed construction is for a Portland Cement Plant to be located in Brooksville, Florida.

Day 90, after which the permit would be issued by default, is July 30, 1980.

The Bureau recommends your approval and signature.

Steve Smallwood
Bureau of Air Quality Management

H6 - Rev 7/76

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

BOB GRAHAM
GOVERNOR

JACOB D. VARN
SECRETARY

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

PSD-FL-063

Mr. Fred Cohrs
Vice President
Florida Mining and Materials
Corporation
P.O. Box 6
Brooksville, Florida 33512

AC 27-30450 ✓ AC 27-30453 ✓
AC 27-30449 ✓ AC 27-30451 ✓
AC 27-30447 ✓ AC 27-30455 ✓
AC 27-30444 ✓ AC 27-30454 ✓

Dear Mr. Cohrs:

Enclosed is Permit Number AC 27-30446, dated July 25th 1980 to Florida Mining and Materials Corporation 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,

Steve Smallwood
Bureau of Air Quality Management

DER Form 17-1.122(65)

Final Determination

Florida Mining and Materials Corporation
Portland Cement Plant
Brooksville, Florida

Construction Permit
Application Numbers:

AC 27-30454	AC 27-30449
AC 27-30455	AC 27-30447
AC 27-30451	AC 27-30444
AC 27-30453	AC 27-30446
AC 27-30450	

Florida Department of Environmental Regulation
Bureau of Air Quality Management
Central Air Permitting
July 30, 1980

Florida Mining and Materials Corporation
Portland Cement Plant

The construction applications for this project have been reviewed by the Department. Public notice was published in the Tampa Tribune on June 26, 1980. The preliminary determination and technical evaluation were available at the Southwest District Office in Tampa and at the Bureau of Air Quality Management in Tallahassee.

No comments or additional input was received nor were any modifications made as a result of the public notice.

It is recommended that these permits for construction be issued as drafted.

STATE OF FLORIDA
DEPARTMENT OF
ENVIRONMENTAL REGULATION

CONSTRUCTION
PERMIT

NO. AC 27-30454

FLORIDA MINING AND MATERIALS
CORPORATION
PORTLAND CEMENT PLANT
BROOKSVILLE, FLORIDA

DATE OF ISSUANCE

25TH July 1980

DATE OF EXPIRATION

DECEMBER 31, 1983

Jacob D. Varn

JAKE VARN,
SECRETARY

DER FORM PERM 11-42

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

BOB GRAHAM
GOVERNOR

JACOB D. VARN
SECRETARY

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICANT: Florida Mining and Materials Corp.
P. O. Box 6
Brooksville, Florida 33512

PERMIT/CERTIFICATION
NO. AC 27-30454

COUNTY: Hernando

PROJECT: Clay Crusher

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 modification of a Clay Crusher for a Portland Cement plant to be located on U.S. Highway 98N, N.W. of Brooksville, Florida. The Universal Transverse Mercator and latitude, longitude coordinates are: 356.0E, 3169.98N and 28°38'34"W, 82°28'25"W, respectively.

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

Attachments are as follows:

1. "Application to Construct Air Pollution Source" DER form 17-1.122(16).

2. BACT Determination.

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)

SPECIFIC CONDITIONS:

PERMIT NO.: AC 27-30454
APPLICANT: Florida Mining and Materials Corp.

"Specific Conditions"

1. Maximum allowable emissions from the clay crusher will be:

   Particulate 7.71 lb/hr 18.5 tons/yr 0% opacity

2. The maximum hours of operation will be 16 hours a day, 300 days a year.

3. The maximum material input shall be 25 tons per hour.

4. There shall be no visible emissions, defined in 17-2.02 (135). Test for compliance will be Reference method 9, 40 CFR Part 60, Subpart A.

5. A thirty day notice prior to emission testing shall be provided by the applicant to the Bureau of Air Quality Management.

6. Following approval of test results and prior to 90 days before the expiration of this permit a complete application for an Operating Permit shall be submitted to the DER, Southwest District office or its designee. Full operation of the source may then be conducted in compliance with the terms of this permit until expiration or receipt of an Operation Permit.

Jacob D. Varn,
Secretary

Expiration Date: December 31, 1983.

Issued this 25TH day of July, 19 80.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

STATE OF FLORIDA
DEPARTMENT OF
ENVIRONMENTAL REGULATION

CONSTRUCTION
PERMIT

NO. AC 27-30455

FLORIDA MINING AND MATERIALS
CORPORATION
PORTLAND CEMENT PLANT
BROOKSVILLE, FLORIDA

DATE OF ISSUANCE

25TH June 1980

Jacob D. Varn

JAKE VARN,
SECRETARY

DATE OF EXPIRATION

DECEMBER 31, 1983

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

BOB GRAHAM
GOVERNOR

JACOB D. VARN
SECRETARY

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICANT: Florida Mining and Materials Corp.
P. O. Box 6
Brooksville, Florida 33512

PERMIT/CERTIFICATION
NO. AC 27-30455

COUNTY: Hernando

PROJECT: Raw Materials Feed Silos

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 modification of the Raw Materials feed silos process system to be located on U.S. Highway 98N, N.W. of Brooksville, Florida. The Universal Transverse Mercator and latitude, longitude coordinates are 356.0E, 3169.98N and 28°38'34"W, 82°28'25"W, respectively.

Construction shall be in accordance with the attached permit application, plans, documents and drawings except as otherwise noted on page 3, "Specific Conditons".

Attachments are as follows:

1. "Application to Construct Air Pollution Source" DER form 17-1.122(16).

2. BACT Determination.

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)

SPECIFIC CONDITIONS:

PERMIT NO.: AC 27-30455
APPLICANT: Florida Mining and Materials Corporation.

"Specific Conditions"

1. The maximum allowable emissions from the raw materials feed silo (modification, addition of new baghouse) will be:

   Particulate: .86 lb/hr 3.6 T/hr 0% opacity

2. The operating hours will be 7,896 hours a year.

3. Materials handling capacity of the system will be 240 tons per hour.

4. There shall be no visible emissions, defined in 17-2.02 (135). Test for compliance will be Reference method 9, 40 CFR Part 60, Subpart A.

5. A thirty day notice prior to emission testing shall be provided by the applicant to the Bureau of Air Quality Management.

6. Following approval of test results and prior to 90 days before the expiration of this permit a complete application for an Operating Permit shall be submitted to the DER, Southwest District office or its designee. Full operation of the source may then be conducted in compliance with the terms of this permit until expiration or receipt of an Operation Permit.

Jacob D. Varn
Jacob D. Varn,
Secretary

Expiration Date: December 31, 1983

Issued this 25th day of July, 19 80.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

STATE OF FLORIDA
DEPARTMENT OF
ENVIRONMENTAL REGULATION

CONSTRUCTION
PERMIT

NO. AC 27-30453

FLORIDA MINING AND MATERIALS
CORPORATION
PORTLAND CEMENT PLANT
BROOKSVILLE, FLORIDA

DATE OF ISSUANCE

25TH July 1980

Jacob D. Varn

JAKE VARN,
SECRETARY

DATE OF EXPIRATION

DECEMBER 31, 1983

DER FORM PERM 11-42

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

BOB GRAHAM
GOVERNOR

JACOB D. VARN
SECRETARY

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICANT: Florida Mining and Materials Corp.
P. O. Box 6
Brooksville, Florida 33512

PERMIT/CERTIFICATION NO. AC 27-30453

COUNTY: Hernando

PROJECT: Kiln Feed System

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 the Kiln Feed system for a Portland Cement Plant to be located on U.S. Highway 98N, N.W. of Brooksville, Florida. The Universal Transverse Mercator and latitude, longitude coordinates are: 356.0#, 3,169.98N and 28°38'34"W, 82°28'25"W, respectively.

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

Attachments are as follows:

1. "Application to Construct Air Pollution Source" DER form 17-1.122(16).

2. BACT Determination.

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

PERMIT NO.:
APPLICANT:

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 penalties 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)

SPECIFIC CONDITIONS:

PERMIT NO.: AC 27-30453
APPLICANT: Florida Mining and Materials Corp.

"Specific Conditions"

1. Maximum allowable emissions from the kiln feed system will be:

   Particulate 1.02 lb/hr. 4.0 T/ yr. 0% opacity

2. The maximum hours of operation shall be 7,896 hours a year.

3. The maximum material throughput will be 120 tons/hour.

4. There shall be no visible emissions, defined in 17-2.02 (135). Test for compliance will be Reference method 9, 40 CFR Part 60, Subpart A.

5. A thirty day notice prior to emission testing shall be provided by the applicant to the Bureau of Air Quality Management.

6. Following approval of test results and prior to 90 days before the expiration of this permit a complete application for an Operating Permit shall be submitted to the DER, Southwest District office or its designee. Full operation of the source may then be conducted in compliance with the terms of this permit until expiration or receipt of an Operation Permit.

Jacob D. Varn
Jacob D. Varn,
Secretary

Expiration Date: December 31, 1983

Issued this 25th day of July, 19 80.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

STATE OF FLORIDA
DEPARTMENT OF
ENVIRONMENTAL REGULATION

CONSTRUCTION
PERMIT

NO. AC 27-30451

FLORIDA MINING AND MATERIALS
CORPORATION
PORTLAND CEMENT PLANT
BROOKSVILLE, FLORIDA

DATE OF ISSUANCE

25TH July 1980

DATE OF EXPIRATION

DECEMBER 31, 1983

Jacob D. Varn

JAKE VARN,
SECRETARY

DER FORM PERM 11-42

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

BOB GRAHAM
GOVERNOR

JACOB D. VARN
SECRETARY

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICANT: Florida Mining and Materials Corp.
P. O. Box 6
Brooksville, Florida 33512

PERMIT/CERTIFICATION NO. AC 27-30451

COUNTY: Hernando

PROJECT: Blending Silos

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 Blending Silos for a Portland Cement Plant to be located on U.S. Highway 98N, N.W. of Brooksville, Florida. The Universal Transverse Mercator and latitude, longitude coordinates are: 356.0E, 3,169.98N and 28°38'34"W, 82°28'25"W, respectively.

Construction shall be in accordance with the attached permit application, plans, documents and drawings except as otherwise noted on page 3, "Specific Conditions"

Attachments are as follows:

1. "Application to Construct Air Pollution Source" DER form 17-1.122(16).

2. BACT Determination.

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)

SPECIFIC CONDITIONS:

PERMIT NO.: AC 27-30451
APPLICANT: Florida Mining and Materials

"Specific Conditions"

1. Maximum allowable emissions from the blending silos will be:

particulate source	G 11	3.94 lb/hr.	15.6 T/yr.	0% opacity
	F 17	1.02 lb/hr.	4.0 T/yr.	0% opacity

2. The maximum operating hours will be 7,896 hours a year.

3. Materials throughput will be 120 tons per hour.

4. There shall be no visible emissions, defined in 17-2.02 (135). Test for compliance will be Reference method 9, 40 CFR Part 60, Subpart A.

5. A thirty day notice prior to emission testing shall be provided by the applicant to the Bureau of Air Quality Management.

6. Following approval of test results and prior to 90 days before the expiration of this permit a complete application for an Operating Permit shall be submitted to the DER, Southwest District office or its designee. Full operation of the source may then be conducted in compliance with the terms of this permit until expiration or receipt of an Operation Permit.

Blending silos for Fish no 2

Jacob D. Varn
Jacob D. Varn,
Secretary

Expiration Date: December 31, 1983

Issued this 25TH day of July, 19 80.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

STATE OF FLORIDA
DEPARTMENT OF
ENVIRONMENTAL REGULATION

CONSTRUCTION
PERMIT

NO. AC 27-30450

FLORIDA MINING AND MATERIALS
CORPORATION
PORTLAND CEMENT PLANT
BROOKSVILLE, FLORIDA

DATE OF ISSUANCE

25TH July 1980

DATE OF EXPIRATION

DECEMBER 31, 1983

Jacob D. Varn

JAKE VARN,
SECRETARY

DER FORM PERM 11-42

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

BOB GRAHAM
GOVERNOR

JACOB D. VARN
SECRETARY

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICANT: Florida Mining and Materials Corp.
P. O. Box 6
Brooksville, Florida 33512

PERMIT/CERTIFICATION NO. AC 27-30450

COUNTY: Hernando

PROJECT: No. 2 Kiln

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 a Portland cement kiln to be located on U.S. Highway 98N, NW of Brooksville, Florida. The Universal Transverse Mercator and latitude, longitude coordinates are: 356.0E, 3,169.98N and 28° 38'34"W, 82° 28'25"W, respectively.

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

1. "Application to Construct Air Pollution Sources" DER from 17-1.122(16).

2. BACT Determination.

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

PERMIT NO.: AC 27-30450
APPLICANT: Florida Mining and Materials

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)

SPECIFIC CONDITIONS:

PERMIT NO.: AC 27-30450
APPLICANT: Florida Mining and Materials Corp.

1. The maximum allowable emissions from the kiln shall be:

Pollutant	Emission lb/hr.	T/hr	Opacity
Particulate	24.0	94.5	10%
NO_x	195.3	771.0	-
SO_2	3.0	11.8	-
CO	8.9	35.1	-
Hydrocarbons	2.7	10.7	-

2. The maximum hours of operation shall be 7,896 hours a year

3. The maximum throughput for the kiln will be 120 tons per hour.

4. The test for compliance will be EPA Reference methods 1, 2, 3, 4, 5, 7, and 9, 40 CFR, Part 60, Subpart A.

NO SO2 Test procedure approved

5. A thirty day notice prior to emission testing shall be provided by the applicant to the Bureau of Air Quality Management.

6. Following approval of test results and prior to 90 days before the expiration of this permit a complete application for an Operating Permit shall be submitted to the DER, Southwest District office or its designee. Full operation of the source may then be conducted in compliance with the terms of this permit until expiration or receipt of an Operation Permit.

Jacob D. Varn
Jacob D. Varn,
Secretary

Expiration Date: December 31, 1983

Issued this 25th day of July, 19 80.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

STATE OF FLORIDA
DEPARTMENT OF
ENVIRONMENTAL REGULATION

CONSTRUCTION
PERMIT

NO. AC 27-30449

FLORIDA MINING AND MATERIALS
CORPORATION
PORTLAND CEMENT PLANT
BROOKSVILLE, FLORIDA

DATE OF ISSUANCE

25TH July 1980

Jacob D. Varn

JAKE VARN,
SECRETARY

DATE OF EXPIRATION

DECEMBER 31, 1983

DER FORM PERM 11-42

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

BOB GRAHAM
GOVERNOR

JACOB D. VARN
SECRETARY

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICANT: Florida Mining and Materials Corp.
P. O. Box 6
Brooksville, Florida 33512

PERMIT/CERTIFICATION
NO. AC 2730449

COUNTY: Hernando

PROJECT: Clinker Cooler

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 a Portland Cement Clinker Cooler to be located on U.S. Highway 98N, N.W, of Brooksville, Florida. The Universal Transverse Mercator and latitude, longitude coordinates are 356.0E, 3,169.98N and 28°38'34"W, 82°28'25"W, respectively.

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

Attachments are as follows:

1. "Application to Construct Air Pollution Source" DER form 17-1.122(16).

2. BACT Determination.

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)

SPECIFIC CONDITIONS:

PERMIT NO.: AC 27-30449
APPLICANT: Florida Mining and Materials Corp.

"Specific Conditions"

1. Maximum allowable emissions from the clinker cooler will be:

   Particulate 7.1 lbs/hr. 28 T/yr. 10% opacity

2. The maximum hours of operation will be 7,896 hours a year.

3. The maximum throughput for the cooler will be 71 tons per hour.

4. Compliance test will be EPA Reference methods 1, 2, 3, 4, 5 and 9, CFR 40 Part 60 Subpart A.

5. A thirty day notice prior to emission testing shall be provided by the applicant to the Bureau of Air Quality Management.

6. Following approval of test results and prior to 90 days before the expiration of this permit a complete application for an Operationg Permit shall be submitted to the DER, Southwest District office or its designee. Full operation of the source may then be conducted in compliance with the terms of this permit until expiration or receipt of an Operation Permit.

Jacob D. Varn,
Secretary

Expiration Date: December 31, 1983

Issued this 25TH day of July, 1980.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

STATE OF FLORIDA
DEPARTMENT OF
ENVIRONMENTAL REGULATION

CONSTRUCTION
PERMIT

NO. AC 27-30447

FLORIDA MINING AND MATERIALS
CORPORATION
PORTLAND CEMENT PLANT
BROOKSVILLE, FLORIDA

DATE OF ISSUANCE

25TH July 1980

Jacob D. Varn

JAKE VARN
SECRETARY

DATE OF EXPIRATION

DECEMBER 31, 1983

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

BOB GRAHAM
GOVERNOR

JACOB D. VARN
SECRETARY

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICANT: Florida Mining and Materials Corp.
P. O. Box 6
Brooksville, Florida 33512

PERMIT/CERTIFICATION NO. AC 27-30447

COUNTY: Hernando

PROJECT: Clinker Silo

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 a Clinker Silo for a Portland Cement Plant to be located on U.S. Highway 98N, N.W. of Brooksville, Florida. The Universal Transverse Mercator and latitude, longitude coordinates are 356.0E, 3,169.98N and 28°28'34"W, 82°28'25"W, respectively.

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

Attachments are as follows:

1. "Application to Construct Air Pollution Source" DER form 17-1.122(16).

2. BACT Determination.

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 penalties 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)

SPECIFIC CONDITIONS:

PERMIT NO.: AC 27-30447
APPLICANT: Florida Mining and Materials

"Specific Conditions"

1. The maximum allowable emissions from the clinker silo will be:

Particulate Source	Emissions		Opacity
L07	1.45 lb/hr.	5.7 T/yr.	0%
M09	0.51 lb/hr.	2.0 T/yr.	0%
M10	1.45 lb/hr.	5.7 T/yr.	0%

2. The maximum hours of operation shall be 7,896 hours per year.

3. The maximum throughput for the silos shall be 71 tons per hours.

4. There shall be no visible emissions, defined in 17-2.02(135). Test for compliance will be Reference method 9, 40 CFR Part 60, Subpart A.

5. A thirty day notice prior to emission testing shall be provided by the applicant to the Bureau of Air Quality Management

6. Following approval of test results and prior to 90 days before the expiration of this permit a complete application for an Operating Permit Shall be submitted to the DER, Southwest District office or its designee. Full operation of the source may then be conducted in compliance with the terms of this permit until expiration or receipt of an Operation Permit.

Jacob D. Varn
Jacob D. Varn,
Secretary

Expiration Date: December 31, 1983

Issued this 25th day of July, 19 80.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

STATE OF FLORIDA
DEPARTMENT OF
ENVIRONMENTAL REGULATION

CONSTRUCTION
PERMIT

NO. AC 27-30444

FLORIDA MINING AND MATERIALS
CORPORATION
PORTLAND CEMENT PLANT
BROOKSVILLE, FLORIDA

DATE OF ISSUANCE

25th July 1980

Jake Varn

JAKE VARN,
SECRETARY

DATE OF EXPIRATION

DECEMBER 31, 1983

DER FORM PERM 11-42

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

BOB GRAHAM
GOVERNOR

JACOB D. VARN
SECRETARY

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICANT: Florida Mining and Materials Corporation
P. O. Box 6
Brooksville, Florida 33512

PERMIT/CERTIFICATION NO. AC 27-30444

COUNTY: Hernando

PROJECT: Finish Mill

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 a Portland Cement Finish Mill to be located on U.S. Highway 98N, N.W. of Brooksville, Florida. The Universal Transverse Mercator and latitude, longitude coordinates are: 356.0E, 3,169.98N and 28°28'34"W, 82°28'25"W, respectively.

Construction shall be in accordance with the attached permit application, plans, documents and drawings except as otherwise noted on page 3, "Specific Conditions"

Attachments are as follows:

1. "Application to Construct Air Pollution Source" DER form 17-1.122(16).

2. BACT Determination.

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)

SPECIFIC CONDITIONS:

PERMIT NO.: AC 27-30444
APPLICANT: Florida Mining and Materials

1. The maximum allowable emissions from the finish mill will be:

Particulate	Source	Emission		Opacity
	N23	7.88 lb/hr.	81.1 T/yr.	0%
	N27	1.46 lb/hr.	5.8 T/yr.	0%

2. The maximum operating hours will be 7,896 hours per year.

3. The maximum throughput will be 100 tons per hour (maximum design capacity).

4. There shall be no visible emissions, defined in 17-2.02(135). Test for compliance will be Reference method 9, 40 CFR Part 60, Subpart A.

5. A thirty day notice prior to emission testing shall be provided by the applicant to the Bureau of Air Quality Management.

6. Following approval of test results and prior to 90 days before the expiration of this permit a complete application for an Operating Permit shall be submitted to the DER, Southwest District office or its designee. Full operation of the source may then be conducted in compliance with the terms of this permit until expiration or receipt of an Operation Permit

Portland Cement Finish Mill No. 3

Jacob D. Varn,
Secretary

Expiration Date: December 31, 1983

Issued this 25TH day of July, 1980.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

STATE OF FLORIDA
DEPARTMENT OF
ENVIRONMENTAL REGULATION

CONSTRUCTION
PERMIT

NO. AC 27-30446

FLORIDA MINING AND MATERIALS
CORPORATION
PORTLAND CEMENT PLANT
BROOKSVILLE, FLORIDA

DATE OF ISSUANCE

25TH July 1980

Jacob D Varn

JAKE VARN,
SECRETARY

DATE OF EXPIRATION

DECEMBER 31, 1983

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

BOB GRAHAM
GOVERNOR

JACOB D. VARN
SECRETARY

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICANT: Florida Mining and Materials Corp.
P. O. Box 6
Brooksville, Florida 33512

PERMIT/CERTIFICATION NO. AC 27-30446

COUNTY: Hernando

PROJECT: Cement/Masonry Silos

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 Cement/Masonry Storage Silos to be located on U.S. Highway 98N, N.W. of Brooksville, Florida. The Universal Transverse Mercator and latitude, longitude coordinates are: 356.0E, 3,169.98N and 28°38'34"W, 82°28'25"W, respectively.

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

Attachments are as follows:

1. "Application to Construct Air Pollution Source" DER form 17-1.122(16).

2. BACT Determination.

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)

SPECIFIC CONDITIONS:

PERMIT NO.: AC 27-30446
APPLICANT: Florida Mining and Materials

"Specific Conditions"

1. The maximum allowable emissions from the cement/masonry silos will be:

Particulate Source	Emissions		Opacity
P05	1.97 lb/hr.	7.8 T/hr.	0%
P07	0.94 lb/hr.	3.7 T/hr.	0%
P17	0.94 lb/hr.	3.7 T/hr.	0%

2. The maximum operating hours will be 7,896 hours per year.

3. The maximum throughput will be 71 tons per hour.

4. There shall be no visible emissions, defined in 17-2.02(135). Test for compliance will be Reference method 9, 40 CFR Part 60, Subpart A.

5. A thirty day notice prior to emission testing shall be provided by the applicant to the Bureau of Air Quality Management.

6. Following approval of test results and prior to 90 days before the expiration of this permit a complete application for an Operating Permit shall be submitted to the DER, Southwest District office or its designee. Full operation of the source may then be conducted in compoiance with the terms of this permit until expiration or receipt of an Operation Permit.

Jacob D. Varn
Jacob D. Varn,
Secretary

Expiration Date: December 31, 1983

Issued this 25TH day of July, 19 80.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

→ P5/5

Check Sheet

Company Name: Fl. Mining & Materials
Permit Number:
PSD Number: AC 27 - 301 46
County:
Permit Engineer: 44
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Intent:
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- [x] Notice to Public
- [x] Technical Evaluation
- [x] BACT Determination
- [ ] Unsigned Permit
- [ ] Correspondence with:
  - [ ] EPA
  - [ ] Park Services
  - [ ] County
  - [ ] Other
- [ ] Proof of Publication
- [ ] Petitions - (Related to extensions, hearings, etc.)
- [ ] Other

Final Determination:
- [x] Final Determination
- [x] Signed Permit
- [ ] BACT Determination
- [ ] Other

Post Permit Correspondence:
- [ ] Extensions
- [x] Amendments/Modifications
- [ ] Response from EPA
- [ ] Response from County
- [ ] Response from Park Services
- [ ] Other

CROSS/TESSITORE & ASSOCIATES, P.A.
4759 S. CONWAY ROAD, UNIT D
ORLANDO, FLORIDA 32812
305/851-1484

May 9, 1983

DER
MAY 13 1983
BAQM

Mr. William Thomas
Florida Department of
Environmental Regulation
Bureau of Air Quality
2600 Blair Stone Road
Tallahassee, FL 32301

SUBJECT: Florida Mining and Materials Corporation
Clay Crusher Dust Collection System C-10
Potential SO_2 Emissions

Dear Bill:

The filing of the attached Certificate of Completion of Construction for the subject source, which did not agree with the Annual Operating Emissions Reports, raises a question concerning fuel consumption and the associated air pollutants which are being emitted by this source. The permitting history of the subject source is complex, so a sequence of events, as shown in Table 1, has been attached to minimize the confusion. A review of this table yields the following general conclusions:

(1) The initial construction permit was issued on December 18, 1973, for 2400 hours per year of operation with no fuel consumption or gaseous emissions stated.

(2) Construction began in June, 1974.

(3) An operation permit was issued for the requested operating conditions of 2400 hours per year, and no gaseous emissions.

(3) On April 28, 1980, an application for operation renewal was filed for this source. This application requested a modification to 4800 hours per year operation and includes a fuel consumption of 138 gallons per hour of No. 6 Fuel Oil. Again, no mention was made of gaseous emissions due to the combustion.

(5) On July 18, 1980, an operational permit was issued based on the above application for the requested annual operating hours and fuel consumption.

(6) In the time period between the two above events, a construction permit application was filed for the Kiln 2 system. This new kiln required additional operating hours for the C-10 clay dryer and crusher since this source is common to both the Kiln 1 and Kiln 2 systems. Neither Florida Mining and Materials personnel nor C/TA were aware that (a) the increase in operating hours was previously requested on July 18, 1980, and (b) the gaseous emissions had been omitted from the application.

(7) On April 15, 1982, the source's expanded capacity was considered operational, but no additional capacity was required since both plants 1 and 2 at Brooksville have not been simultaneously on line for a significant period of operation, due to low demand for product.

The potential emissions due to 2400 hours per year and 4800 hours per year have also been presented in Table 2. In order to resolve this confusion and dilemma, it is requested that you review the above data and determine the requirements for correcting the current C-10 construction permit and subsequent operational permit.

If you have any questions or require any additional data, please call.

Sincerely,

Joseph L. Tessitore

Joseph L. Tessitore, P.E.
Vice President

JLT:kim
Enc.

cc: Mr. Bill Thomas
FDER-Tampa

Mr. J. A. Rhineberger
Fl. Mining & Materials

TABLE 1

CLAY CRUSHER DUST COLLECTION SYSTEM C-10

SEQUENCE OF EVENTS

DATE	EVENT	REMARKS
18 DEC 73	ISSUANCE OF INITIAL CONSTRUCTION PERMIT AC 27-2260	2400 HOURS PER YEAR OPERATION WITHOUT SO_2 EMISSIONS
JUNE 74	BEGIN CONSTRUCTION	
24 AUG 76	ISSUANCE OF OPERATION PERMIT AO 27-2260	2400 HOURS PER YEAR OPERATION WITHOUT SO_2 EMISSIONS
28 APR 80	APPLICATION FOR RENEWAL FILED FOR AO 27-2260	4800 HOURS PER YEAR OF OPERATION WITH 138 GAL/HOUR OF No. 6 FUEL OIL
18 JUL 80	ISSUANCE OF OPERATION PERMIT FOR RENEWAL OF AO 27-2260- NEW PERMIT No. AO 27-31408	4800 HOURS PER YEAR/ 138 GAL/HOUR OF No. 6 FUEL OIL
9 JUN 80	ISSUANCE OF AC 27-30454 TO MODIFY AO 27-2260 FROM 2400 HOURS PER YEAR TO 4800 HOURS PER YEAR FOR No. 2 KILN	
15 APR 82	CLAY CRUSHER EXPANDED CAPACITY BASED ON AC 27-30454 PLACED IN OPERATION	
9 DEC 82	CERTIFICATE OF COMPLETION OF CONSTRUCTION FILED	4800 HOURS PER YEAR OPERATION AND NO FUEL STATED

TABLE 2

C-10 CLAY CRUSHER AND DRYER POTENTIAL ANNUAL EMISSIONS

	POTENTIAL ANNUAL EMISSIONS (T/YR)	
POLLUTANT	2400 HOURS/YEAR	4800 HOURS/YEAR
PARTICULATE	4.64	9.27
SO_2	65.00	130.00
CO	0.85	1.70
HC	0.17	0.33
NO_X	9.94	19.87

Potential Gaseous Emissions From Clay Crusher and Dryer

(Source C-10)

Operating Conditions:

Assume 4800 hours/year dryer operation

Fuel Consumption = 138 gallons/hour

Fuel Type: No. 6 Fuel Oil (2.5%)

Annual Fuel Consumption:

$$4800 \frac{\text{hours}}{\text{year}} \times 138 \frac{\text{gallons}}{\text{hour}} = 662.4 \times 10^3 \frac{\text{gallons}}{\text{year}}$$

Emission Calculations:

From AP-42 Table 1.3-1 "Emission Factors For Fuel Oil Combustion"

Particulate

$$E = \frac{(10S + 3)\ \text{lbs}}{(1{,}000\ \text{gallons})} \times 662.4 \times 10^3 \frac{\text{gallons}}{\text{year}}$$

$$= (28) \times (662.4) = 18547.2 \frac{\text{lbs}}{\text{year}} = 9.27 \text{ tons/year}$$

SO_2

$$E = 157\ S \frac{\text{lbs}}{10^3\ \text{gallons}} \times 662.4 \times 10^3 \frac{\text{gallons}}{\text{year}}$$

$$= 259{,}992.0 \frac{\text{lbs}}{\text{year}} = 130 \text{ tons/year}$$

CO

$$E = 5 \frac{\text{lbs}}{10^3\ \text{gallons}} \times 662.4 \times 10^3 \frac{\text{gallons}}{\text{year}}$$

$$= 3310 \frac{\text{lbs}}{\text{year}} = 1.66 \text{ tons/year}$$

HC

$$E = 1\frac{\text{lbs}}{10^3 \text{ gallons}} \times 662.4 \times 10^3 \frac{\text{gallons}}{\text{year}}$$

$$= 662.4 \text{ lbs/year} = 0.33 \text{ tons/year}$$

NO_x

$$E = 60 \frac{\text{lbs}}{10^3 \text{ gallons}} \times 662.4 \times 10^3 \frac{\text{gallons}}{\text{year}}$$

$$= 39{,}744 \frac{\text{lbs}}{\text{year}} = 19.87 \text{ tons/year}$$

CROSS/TESSITORE & ASSOCIATES, P.A.
1611 E. HILLCREST STREET
ORLANDO, FLORIDA 32803
305/898-6140

February 3, 1983

Mr. Hamilton S. Oven, Jr.
Florida Department of
Environmental Regulation
Twin Towers Office Building
2600 Blairstone Road
Tallahassee, FL 32302

Subject: Florida Crushed Stone Company Site Certification Application No. PA 82-17

Dear Mr. Oven:

I have reviewed the Air Quality Analysis of the subject site certification application and the additional data submittals of October 29, 1982, and November 15, 1982, and have the following comments:

Item 2.2 Facility Description

It is stated that the power plant will utilize a boiler and turbine/generator manufactured prior to August 1971, and therefore will not be subject to federal New Source Performance Standards. Have the boiler and the turbine been previously operated? Where and when did the operation take place? Was the boiler originally fabricated for the combustion of coal? No information is presented which relieves this proposed source from compliance with NSPS Subpart Da which requires the installation of a flue gas scrubber for sulfur dioxide control.

Item 3.0 Emission Estimates

The discussion of emissions from the proposed facility is limited to the Kiln/Power Plant Baghouse and the Clinker Cooler Baghouse. No discussion is included of other sources of emissions, neither fugitive nor controlled. Fugitive emissions from the cement plant operations are not discussed and no controls are proposed.

Item 3.3 Good Engineering Practice Stack Height

"Good engineering practice stack height" is calculated to be 375 feet, yet a 300 foot stack is proposed. This height should be substantiated with a "downwash" analysis for the facility to insure no on-site air quality/health related effects.

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP

ACTION NO.

ACTION DUE DATE

1. TO: (NAME, OFFICE, LOCATION) Clair Fancy	INITIAL	DATE
2.	INITIAL	DATE
3.	INITIAL	DATE
4.	INITIAL	DATE

DER
FEB 08 1983

REMARKS:

Please have your staff review and be able to address these comments in the BACT/PSD determinations

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

RECEIVED
FEB 7 1983
Dept. of Environmental Regulation
Office of General Counsel

FROM: Buck Oven

DATE 2/4/83

PHONE 80130

Item 4.0 Air Quality Data

Background monitoring for this facility was limited to four months and only two particulate monitoring locations. This is especially critical since monitoring was conducted between the dates of 5-25-82 through 9-26-82 which is the Florida rainy season and does not represent the possible high particulate concentrations occuring in drier weather.

The above short monitoring period is especially critical when the air quality impact results of Table 6-2 are considered. This table shows that the background concentrations may be a significant contribution to the exceedence of the annual and 24-hour standards for particulates.

Item 6.4 Air Quality Review

6.4.1.1 Short-Term Sulfur Dioxide Impact

The impact for sulfur dioxide on a short-term basis on the Chasshowitzka National Wildlife Refuge is stated as follows: "For the 24-hour period of CRSTER model indicated 24-hour set of meteorological conditions that might result in a significant 24-hour sulfur dioxide impact. This period was investigated with the PTMTWP model and the impact were found to be less than significant". It is not clear from the above statement if the significant sulfur dioxide 24-hour concentration is actually exceeded or simply a "quirk" of the computer model. Also, what is the justification for substituting models when significant impacts are predicted? This question should be addressed in more detail.

In general, the application, if granted without substantial modification, is likely to cause emission levels in Hernando County and the surrounding areas which would push the ambient TSP concentrations close to the allowable NAAQS for 24-hour and annual averaging times. This action may preclude any expansion of my client's operation in the Brooksville area and would further impede commercial or industrial development in Hernando County and vicinity. Florida Mining and Materials Corporation have fully cooperated with the FDER and the EPA by installing best available control technology for their most recent cement plant expansion completed in the Spring of 1982. As a result, Florida Mining was permitted to emit 0.20 lbs of particulates per pound of dry kiln feed from the kiln/mill baghouse, and 0.066 lbs of particulate per pound of dry kiln feed from the clinker cooler, which are substantially below the NSPS limits of 0.3 and 0.1 lbs of particulate per ton of kiln dry feed, respectively.

These very stringent requirements imposed on the client had the net effect of minimizing the air quality increment consumption which left significant room for growth for future applicants with air pollution sources. Unless the same degree of stringency is applied to Florida Crushed Stone, a most recent applicant, no additional growth may be permitted in the area.

In view of the importance of the application under consideration and the concerns expressed by my client, and presumbably other citizens of Hernando County, with respect to the proposed plants compliance with best available control technology criteria, I should meet with you to review the points raised above in more detail.

Sincerely,

Joseph L. Tessitore, P.E.
Vice President

JLT/kad

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

SOUTHWEST DISTRICT

7601 HIGHWAY 301 NORTH
TAMPA, FLORIDA 33610-9544

January 20, 1983

DER
JAN 26 1983
BAQM

Mr. Jerry A. Rhineberger
Florida Mining & Materials Corp.
Post Office Box 6
Brooksville, Florida 34298-0006

RE: Request to modify Florida Mining & Materials Corp's. Permits AC27-30449, AC27-30450 and others.

Dear Mr. Rhineberger:

This will acknowledge receipt of your letter dated January 13, 1982, addressed to Dan Williams, concerning the above referenced subject.

Your request is being forwarded to the Bureau of Air Quality Management, in the departments Tallahassee office, for processing.

Sincerely,

W. C. Thomas, P.E.
District Engineer
Air Programs

WCT/lig

cc: S. Smallwood
C. Fancy
B. Thomas

OF ENVIRONMEN

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROU

KAHE

BLOM

BARK

J. RO

REMARKS

2/8 Bill

Lets discuss these tomorrow (Wednesday).

Clair

1/29 Let me know where we stand on this after you investigate.

Clair

No! — limits were based on modeling & BACT. Reason given does not seem sufficient grounds to amend BACT. These existing limits should be considered as applicable to similar reviews in area (precedent). Potential profs w/ 3 companies in the area certainly do not indicate a relaxation of limits. BT

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
STEVE SMALLWOOD

DATE

FROM

Ed.
If BACT has been issued pls. compare limits — Form EM with FCS. What was asked for — Gen. background comparison & short memo to Claire

Thomas,
Acknowledge rece
& notify him we are
forwarding to BAQM
for processing.
Send copies to:
S. Smallwood
C. Fancy
B. Thomas

FLORIDA MINING & MATERIALS CORP.

P.O. BOX 6
BROOKSVILLE, FLORIDA ~~33512~~ 34298-0006
TELEPHONE (904) 796-7241

C. M. COLEMAN, JR.
VICE PRESIDENT
CONSTRUCTION MATERIALS

January 13, 1983

Registered Mail

Return Requested

State of Florida
Department of Environmental Regulation
7601 Highway 301 North
Tampa, FL 33610

Attn: Mr. Dan Williams

Subject: Modification of Permits

Dear Dan:

We are formally asking by this letter for modification to our permits for the No. 2 kiln system.

Permit AC27-304~~49~~ 50 - We request the particulate emissions limit be raised to .3 pounds per ton of feed from our present limit of .2 pounds per ton.

Permit AC27-304~~50~~ 49 - We request the particulate emissions limit be raised to .1 pounds per ton of feed from our present limit of .066 pounds per ton.

All other units - We request an increase in opacity limits from our present 0% to 10%.

In making these requests we are not indicating our intent to operate with the maximum of emissions, and once recovering from initial filtration problems with the No. 1 plant, we have made every effort to keep our emissions to a minimum and have tried to cooperate with your department.

D.E.R.
JAN 18 1983
SOUTH

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP

ACTION NO.

ACTION DUE DATE

1. TO: (NAME, OFFICE, LOCATION) Steve Smallwood DER - Tallahassee	INITIAL	
	DATE	
2.	INITIAL	
	DATE	
3.	INITIAL	
	DATE	
4.	INITIAL	
	DATE	

REMARKS:

INFORMATION

- [ ] REVIEW & RETURN
- [ ] REVIEW & FILE
- [ ] INITIAL & FORWARD
- [ ]

DISPOSITION

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

FROM: Bill Thomas/scm

DATE 1-24-83

PHONE

Instead, our request is based on our review of a recently submitted application for a new source cement plant to be located in our immediate vicinity, which may be given a competitive advantage if permitted to emit particulates up to the limits allowed under federal standards.

Kindly give our request your prompt consideration, but in any event, prior to processing the new application for a cement plant.

Yours very truly,

Jerry A. Rhineberger

JAR/kb

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: _____

TO: Bill Thomas

FROM: John Svec

DATE: June 6, 1980

SUBJ: BACT Determination for Florida Mining and Materials Corp. Cement Division; Cement Kiln Plant #2

The BACT application for Florida Mining and Materials Corp. to construct a new dry process Portland Cement kiln and associated handling, storage and milling equipment has been reviewed. The choice of fabric filters to control particulate emissions is agreed with since the vapor content of the exhaust gas (less 10%) should not hamper the fabric filter operation. The choice of coal as fuel will decrease the nitrogen oxide emissions. Good combustion techniques will minimize the nitrogen oxide emissions. The facility is not a major emitting facility for sulfur dioxide or carbon monoxide emissions; so therefore BACT will not be proposed for those criteria pollutants.

Since this is the only major emitting facility in the area and PSD increments and ambient air quality standards are not predicted to be violated by mathematical modelling, the choice of the New Source Performance Standards as representing the BACT emission limitations is agreed with for the kiln and clinker cooler. For the new emission points for transfer, storage, blending, and milling operations, the proposed emission limitation of 0.02 grains per actual cubic feet (minimum 99.8% efficiency) is agreed with as representing BACT. This level would require good operating practice plus also allow compliance when maximum inlet loading might occur. Therefore, the emission limitations proposed as representing BACT are:

Particulate Emissions

Source	Emission Point	Maximum Allowable Emissions (lbs./hr)	Maximum Opacity	Basis for Emissions
Cement Plant/ Clay Crusher	C-10	7.71	10%	0.015 gr/acf
Raw Material Storage Silos	C-11 C-11A	1.29 0.86	10% 10%	0.01 gr/acf 0.01 gr/acf
Blending Silos	G-11 F-17	3.94 1.02	10% 10%	0.02 gr/acf 0.02 gr/acf
Kiln feed System	H-13	1.02	10%	0.02 gr/acf
Kiln #2	E-19	36.0	20%	0.03 lb/ton feed
Clinker Cooler #2	K-09	7.1	10%	0.1 lb/ton feed
Clinker Silo System	L-07 M-10 M-09	1.45 1.45 0.51	10% 10% 10%	0.02 gr/acf 0.02 gr/acf 0.02 gr/acf
Finish Mill #3	N-23 N-27	7.88 1.46	10% 10%	0.02 gr/acf 0.02 gr/acf
Cement/Masonry Silo System	P-05 P-07 Q-17	1.97 0.94 0194	10% 10% 10%	0.02 gr/acf 0.02 gr/acf 0.02 gr/acf

Nitrogen Oxide Emissions

Source	Emission Point	Maximum Emissions (lbs./hr)
Kiln #2	E-19	195.3

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

BOB GRAHAM
GOVERNOR

JACOB D. VARN
SECRETARY

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

MEMORANDUM

TO: William Hennessey, Manager, Southwest District
Dan Williams, Air Engineer, Southwest District
Fred Cohrs, Vice-President, Florida Mining and Materials, Inc.
Joseph Tessitore, Cross/Tessitore and Assoc.

FROM: Mark Hodges, BAQM - Tallahassee

DATE: June 24, 1980

SUBJ: Proposed Department Action Regarding Florida Mining and Materials Inc. Application to Construct a Portland Cement Plant in Brooksville, Hernando County.

Attached please find one copy of the nine proposed Construction Permits and Technical Evaluations and Departments' Intent regarding each proposed permit. The BACT Determinations have been completed and are awaiting signature. Preliminary BACTs' are included in this package. No material changes thereto are anticipated prior to signature. Signed copies will be forwarded immediately.

Pursuant to 17-2.091 and 40 CFR 51.18 this information will be maintained on file for 30 days for public inspection at the FDER Southwest District Office, Tampa, and at the office of the Bureau of Air Quality Management (BAQM) Tallahassee.

Comments are to be submitted, in writing, to John Svec of the Bureau of Air Quality Management.

MH:caa

TM+M
Hern Cty)

BEST AVAILABLE COPY

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

BOB GRA
GOVER

JACOB D. V
SECRET

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

Sun-Journal
Box 218
Brooksville, FL 33512

6/25/80

Dear Sir:

Re: Legal Advertisement (✓)
Classified Advertisement ( )

We are forwarding to you a legal advertisement to be published on the following date (s):

ASAP

ONE TIME ONLY

Subject CONSTRUCTION NOTICE

To ensure prompt payment, please send an invoice and one proof of publication, when applicable, to the address below:

Department of Environmental Regulation
PURCHASING OFFICE
2600 Blair Stone Road
Tallahassee, Florida 32301

If you have question, please contact us at 904/488-0870.

Sincerely,

William H. Wallace
for Oscar A. Martinez, Director
Purchasing Office

l c to
Bill Wallace

Enclosure: (1)

The Florida Department of Environmental Regulation (DER) has received applications from and intends to issue Construction Permits to Florida Mining and Materials, Inc. for the construction of a Portland Cement Plant to be located near Brooksville, in Hernando County, Florida. A determination of Best Available Control Technology was required. Copies of the Applications, BACT Determination, Technical Evaluation, and Departmental Intent are available for inspection at the following offices:

DER Southwest District
7601 Highway 301, North, Tampa

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

Comments on this action shall be submitted in writing to John Svec of the Tallahassee office, within 30 days of this notice.

Technical Evaluation

and

Preliminary Determination

Florida Mining and Materials Corporation

Brooksville, Florida

Construction Permit

Application Numbers:

AC 27-30454
AC 27-30455
AC 27-30451
AC 27-30453
AC 27-30450
AC 27-30449
AC 27-30447
AC 27-30444
AC 27-30446

Florida Department of Environmental Regulation

Bureau of Air Quality Management

Central Air Permitting

June 9, 1980

I. PROPOSED DEPARTMENT ACTION

The Department intends to issue the requested permits to Florida Mining and Materials Corporation for the construction of a Portland Cement Plant and for minor modification on the existing plant, both located on Highway 98, north of Brooksville, Florida. The issuance of these permits is subject to public comment received as a result of this public notice.

Any person wanting to comment on this action may do so by submitting such comments in writing to:

John Svec
Department of Environmental Regulation
Bureau of Air Quality Management
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

Any comments received within thirty days after publication of this notice will be considered and noted in the Departments final determination.

Any person whose substantial interest would be affected by the issuance or denial of this permit may request an administrative hearing by filing a petition for hearing as set forth in section 28-5.15, F.A.C. (copy attached). Such petition must be filed within 14 days of the date of this notice with:

Mary Clark
Department of Environmental Regulation
Office of General Counsel
2600 Blair Stone Road
Tallahassee, Florida 32301

II. SUMMARY OF EMISSIONS AND AIR QUALITY ANAYSIS:

Florida Mining and Materials proposed facility will be a major source of particulate and NO_x emissions. Particulate emissions will be produced from the materials handling storage and transfer systems as well as from the cement kiln and cooler. The NO_x emissions will only be produced from the kiln. The coal fired cement kiln will also be a source of SO_2, CO and hydrocarbon emissions which have been shown to be de minimus. Since the new source proposed is a major emitting facility for particulate and for NO_x (a potential emission of greater than 100 tons per year), a BACT determination is required for these criteria pollutants. A PSD study is also required for particulate for the proposed plant along with demonstration that the facility will not impact the Chassahowitzka National Wilderness Class I area.

IV. RULE APPLICABILITY:

The proposed project by Florida Mining and Materials Corporation will be located in Brooksville, Florida. The project consists of the construction of a Portland Cement Plant adjacent to an existing plant owned by the same corporation. This site is within the Chassawitzka National Wilderness Class I area of influence. The proposed plant is a major emitting facility of particulate matter and will therefore require a PSD review under F.A.C. 17-2.14 to show that no violations of the ambient air standards and PSD increments will result from the construction and operation of this plant. The plant will have the potential of emitting over 100 tons per year of particulate matter and NO_x and requires a BACT determination on these pollutants as per F.A.C. 17-2.03 as a major emitting facility.

V. FINDINGS:

1. Florida Mining and Materials proposed plant will be a major emitting facility for the pollutant and NO_x and particulate. A BACT determination was performed on these two pollutants. The sources and their allowable emission rates will be those listed in the Table in Section III.

2. The facility will operate 7,896 hours per year with a raw material input of 120 tons/hour.

3. The clay crusher will increase its operating hours from 12 hours a day, 200 days a year to 16 hours a day, 300 days a year. The new permitted emission rate will be 7.7 lb/hr. No additional controls will be installed. The new permitted emission rate shows a decrease over the existing permitted rate.

4. The raw materials handling system will double the throughput (120 T/hr. to 240 T/hr.). An additional baghouse will be added in order to control the additional particulate generated.

5. Fuel for the kiln will be coal, as is for the existing plant, with a sulfur content of 1%.

6. In accordance with regulatory requirements and applicable Departmental guidance for PSD review, a particulate air quality analysis consisting of preconstruction monitoring and predictive modeling has been performed for this project. Based upon this analysis, the Department has reasonable assurance that the facility, if operated in compliance with the permit conditions proposed herein, will not cause or contribute to ground-level concentrations in excess of any PSD increment or ambient air quality standard. Furthermore, the facility is not expected to impact the Chassahowitzka Class I area in excess of any level of significance, thereby assuring that air quality related values including visibility will be protected in that area.

III. SYNOPSIS OF APPLICATION:

a. Florida Mining and Materials Corporation
Cement Division
P. O. Box 6
Brooksville, Florida 33512

b. The proposed project by Florida Mining and Materials Corporation involves the construction of a Portland Cement Plant consisting of blending silos, raw material transfer units, a kiln clinker cooler, finish mill and product storage silos. The new plant will process 120 tons per hour of raw materials (limestone, clay, flyash, staurolite and mill scale) yielding 73.5 tons per hour of product. Modifications to the adjacent plant will be made by increasing the capacity of the raw materials feed silos from 120 T/hr to 240 T/hr and increasing the operating hours of the clay crushing unit to 16 hours a day, 300 days a year from 12 hours a day, 200 days a year.

In the manufacturing of Portland Cement, the raw materials are blended by weight according to the appropriate ASTM specification for Portland Cement. The mixture is then conveyed to a preheater and then to a rotary kiln where the raw materials are converted into cement clinker by the high temperature in the kiln. The clinker is then cooled, processed in a finishing mill and conveyed to storage silos.

c. With the construction of a new plant, additional raw material storage silos will be constructed and will be controlled by a baghouse with a separate stack. The existing clay crusher will be operated additional hours in order to handle the increase in production. The present baghouse on this unit will be sufficient to handle the added hours of operation.

The fuel used in the kiln will be coal. The gases expelled from the combustion of the fuel with some excess air are passed from the kiln into a preheating tower in a cross current to the flow of materials. The raw materials principally consist of calcium carbonate and the chemical reaction between this material and the SO_2 generated in combustion forms calcium sulfate which becomes part of the product. Approximately 90% of the SO_2 produced in the combustion of the coal (sulfur content of 1%) is chemically bonded. The process, in this case, acts as a control for the SO_2 emissions in the kiln. Test data has shown that the combustion fo coal produces the least amount of NO_x emission of any of the other alternative fossil fuels. Particulate matter emissions will be controlled by a baghouse designed to operate at 99.9% efficiency with a separate stack. The clinker cooler, clinker silo, finish mill and storage silos will all be equipped with baghouses with separate stacks. The following table lists the various sources and permitted emissions.

Permit No.	Source	Pollutant	Permitted Emissions lb/hr	Permitted Emissions T/yr	Opacity	Emission Point
*AC 27-30454	Clay Crusher	TSP	7.71	18.5	0%	C-10
**AC 27-30455	Raw Materials Feed (2 emission points)	TSP	1.29	5.1	0%	C-11
		TSP	0.86	3.6	0%	C-11A
AC 27-30451	Blending Silos (2 emission points)	TSP	3.94	15.6	0%	G-11
			1.02	4.0	0%	F-17
AC 27-30453	Kiln Feed	TSP	1.02	4.0	0%	H-13
AC 27-30450	Kiln/Raw Mill	TSP	24.0	94.5	10%	E-19
		NO_x	195.3	771.0	-	E-19
		SO_2	3.0	11.8	-	E-19
		CO	8.9	35.1	-	E-19
		HC	2.7	10.7	-	E-19
AC 27-30449	Clinker Cooler	TSP	7.1	28.0	10%	K-09
AC 27-30447	Clinker Silos (3 emission points)	TSP	1.45	5.7	0%	L-07
		TSP	.51	2.0	0%	M-09
		TSP	1.45	5.7	0%	M-10
AC 27-30444	Finish Mill (2 emission points)	TSP	7.88	31.1	0%	N-23
		TSP	1.46	5.8	0%	N-27
AC 27-30446	Cement/Masonry Silos	TSP	1.97	7.8	0%	P-05
		TSP	0.94	3.7	0%	P-07
		TSP	0.94	3.7	0%	Q-17

*Modification, increase permitted operating hours

** Modification, increase throughput to 480,000 lb/hr. from 240,000 lb/hr. with the addition of a baghouse, C-11A. Control system C-11 existing

VI. PROPOSED ALLOWABLE EMISSIONS AND PERMIT CONDITIONS:

See Draft Permits

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: _____

TO: Jacob D. Varn, Secretary

FROM: Steve Smallwood, Chief

DATE: June 13, 1980

SUBJ: BACT Determination - Florida Mining & Material - Cement Kiln #2, Clinker Cooler and Transfer, Storage and Milling Equipment, Hernando County

Facility: The proposal will allow Florida Mining and Material to double the Portland Cement production capacity at their facility which is nine miles north of Brooksville. This expansion will produce 7 1 tons per hour of Portland cement. The largest source of air pollution will be the coal-fired rotary kiln #2 which could potentially generate 35,785 tons of particulate emissions per year and 771 tons of nitrogen oxide emissions per year. All particulate emission points will be controlled through the use of fabric filters. The applicant has demonstrated by stack test data that the sulfur dioxide emissions will be absorbed by the limestone in the kiln and has projected only 3 pounds per hour of SO_2 emissions. Therefore BACT is not proposed for SO_2 emissions.

BACT Determination Requested By The Applicant:

Source	Emission Point	Pollutant	Rate (lb/hr)	Opacity
Clay Crusher	C-10	Particulate	existing	
Raw Material Storage Silos	C-11 C-11A	Particulate Particulate	existing 0.86	< 10%
Blending Silos	G-11 F-17	Particulate Particulate	3.94 1.02	< 10% < 10%

Source	Emission Point	Pollutant	Rate (lb/hr)	Opacity
Kiln Feed System	H-13	Particulate	1.02	≤10%
Kiln # 2	E-19	Particulate	0.3 lb/ton - 3.60	≤20%
		SO_2	3.0	-
		NO_x	195.3	-
		HC	2.7	-
		CO	8.9	-
Clinker Cooler #2	K-09	Particulate	0.1 lb/ton feed - 7.1	≤10%
Clinker Silo System	L-07	Particulate	1.45	≤10%
	M-10	Particulate	1.45	≤10%
	M-09	Particulate	0.51	≤10%
Finish Mill #3	N-23	Particulate	7.88	≤10%
	N-27	Particulate	1.46	≤10%
Cement/Masonry Silo System	P-05	Particulate	1.97	≤10%
	P-07	Particulate	0.94	≤10%
	Q-17	Particulate	0.94	≤10%

Date of Receipt of a Complete BACT Application:

May 1, 1980

Date of Publication in the Florida Administrative Weekly:

June 13, 1980

Study Group Members:

Carl Bock, Bureau of Air Quality Management
Tim Powell, Bureau of Air Quality Management
John Svec, Bureau of Air Quality Management

EPA's New Source Performance Standards for Portland Cement Plants:

Source	Pollutant	Rate	Opacity
Kiln	Particulate	0.30 lb/ton feed to kiln	20%
Clinker Cooler	Particulate	0.10 lb/ton feed to kiln	10%

Source	Pollutant	Rate	Opacity
Other	-	-	10%

BACT Determination for Study Group Members:

Particulate Emissions

Source	Point Number	Member					
		Carl Bock		Tim Powell		John Svec	
		lb/hr. rate	opacity	lb/hr. rate	opacity	lb/hr. rate	opacity
Clay Crusher	C-10	7.71	0%	7.7	0%	7.71	10%
Raw Material	C-11	1.29	0%			1.29	10%
Storage Silos	C-11A	0.86	0%	0.9	0%	0.86	10%
Blending Silos	G-11	3.94	0%	3.9	0%	3.94	10%
	F-17	1.02	0%			1.02	10%
Kiln Feed System	H-13	1.02	0%	1.0	0%	1.02	10%
Kiln #2	E-19	24.0	10%	24.0	10%	36.0	20%
Clinker Cooler #2	K-09	7.1	10%	7.2	0%	7.1	10%
Clinker Silo System	L-07	1.45	0%	1.5	0%	1.45	10%
	M-10	1.45	0%	1.5	0%	1.45	10%
	M-09	0.51	0%	0.5	0%	0.51	10%
Finish Mill #3	N-23	7.88	0%	7.9	0%	7.88	10%
	N-27	1.46	0%	1.5	0%	1.46	10%
Cement/Masonry Silo System	P-05	1.97	0%	2.0	0%	1.97	10%
	P-07	0.94	0%	0.9	0%	0.94	10%
	Q-17	0.94	0%	0.9	0%	0.94	10%

Nitrogen Oxide Emissions

Source	Member		
	Carl Bock	Tim Powell	John Svec
Kiln #2	195.3 lb/hr.	195.3 lb/hr.	195.3 lb/hr.

BACT Determination By Florida Department of Environmental Regulation:

Particulate Emissions

Source	Emission Point	Rate lb/hr.	Opacity
Clay Crusher	C-10	7.71	0%
Raw Material Storage Silo	C-11 C-11-A	1.29 0.86	0% 0%
Blending Silos	G-11 F-17	3.94 1.02	0% 0%
Kiln Feed System	H-13	1.02	0%
Kiln #2	E-19	24.0	10%
Clinker Cooler #2	K-09	7.1	10%
Clinker Silo System	L-07 M-10 M-09	1.45 1.45 0.51	0% 0% 0%
Finish Mill #3	N-23 N-27	7.88 1.46	0% 0%
Cement/Masonry Silo System	P-05 P-07 Q-17	1.97 0.94 0.94	0% 0% 0%

Nitrogen Oxide Emissions

Source	Rate
Kiln #2	195.3 lb/hr.

Justification of FDER Determination:

Due to the operating conditions of this facility the choice of the fabric filter as representing BACT is agreed with. Fabric filters have been determined as representing BACT on material handling, storage and grinding operations. On the transfer, storage and grinding emission control points, the basis for the estimation of emissions (0.02 grain/acf) is agreed with the applicant as representing BACT. This emission level would allow the applicant to stay in compliance with the emission limitations while the change in inlet loading to the fabric filter might vary. The existing controls on the clay crusher and one blending and storage silo are to remain at the same efficiency.

Due to the information presented from the stack tests on the existing unit, BACT was chosen to be 0.2 lb/ton feed for kiln #2. Stack tests indicated emission levels from 0.095 to 0.187 lb/ton feed. Therefore, the particulate emissions from the kiln should be able to meet the .2 lb/ton feed emission limitation even with variations in operation parameters.

The applicant has proposed greater emission limitations than indicated by NSPS for the clinker cooler. NSPS allows 0.1 lb/ton feed to the kiln while the applicant proposed 0.1 lb/ton feed to the cooler. The proposed control equipment should be able to meet this emission limitation.

The control of NO_x emissions from the kiln is consistent with previous BACT determinations. No add-on control equipment is feasible at this time. Also NO_x emissions from coal combustion are less than for oil or natural gas combustion. Therefore, the applicant's proposal of NO_x emissions is agreed with as representing BACT.

Details of the Analysis May be Obtained By Contacting:

John Svec
Florida Department of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Twin Towers Office Building
Tallahassee, Florida 32301

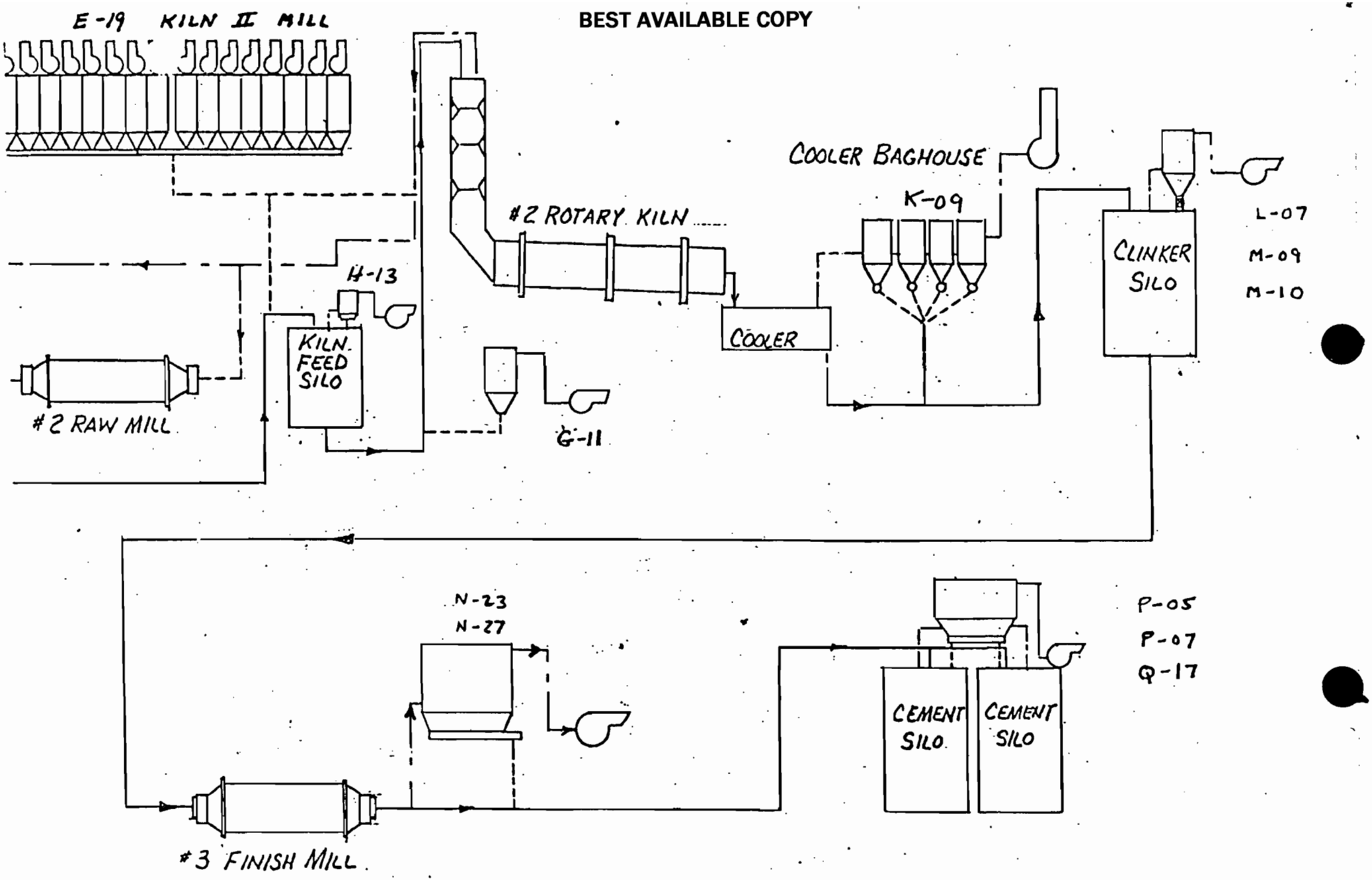
Recommendations from: Bureau of Air Quality Management by:

_____
Steve Smallwood

Date: _____

Approved by: _____
Jacob D. Varn

Date: _____



PRODUCT FLOW ——→
DUST FLOW ------
GAS FLOW ——- —

FLA. MINING CEMENT PLANT
FLOW SHEET FOR DUST
NO. II KILN SYSTEM

Table I

Florida Mining Emission Point Status (DER)

Source Description	Emission Points	Remarks/status
Finish Mill Dust Collection System	N-23, and N-27	Not included in PSD, BACT is required
Cement/Masonry Silos Dust Collection System	P-05, P-07, and Q-17	Not included in PSD, BACT is required
Clinker Silo Dust Collection System	L-07, M-09, M-10	Emissions included in PSD, BACT is required
Clinker Cooler Dust Collection System	K-09	"
Kiln Dust Collection System	E-19	"
Kiln Feed Dust Collection System	H-13	"
Blending Silos Dust Collection System	G-11, F-17	"
Cement Plant/Clay Crusher Dust Collection Unit	C-10	Change in operating hours, no change in control and or process No PSD and No BACT
Cement Plant/Raw Material Dust Collection System	C-11 and C-11A	Double the feed rate and addition of another baghouse C-11 Existing Baghouse additional emissions for PSD; C-11A new baghouse, BACT required

Florida Mining Emissions Point Summary Table 2

Source	Emission Point	Stack Height	Stack Diameter or Area	Stack Temperature	Flow Rate ACFM	Velocity (fps)	Inlet Grain Loading gr/acf	Outlet Grain Loading gr/acf	Control Eff.%	Emission lb/hr
Finish Mill Dust Collection System	N-23	75'	15.33 ft^2	200° F	46,000	50	20 gr	0.02	99.9	7.88
	N-27	75'	2.83 ft^2	160°F	8,500	50	20 gr	0.02	99.9	1.46
Cement/Masonry Silos Dust Collection System	P-05	210'	3.83 ft^2	145°F	11,500	50	10	0.02	99.8	1.97
	P-07	210'	1.83 ft^2	150°F	5,500	50	10	0.02	99.8	0.94
	Q-17	70'	1.83 ft^2	150°F	5,500	50	10	0.02	99.8	0.94
Cement Plant/ Clay Crusher Dust Collection System	C-10	20'	20.0 ft^2	270°F	60,000	50	15	0.02	99.9	7.7
Cement Plant/ Raw Material Dust Collection	C-11	80'	5.0 ft^2	Ambient	15,000	50	5	0.01	99.8	1.29
	C-11A	10'	3.33 ft^2	Ambient	10,000	50	5	0.01	99.8	0.86

Table 2 continued

Source	Emission Point	Stack Height	Stack Diameter	Stack Temperature	Flow Rate ACFM	Velocity	Inlet Grain Loading gr/acf	Outlet Grain Loading gr/acf	Control eff. %	Emission lb/hr
Clinker Silo Dust Collection System	L07	150'	2'6" x 2'6"	185°F	8,500	53	10	0.02	99.8	1.45
	M10	75'	2'6" x 2'6"	140°F	8,500	53	10	0.02	99.8	1.45
	M09	10'	2.34 ft^2	150°F	3,000	50	10	0.02	99.8	0.51
Clinker Cooler Dust Collection System	K-09	50'	7.5'	400°F	190,000	71.7	8	0.0085	NSPS Limit	7.1
Kiln Dust Collection System	E-19	90'	16.0'	386°F	300,000	24.8	23.5	.014	NSPS Limit	36.0
Kiln Feed Dust Collection System	H-13	90'	1'6" x 1'6"	130°F	6,000	44.4	10	0.02	99.8	1.02
Blending Silos	G-11	220'	2.5' x 2.5'	200°F	23,000	61.3	10	0.02	99.8	3.94
	F-17	220'		200°F	6,000	50	10	0.02	99.8	1.02

PSD SUMMARY

Pollutant	IMPACT ANALYSIS				AIR QUALITY ANALYSIS		
	Significant Criteria	Calculated Impact			Existing Background	Maximum Impact + Background	Air Quality Standard
		Within 1 Kilometer	Non-Attainment Area (1)	Class I Area(2)			
TSP							
24 hour Maximum	5μg/m³	(3) 2.24 μg/m³ (@ .3 KM from plant)	0.4 μg/m³	1.6 μg/m³	65 μg/m³	(4) 66.6 μg/m³	150 μg/m³
Annual Average	1μg/m³		0.003 μg/m³	0.18 μg/m³	40 μg/m³	(4) 40.2 μg/m³	60 μg/m³

Assumptions: Florida Mining is only source in 1 μg/m³ radius of the study.
No significant sources within 50 kilometers of plant.

Notes:
(1) Non-Attainment impact based on CRSTER Model for worst year at the closest intersection of 12 KM radius from U. S. 41 and Highway 60 and radius from plant (~50KM).
(2) Class I impact based on closest radius to Chassahowitzka Wildlife Area (~5KM).
(3) Impact within 1 KM of plant based on PTMTP for worst day.
(4) Based on maximum impact predicted by CRSTER at 5 KM radius.

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: _____

TO: Bill Thomas

FROM: Tim Powell TP

DATE: June 5, 1980

SUBJ: BACT, Florida Mining and Materials Corp., Portland Cement Plant, Hernando County

Florida Mining and Materials intends to double their production rate at their existing Brooksville Facility with construction of Kiln No. 2 and Clinker Cooler plus the required grinding, storage, and handling equipment. Coal will be used to fire the kiln, the resulting fly ash contributing to the raw material. The SO_2 emitted from the combustion of the coal will nearly all be absorbed in the clinker production process. After reviewing the applications the following BACT limits are recommended:

Source (Pt. No.)	Pollutant	Emission Limits lb/hr	ton/year	opacity
Clay Crusher(C-10) (Doubling Existing Capacity)	Particulate	7.7 (In addition to existing	18.5 emissions)	0%
Raw Material (C-11 A) (New baghouse)	Particulate	.9	3.6	0%
Blending Silos (G-11)	Particulate	3.9	15.6	0%
Kiln Feed (H-13)		1.0	4.1	0%
No. 2 Kiln (E-19) (Including Pre-heater and raw Mill)	Particulate	24.0	94.8	10%
	NO_x	195.3	770.8	
Clinker Cooler (K-09)	Particulate	7.2	28.4	0%
Clinker Silo (L-07)	Particulate	1.5	5.8	0%
(M-09)	Particulate	.5	2.0	0%
(M-10)	Particulate	1.5	5.8	0%
		3.5	13.6	0%
Cement/Masonry Silos (P-05)	Particulate	2.0	7.8	0%
(P-07)	Particulate	.9	3.7	0%
(Q-17)	Particulate	.9	3.7	0%
		3.8	15.2	0%

All particulate emissions will be controlled using baghouses. There is currently no NO_x control equipment applicable to this process, however adjustment of combustion parameters can optimize NO_x emission reductions.

These limits are based on projected 7896 annual operating hours (except for crusher, which will increase hours by 2,400 hours) and 120 ton/hour kiln feed.

The only major difference between these recommended limits and the applicant's requests was for kiln particulate emission limits. A 0.2 lb/ton particulate emission limiting rate is used here for calculating the kiln emission limit, based on the applicant's test average of 0.141 lb/ton kiln feed. The applicant's request of 36 lb/hr. is based on EPA's NSPS (0.3 lb/ton kiln feed). The opacity limits are also lower than what the applicant requested, but are consistent with past performance tests (from operating permits) for existing equipment.

The recommended cooler particulate emission limit is based on the applicant's average test data of 0.043 lb/ton kiln feed. A rate of 0.06 lb/ton kiln feed was used to calculate the recommended BACT limit.

All other particulate emission limits were defined using the efficiencies or outlet grain loading figures supplies in the applications for the baghouse filters.

The NO_x limit is based on the 2.75 lb/ton clinker production emission rate given in the application and appears to be consistent with tests on other kilns using coal. MAximum reduction of NO_x emissions should be achieved through control and adjustment of combustion conditions.

TP:caa

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

INTEROFFICE MEMORANDUM

For Routing To District Offices And/Or To Other Than The Addressee
To: Loc'n:
To: Loc'n:
To: Loc'n:
From: Date:

TO: Bill Thomas

FROM: Carl Bock

DATE: June, 4, 1980

SUBJ: BACT, Florida Mining and Materials

After reviewing FM&M's application for the construction of a Portland Cement Plant adjacent to their existing plant in Brooksville, I would like to submit my recommendation for BACT. Following is a table listing the sources of particulate and NO_x emissions.

Source		Emission lb/hr	T/yr	Emission pt.
Clay Crusher (modification in operating hours)		7.71	18.5	C 10
Raq Materials Storage (modification in handling capacity)		1.29		C 11, existing
		.86		C 11-A
		(Total 2.14	8.47)	
Blending Silos		3.94	15.6	G 11
		1.02	4.0	F 17 (New control on existing
	(Total	4.96	19.6)	
Kiln Feed System		1.02	4.0	H 13
No. 2 Kiln/Raw Mill		24.0	94.5	E 19
	NO_x	195.3	771.0	
Clinker Cooler		7.1	28.0	K 09
Clinker Silo		1.45	5.7	L 07
		1.45	5.7	M 10
		0.51	2.0	M 9
	(Total	3.41	13.4)	
Finish Mill		7.88	31.1	N 23
		1.46	5.8	N 27
	(Total	9.34	36.9)	
Cement/Masonry Silos		1.97	7.8	P 05
		0.94	3.7	P 07
		0.94	3.7	Q 17
	(Total	3.85	15.2)	

The controls on all new systems will be pulse jet baghouse with a design efficiency of 99.+. No new control will be installed on the existing clay crusher, but the operating hours will increase. The controls on this plant meet the criteria for BACT for particulate. The emissions from the kiln are recommended at .2 lb/ton feed rather than the .3 lb/ton feed specified by NSPS. Submission of test data by the applicant indicates the emissions of particulates from the kiln are in the range of .099 lb/ton feed to .187 lb/ton feed. Since this will be a new plant, I feel the emission should be able to be controlled at that level or better, therefore the .2 lb/ton feed emission rate would be reasonable.

Based on test information from previous BACT determinations, NO_x emissions are the least when the fuel used is coal. FM&M proposes to use coal as the fuel for the kiln, as it presently does for the existing system. I would therefore agree with the requested emission rate for NO_x, 195.3 lb/hr.

Particulate and NO_x emissions are the only pollutants which require a BACT determination for this plant. A 10% opacity limit is recommended for the kiln and cooler and a 0% opacity limit for all other sources.

Paul E. Cook

CB:caa

CB:caa

File — Permit Folder

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

BOB GRAHAM
GOVERNOR

JACOB D. VARN
SECRETARY

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

June 3, 1980

Mr. Fred Cohrs, Vice President
Florida Mining and Materials
Corp.
P. O. Box 6
U. S. Highway 98
Brooksville, FL 33512

Dear Mr. Cohrs:

The purpose of this letter is to announce that the preconstruction ambient air monitoring, which is required for the PSD permit for FMMC's Brooksville plant, has been completed to the satisfaction of the Florida Department of Environmental Regulation (FDER).

The four months of particulate data from site numbers 10-1740-001, 10-1740-002 and 10-1740-003 has been received by FDER and will be stored in the State data bank. Having met the quality assurance requirements, this data is acceptable for analysis in FMMC's PSD permit.

If you have any questions concerning this matter, please contact William Blommel of this office at 904-488-1344.

Sincerely,

Steve Smallwood, Chief
Bureau of Air Quality Management

SS/JC/ht

cc: Bill Thomas
Dan Williams
Robert Oglesby

CROSS/TESSITORE & ASSOCIATES, P.A.
1611 E. HILLCREST STREET
ORLANDO, FLORIDA 32803
305/898-6140

May 8, 1980

Mr. Bill Thomas
State of Florida
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32301

SUBJECT: SO_2 Emission for Florida Mining Kiln (Emission Point E-19)

Dear Bill:

In response to your request at our meeting of May 1, 1980, I am submitting the following justification for SO_2 emission from the subject source:

a) summary of actual testing

b) mass balance for sulfur.

Although the actual test data shows insignificant or unmeasurable SO_2 emissions, the mass balance indicates that at most 3 lbs/hour of SO_2 are not accounted for in the outgoing products. Therfore, 3 lbs/hour was considered a representative worst case emission.

I have also included a revised emission inventory and PSD summary for your information.

If you require any additional data, do not hesitate to call upon me.

Sincerely,

Joseph L. Tessitore

Joseph L. Tessitore, P.E.
Vice President

JLT/kad
Enc.a/s
cc: Lynn Tait
Environmental Resources Consultants

Fred Cohrs
Florida Mining

FLORIDA MINING & MATERIALS CORPORATION

P.O. BOX 6
BROOKSVILLE, FLORIDA 33512
TELEPHONE (904) 796-7241

FRED W. COHRS
VICE PRESIDENT
CONSTRUCTION MATERIALS

May 5, 1980

Mr. Steve Smallwood
Chief of Air Programs
Florida Department of Environmental Regulation
2562 Executive Center Circle East
Montgomery Building
Tallahassee, Florida 32301

Dear Mr. Smallwood:

On May 1, 1980, we met with Mr. W. Thomas, head of Permitting, and Mr. L. George, head of Air Quality Modeling, to submit our applications for construction pollution control equipment for the expansion of our Brooksville cement plant.

The meeting provided the opportunity for a brief discussion of our submittals and the data presented in our applications. Based on a cursory review of the data by your two department heads, the application appears to be "straight forward" and, provided the backup information supports the conclusions, should result in the issuance of a permit to construct our plant expansion.

Based on this understanding, we are proceeding to enter into contractual agreements with equipment suppliers, engineering firms and builders to commit substantial sums of money so we can complete the project within the time frame budgeted for this venture.

The review of our permit applications at your earliest convenience will give us the added assurance that our assumptions are correct and that we can feel comfortable about proceeding with the construction.

Yours very truly,

Fred W. Cohrs

Fred W. Cohrs

FWC/mg

cc: Mr. T. E. Bronson, Florida Mining
Cross/Tessitore & Associates, P.A.

AC 27-30450

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Portland Cement Plant [XX] New[1] [ ] Existing[1]

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

COMPANY NAME: Florida Mining & Materials Corp., Cement Div. COUNTY: Hernando

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) No. 2 Kiln Dust Collection System

SOURCE LOCATION: Street U. S. Highway 98 N City NW of Brooksville

UTM: East 356000 E North 3169.89 N

Latitude 28 ° 38 ' 34 "N Longitude 82 ° 28 ' 25 "W

APPLICANT NAME AND TITLE: F. W. Cohrs, Vice President

APPLICANT ADDRESS: P. O. Box 6, Brooksville, FL 33512

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Florida Mining & Materials Corporation

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: Fred W. Cohrs

Fred W. Cohrs, Vice President
Name and Title (Please Type)

Date: _____ Telephone No. 904/796-7241

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: Joseph L. Tessitore

Joseph L. Tessitore
Name (Please Type)

(Affix Seal)

Cross/Tessitore & Associates, P.A.
Company Name (Please Type)

1611 East Hillcrest Street, Orlando 32803
Mailing Address (Please Type)

Florida Registration No. 23374 Date: _____ Telephone No. 305/898-6140

[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.

Controls of particulate emissions connected with the operation of the rotary kiln, the air suspension preheater, and the raw mill. The gases and products of combustion from the rotary kiln pass through the suspension preheater and raw material dryer before going to the dust collector baghouse. The project is designed to result in full compliance of the source.

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

Start of Construction 1980 Completion of Construction 1983

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.)

Equipment for Baghouse	$2,825,000.00
Erection	2,800,000.00
Total	$5,625,000.00

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

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 24 ; days/wk 7 ; wks/yr 45 ; if power plant, hrs/yr _____ ; if seasonal, describe: 4560

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. Yes
3. Does the State "Prevention of Significant Deterioriation" (PSD) requirements apply to this source? If yes, see Sections VI and VII. Yes
4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source? Yes
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		
Limestone	Particulate	.02	191667	E-19
Clay	Particulate	.08	19167	E-19
Fly Ash	Particulate	.14	24167	E-19
Staurolite	Particulate	1.4	2500	E-19
Mill Scale	Particulate	1.4	2500	E-19

B. Process Rate, if applicable: (See Section V, Item 1) 120 8 TON

1. Total Process Input Rate (lbs/hr): 240,000
2. Product Weight (lbs/hr): (147,000)

C. Airborne Contaminants Emitted: 735

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	
Particulate Matter	36.0	142	17.2.05(b) Table II F(2)(a) and NSPS	36	9064	35,785	E-19
Opacity	<20%		0.3 lb/ton/silo feed	20%			"
SO_2	3.0	11.8	N/A	N/A	3.0	11.8	"
NO_x	195.3	771	N/A	N/A	195.3	771	"
CO	8.9	35.1	N/A	N/A	8.9	35.1	"
HC	2.7	10.7	N/A	N/A	2.7	10.7	"

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])
American Air Filter (Reverse Air, Variable Cycle)	Particulate Matter	99.94%	0-60	See attached Item 1

[1]See Section V, Item 2.

[2]Reference applicable emission standards and units (e.g., Section 17-2.05(8) 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

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr dry	max./hr dry	
Coal	7.4 tons	8.9 tons	2.4×10^8

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

Fuel Analysis:

Percent Sulfur: 1% Percent Ash: 12%

Density: N/A lbs/gal Typical Percent Nitrogen: None

Heat Capacity: 12,000 BTU/lb N/A BTU/gal

Other Fuel Contaminants (which may cause air pollution): None

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.

Solid waste that is generated is particulate matter that is collected in the baghouse of the dust collector. The dust collected is returned to the raw material for burning in a closed circuit for recycling into the production process.

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

Stack Height: 90' ft. Stack Diameter: 16.0 ft.

Gas Flow Rate: 300,000 ACFM Gas Exit Temperature: 386 °F.

Water Vapor Content: ~ 10 % Velocity: 24.87 FPS

SECTION IV: INCINERATOR INFORMATION

Type of Waste	Type O (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.
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).
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.

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?
[XX] Yes [ ] No

Contaminant	Rate or Concentration
Particulate	0.3 lb/ton
Opacity	<20%

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

Contaminant	Rate or Concentration

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

Contaminant	Rate or Concentration
(Particulate)/(Opacity)	(0.3 lb/ton)/<20%
SO_2	3.0 lb/hr
NO_x	195.3 lb/hr
HC	2.7 lb/hr
CO	8.9 lb/hr

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

1. Control Device/System: Not Applicable
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.

Emission Point E-19

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: Centrifugal Scrubber

b. Operating Principles: Gas stream moves in spiral fashion through stationary liquid sprays causing impaction and collection of particles

c. Efficiency*: ~ 98% d. Capital Cost: $994,500.00

e. Useful Life: > 10 years f. Operating Cost: } $447,703.20

g. Energy*: Low Energy (low pressure drop) h. Maintenance Cost: }

i. Availability of construction materials and process chemicals: Yes

j. Applicability to manufacturing processes: Yes

k. Ability to construct with control device, install in available space, and operate within proposed levels: Collection Efficiency will not meet NSPS

2.

a. Control Device: High Energy Venturi

b. Operating Principles: Moving gas stream with atomized liquid droplets which impact with dust particles resulting in collection

c. Efficiency*: > 99% d. Capital Cost: $1,046,250.00

e. Useful Life: 10 year f. Operating Cost: } $703,533.60

g. Energy**: High Energy (high pressure drop) h. Maintenance Costs: }

i. Availability of construction materials and process chemicals: Yes

j. Applicability to manufacturing processes: Yes

k. Ability to construct with control device, install in available space, and operate within proposed levels: Collection efficiency marginal for NSPS

*Explain method of determining efficiency.

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

3.

a. Control Device: Fabric Filter (pulse jet)

b. Operating Principles: Dust laden gas stream passes through filter media causing impaction and collection of particles

c. Efficiency*: > 99.8% d. Capital Cost: $5,650,000.00

e. Life: 10 years f. Operating Cost: } $575,618.40

g. Energy: Moderate Energy h. Maintenance Cost: }

*Explain method of determining efficiency above.

i. Availability of construction materials and process chemicals: Yes

j. Applicability to manufacturing processes: Yes

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

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: Fabric Filter (Fiberglass)
2. Efficiency*: > 99.9%
3. Capital Cost: $5,650,000.00
4. Life: 10 years
5. Operating Cost: } 575,618.40
6. Energy: Moderate
7. Maintenance Cost: }
8. Manufacturer: American Air Filter
9. Other locations where employed on similar processes:

a.

(1) Company: Texas Industries

(2) Mailing Address:

(3) City: Hunter (4) State: Texas

(5) Environmental Manager: Virgil P. Sewell

(6) Telephone No.:

*Explain method of determining efficiency above.

(7) Emissions*:

Contaminant	Rate or Concentration

(8) Process Rate*:

b.

(1) Company: National Gypsum Co.

(2) Mailing Address:

(3) City: Alpina (4) State: Michigan

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

(5) Environmental Manager: Mr. H. E. Mensing

(6) Telephone No.:

(7) Emissions*:

Contaminant	Rate or Concentration

(8) Process Rate*:

10. Reason for selection and description of systems:

Fabric filter provides high efficiency dust collection with moderate operating cost and no liquid waste products.

*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.

SECTION V No. 2 Kiln Dust Collection System

1) Total Process Rate

240,000 lb/hr = 120 T/hr

(See Raw Materials in Section A)

2) Emissions

Particulate

Inlet Grain Loading = 23.5 gr/ACF

Outlet Grain Loading = 0.014 gr/ACF

Flow = 300,000 ACFM

$E = \frac{(0.014)(300,000)(60)}{(7000)} = 36$ lb/hr = 142 TPY

Sulfur Dioxide

From existing kiln test date

E = 3 lb/hr = 11.8 TPY

NO_x

From NO_x Cement Industry Survey Data

(Emission Factor) NO_x = 2.75 lb/ton clinkers

NO_x = (71 T/hr)(2.75) lb/ton = 195.3 lb/hr = 771 TPY

Carbon Monoxide

From AP-42 Table 1.1-2

(Emission Factor) CO = 1 lb/ton of coal burned

Maximum Combustion Rate = 8.9 tons/hr

CO = (1)(8.9) = 8.9 lb/hr = 35.1 TPY

Hydrocarbons

From AP-42 Table 1.1-2

(Emission Factor) HC = 0.3 lb/ton of coal burned

Maximum Combustion Rate = 8.9 tons/hr

HC = (0.3)(8.9) = 2.7 lb/hr = 10.7 TPY

3) Potential Emissions

Particulate

Assume 85% Efficient Cyclone

$$E = \frac{(23.5)(300{,}000)(60)(1-0.85)}{(7000)} = 9064 \text{ lb/hr} = 35{,}785 \text{ TPY}$$

Sulfur Dioxide

E = 3 lb/hr = 11.8 TPY

NO_x

E = 195.3 lb/hr = 771 TPY

Carbon Monoxide

E = 8.9 lb/hr = 35.1 TPY

Hydrocarbons

E = 2.7 lb/hr = 10.7 TPY

4) See Attached Specifications

5) Control Efficiency

Inlet Grain Loading = 23.5 gr/ACF

Outlet Grain Loading = 0.014 gr/ACF

$$N_c = 1 - \left(\frac{0.014}{23.5}\right) = 0.9994$$

6)

7) } See Attached Diagrams

8)

E-19

TABLE II
FABRIC FILTERS

Point Number (from Flow Diagram)	Manufacturer & Model No. (if available)
	AAF or Equivalent
Name of Abatement Device	**Type of Particulate Controlled**
Kiln Mill Baghouse	Clinker Raw Material

GAS STREAM CHARACTERISTICS

Flow Rate (acfm)		Gas Stream Temperature (°F)	Particulate Grain Loading (grain/scf) Acf	
Design Maximum	Average Expected		Inlet	Outlet
300,000	284000 (15%) 178300 (85%)	485 230	15 (.15) 25 (.85)	0.0125 0.0125

Pressure Drop (in. H_2O)	Water Vapor Content of Effluent Stream (lb water/lb dry air)	Fan Requirements (hp)	Fan Requirements (ft^3/min)
Approx. 6		1000	300,000

PARTICULATE DISTRIBUTION (By Weight)

Micron Range	Inlet	Outlet
0.0-0.5	Approx. 20 %	%
0.5-1.0	Approx. 20 %	%
1.0-5.0	Approx. 50 %	%
5-10	Approx. 10 %	%
10-20	%	%
over 20	%	%

FILTER CHARACTERISTICS

Filtering Velocity (acfm/ft^2 of Cloth)	Bag Diameter (in.)	Bag Length (ft)	Number of Bags	Number of Compartments in Baghouse
1.5 Gross	8 1/4	23'6"	3840	16

Bag rows will be:		Walkways will be provided between banks of bags:	
Staggered	(Straight)	(Yes)	No

Filtering Material: Fiberglass

Describe Bag Cleaning Method and Cycle: Reverse Air - Variable cycle

ADDITIONAL INFORMATION

On separate sheets attach the following:

A. Details regarding principle of operation

B. An assembly drawing (Front and Top View) of the abatement device dimensioned and to scale clearly showing the design, size and shape.

If the device has bypasses, safety valves, etc., include in drawing and specify when such bypasses are to be used and under what conditions.

BEST AVAILABLE COPY

AC 27-30449

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

RECEIVED

SOURCE TYPE: Portland Cement Plant [X] New[1] [ ] Existing[1]

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

COMPANY NAME: Florida Mining & Materials Corp., Cement Div. COUNTY: Hernando

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) Clinker Cooler Dust Collection System (No. 2 Kiln)

SOURCE LOCATION: Street U.S. Hwy 98 N City NW of Brooksville

UTM: East 356000 E North 3169.89 N

Latitude 28 ° 38 ' 34 "N Longitude 82 ° 28 ' 25 "W

APPLICANT NAME AND TITLE: F. W. Cohrs, Vice President

APPLICANT ADDRESS: P. O. Box 6, Brooksville, Florida 33512

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Florida Mining & Materials Corporation

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: Fred W. Cohrs

Fred W. Cohrs, Vice President
Name and Title (Please Type)

Date: _____ Telephone No. 904/796-7241

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: Joseph L. Tessitore

Joseph L. Tessitore
Name (Please Type)

(Affix Seal)

Cross/Tessitore & Associates, P.A.
Company Name (Please Type)

1611 East Hillcrest Street
Orlando 32803
Mailing Address (Please Type)

Florida Registration No. 23374 Date: _____ Telephone No. 305/898-6140

[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.

To control particulate emissions connected with the operation of the clinker cooler that follows the rotary cement kiln in the plant. The project is designed to result in full compliance of the source.

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

Start of Construction 1980 Completion of Construction 1983

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.)

Equipment for Baghouse ~	$ 980,704.00
Erection and Duct Work ~	1,000,000.00
Total	1,980,704.00

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

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 24 ; days/wk 7 ; wks/yr 47 ; 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. Yes
3. Does the State "Prevention of Significant Deterioriation" (PSD) requirements apply to this source? If yes, see Sections VI and VII. Yes
4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source? Yes
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		
Portland Cement Clinker	Particulate	.007	142,000	K-09

B. Process Rate, if applicable: (See Section V, Item 1) 7.1 t/hr

1. Total Process Input Rate (lbs/hr): 142,000

2. Product Weight (lbs/hr): 142,000

C. Airborne Contaminants Emitted:

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	
Clinker Dust	7.1	28.0	NSPS, FAC 17-2.05(b)	7.1	1954	7715	K-09
			F(2)(b) 0.1 lb/ton				
			kiln feed				
Opacity	<10%		Ch 17-2.05(1)(a)				
			<20%				

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])
American Air Filter	Particulate	99.95%	0-120	See Attached Item 1

[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

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	

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

Fuel Analysis:

Percent Sulfur: _____ Percent Ash: _____

Density: _____ lbs/gal Typical Percent Nitrogen: _____

Heat Capacity: _____ BTU/lb _____ BTU/gal

Other Fuel Contaminants (which may cause air pollution): _____

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.

Solid waste collected in baghouse will be returned to process

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

Stack Height: 50 ft. Stack Diameter: 7.5 ft.

Gas Flow Rate: 190,000 ACFM Gas Exit Temperature: 400 °F.

Water Vapor Content: 4 % Velocity: 71.7 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.
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).
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.

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?
[X] Yes [ ] No

Contaminant	Rate or Concentration
Particulate	0.1 lb/ton of feed
Opacity	<10%

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

Contaminant	Rate or Concentration

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

Contaminant	Rate or Concentration
Particulate	0.1 lb/ton of feed
Opacity	<10%

D. Describe the existing control and treatment technology (if any). Not Applicable

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.

Emission Point K-09

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: Centrifugal Scrubber

b. Operating Principles: Gas stream moves in spiral fashion through stationary liquid sprays causing impaction and collection of particles

c. Efficiency*: ~ 98%

d. Capital Cost: $697,500.00

e. Useful Life: > 10 years

f. Operating Cost: } $283,545.36

g. Energy*: Low Energy (low pressure drop)

h. Maintenance Cost: }

i. Availability of construction materials and process chemicals: yes

j. Applicability to manufacturing processes: Yes

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

Efficiency will not meet NSPS

2.

a. Control Device: High Energy Venturi

b. Operating Principles: Moving gas stream with atomized liquid droplets which impact with dust particles resulting in collection

c. Efficiency*: > 99%

d. Capital Cost: $603.00

e. Useful Life: 10 years

f. Operating Cost: } $445,571.28

g. Energy**: High energy (high pressure drop)

h. Maintenance Costs: }

i. Availability of construction materials and process chemicals: yes

j. Applicability to manufacturing processes: Yes

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

Efficiency is marginal for NSPS

*Explain method of determining efficiency.

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

3.

a. Control Device: Fabric Filter (Pulse Jet)

b. Operating Principles: Dust laden gas stream passes through filter media causing impaction and collection of particles

c. Efficiency*: > 99.8%

d. Capital Cost: $1,961,408.80

e. Life: 10 years

f. Operating Cost: } $364,558.32

g. Energy: Moderate Energy

h. Maintenance Cost: }

*Explain method of determining efficiency above.

i. Availability of construction materials and process chemicals: Yes

j. Applicability to manufacturing processes: Yes

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

4. Yes

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: Fabric Filter (Nomex)

2. Efficiency*: > 99.9%

3. Capital Cost: $1,961,408.80

4. Life: 10 years

5. Operating Cost: } $364,558.32

6. Energy: Moderate

7. Maintenance Cost: }

8. Manufacturer: American Air Filter

9. Other locations where employed on similar processes:

a.

(1) Company: Texas Industries

(2) Mailing Address:

(3) City: Hunter

(4) State: Texas

(5) Environmental Manager: Virgil P. Sewell

(6) Telephone No.:

*Explain method of determining efficiency above.

(7) Emissions*:

Contaminant	Rate or Concentration

(8) Process Rate*:

b.

(1) Company: National Gypsum Co.

(2) Mailing Address:

(3) City: Alpina

(4) State: Michigan

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

(5) Environmental Manager: Mr. H.E. Mensing

(6) Telephone No.:

(7) Emissions*:

Contaminant	Rate or Concentration

(8) Process Rate*:

10. Reason for selection and description of systems:

Fabric filter provides high efficiency dust collection with moderate operating cost and no liquid waste products.

*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.

SECTION V Clinker Cooler Dust Collection System (No. 2 Kiln)

1) Total Process Input Rate = 142,000 lb/hr = 71 T/hr

2) Emissions

Inlet Grain Loading = 8.0 gr/ACF

Assumed Outlet Grain Loading = 0.0043 gr/ACF

Flow = 190,000 ACFM

Baghouse K-09

$$E = \frac{(0.0043)(190,000)(60)}{(7000)} = 7.1 \text{ lb/hr}$$

$$\frac{(8)(190,000)(60)}{7000} = 13029 \text{ lb/hr}$$

$$\text{Annual Emissions} = \frac{(7.1)(24)(7)(47)}{(2000)} = 28 \text{ TPY}$$

3) Potential Emissions

Inlet Grain Loading = 8 gr/ACF

Flow = 190,000 ACFM

Assume Cyclone of 85% Efficiency

$$\text{Potential Emissions} = \frac{(8)(190,000)(1-0.85)(60)}{(7000)}$$

= 1954 lb/hr

= 7715 TPY

4) See Attached Manufacturers' Specifications

5) Control Efficiency

Inlet Grain Loading = 8 gr/ACF

Outlet Grain Loading = 0.0043 gr/ACF

$$N_c = 1 - \left(\frac{0.0043}{8.0}\right) = 0.9995$$

6)

7) } See Attached Diagrams

8)

1

TABLE II
FABRIC FILTERS

Point Number (from Flow Diagram)	Manufacturer & Model No. (if available)
	BAF or equivalent
Name of Abatement Device	**Type of Particulate Controlled**
Clinker Cooler Baghouse	Clinker dust

GAS STREAM CHARACTERISTICS

Flow Rate (acfm)		Gas Stream Temperature (°F)	Particulate Grain Loading (grain/~~scf~~ ACF	
Design Maximum	Average Expected		Inlet	Outlet
190,000	146,200	400	8	0.0085

Pressure Drop (in. H_2O)	Water Vapor Content of Effluent Stream (lb water/lb dry air)	Fan Requirements (hp)	Fan Requirements (ft^3/min)
Approx. 6		600	190,000

PARTICULATE DISTRIBUTION
(By Weight)

Micron Range	Inlet	Outlet
0.0-0.5	~~Approx~~ %	%
0.5-1.0	Approx 0.5 %	%
1.0-5.0	Approx 5 %	%
5-10	Approx 7 %	%
10-20	Approx 10 %	%
over 20	Approx 77.5 %	%

FILTER CHARACTERISTICS

Filtering Velocity (acfm/ft^2 of Cloth)	Bag Diameter (in.)	Bag Length (ft)	Number of Bags	Number of Compartments in Baghouse
6.42	5 1/4	14	1536	8

Bag rows will be: Staggered (Straight)

Walkways will be provided between banks of bags: Yes (No)

Filtering Material: NOMEX

Describe Bag Cleaning Method and Cycle: Off line pulse jet cleaning

ADDITIONAL INFORMATION

On separate sheets attach the following:

A. Details regarding principle of operation

B. An assembly drawing (Front and Top View) of the abatement device dimensioned and to scale clearly showing the design, size and shape.

If the device has bypasses, safety valves, etc., include in drawing and specify when such bypasses are to be used and under what conditions.

AC 27-30447

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Portland Cement Plant [X] New[1] [ ] Existing[1]

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

COMPANY NAME: Florida Mining & Materials Corp., Cement Div. COUNTY: Hernando

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) Clinker Silo Dust Collection System (No. 2 Kiln)

SOURCE LOCATION: Street U. S. Highway 98 N City NW of Brooksville

UTM: East 356000 E North 3169.89 N

Latitude 28 ° 38 ' 34 "N Longitude 82 ° 28 ' 25 "W

APPLICANT NAME AND TITLE: F. W. Cohrs, Vice President

APPLICANT ADDRESS: P. O. Box 6, Brooksville, FL 33512

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Florida Mining & Materials Corporation

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: Fred W. Cohrs

Fred W. Cohrs, Vice President
Name and Title (Please Type)

Date: _____ Telephone No. 904/796-7241

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: Joseph L. Tessitore

Joseph L. Tessitore, Vice President
Name (Please Type)

(Affix Seal)

Cross/Tessitore & Associates, P.A.
Company Name (Please Type)

1611 East Hillcrest Street
Orlando 32803
Mailing Address (Please Type)

Florida Registration No. 23374 Date: _____ Telephone No. 305/898-6140

[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.

Covers controls of clinker storage silos and handling equipment in and out of clinker storage. The project is designed to result in full compliance of this source.

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

Start of Construction 1980 Completion of Construction 1983

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.)

	L-07	M-09	M-10
Equipment for Baghouse	31,414.00	13,814.00	26,255.00
Erection of Duct Work	31,000.00	14,000.00	26,000.00
Total	62,414.00	27,814.00	52,255.00

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

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 24 ; days/wk 7 ; wks/yr 47 ; 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. Yes
3. Does the State "Prevention of Significant Deterioriation" (PSD) requirements apply to this source? If yes, see Sections VI and VII. Yes
4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source? Yes
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		
Portland Cement	Particulate	.008	142,000	L-07, M-09, M-10
Clinker				

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

1. Total Process Input Rate (lbs/hr): 142,000
2. Product Weight (lbs/hr): 142,000

C. Airborne Contaminants Emitted:

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	
Particulate	3.43	13.5	Process Weight Table 1	34.2	1.4	5.5	F-42
Dust			17-2.05 (1)(a)				
Opacity	<10%		< 20%				

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]
Flex-Kleen Fabric Filter	Particulate	99.8%	0-120	Manufacturers'
(3)				Data

[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

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
None			

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

Fuel Analysis:

Percent Sulfur: _____ Percent Ash: _____

Density: _____ lbs/gal Typical Percent Nitrogen: _____

Heat Capacity: _____ BTU/lb _____ BTU/gal

Other Fuel Contaminants (which may cause air pollution): _____

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.

Solid waste generated is particulate dust which is returned to the clinker storage silos for inclusion in the feed to the finish mill in a closed system.

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack): L-07/ M-10/ M-09

Stack Height: 150/75/10 ft. Stack Diameter: 6.25 ft^2/6.25 ft^2/2.34 ft^2 ft.

Gas Flow Rate: 8500/8500/3000 ACFM Gas Exit Temperature: 185/140/150 °F.

Water Vapor Content: ~ 0 % Velocity: 53/53/50 FPS

SECTION IV: INCINERATOR INFORMATION

Type of Waste	Type O (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 (^oF)
			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.
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).
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.

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?
[X] Yes [ ] No

Contaminant	Rate or Concentration
Opacity	<10%

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

Contaminant	Rate or Concentration

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

Contaminant	Rate or Concentration
Opacity	<10%
Particulate	3.41 lb/hr

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: Centrifugal Scrubber

b. Operating Principles: Gas stream moves in spiral fashion through stationary liquid sprays causing impaction and collection of particles

c. Efficiency*: ~ 98% d. Capital Cost: $33,300.00

e. Useful Life: > 10 years f. Operating Cost: } $4,477.03

g. Energy*: Low energy (low pressure drop) h. Maintenance Cost: }

i. Availability of construction materials and process chemicals: Yes

j. Applicability to manufacturing processes: Yes

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

2.

a. Control Device: High Energy Venturi

b. Operating Principles: Moving gas stream with atomized liquid droplets which impact with dust particles resulting in collection

c. Efficiency*: > 99% d. Capital Cost: $40,500.00

e. Useful Life: 10 years f. Operating Cost: } $7,035.33

g. Energy**: High energy (high pressure drop) h. Maintenance Costs: }

i. Availability of construction materials and process chemicals: Yes

j. Applicability to manufacturing processes: Yes

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

*Explain method of determining efficiency.

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

3.

a. Control Device: Fabric Filter (Pulse Jet)

b. Operating Principles: Dust laden gas stream passes through filter media causing impaction and collection of particles

c. Efficiency*: > 99.8% d. Capital Cost: $27,628.50

e. Life: 10 years f. Operating Cost: } $5,756.48

g. Energy: Moderate Energy h. Maintenance Cost: }

*Explain method of determining efficiency above.

i. Availability of construction materials and process chemicals:

Yes

j. Applicability to manufacturing processes:

Yes

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

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: same as M-10

1. Control Device:

2. Efficiency*:

3. Capital Cost: $27,628.50

4. Life:

5. Operating Cost: } $5,756.48

6. Energy:

7. Maintenance Cost: }

8. Manufacturer:

9. Other locations where employed on similar processes:

a. same as M-10

(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. same as M-10

(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:

same as M-10

*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.

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: Centrifugal Scrubber

b. Operating Principles: Gas stream moves in spiral fashion through stationary liquid sprays causing impaction and collection of particles

c. Efficiency*: ~ 98 % d. Capital Cost: $63,225.00

e. Useful Life: > 10 years f. Operating Cost: } $12,684.92

g. Energy*: Low Energy (low pressure drop) h. Maintenance Cost: }

i. Availability of construction materials and process chemicals:

Yes

j. Applicability to manufacturing processes: Yes

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

Collection Efficiency Marginal

2.

a. Control Device: High Energy Venturi

b. Operating Principles: Moving gas stream with atomized liquid droplets which impact with dust particles resulting in collection

c. Efficiency*: > 99% d. Capital Cost: $60,750.00

e. Useful Life: 10 years f. Operating Cost: } $19,933.45

g. Energy**: High Energy (high pressure drop) h. Maintenance Costs: }

i. Availability of construction materials and process chemicals:

Yes

j. Applicability to manufacturing processes: Yes

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

Yes

*Explain method of determining efficiency.

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

3.

a. Control Device: Fabric Filter (Pulse Jet)

b. Operating Principles: Dust laden gas stream passes through filter media causing impaction and collection of particles

c. Efficiency*: > 99.8% d. Capital Cost: $62,828.00

e. Life: 10 years f. Operating Cost: } $16,309.19

g. Energy: Moderate energy h. Maintenance Cost: }

*Explain method of determining efficiency above.

i. Availability of construction materials and process chemicals: Yes

j. Applicability to manufacturing processes: Yes

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

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: Flex-Kleen Pulse Jet (polyester) Fabric Filter
2. Efficiency*: > 99.8%
3. Capital Cost: $62,828.00
4. Life: 10 years
5. Operating Cost: } $16,309.19
6. Energy: Moderate
7. Maintenance Cost: }
8. Manufacturer: Flex-Kleen
9. Other locations where employed on similar processes:

a. same as N-23

(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: same as N-23

(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:

Fabric filter provides high efficiency dust collection with moderate operating cost and no liquid waste products.

*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.

TABLE II
FABRIC FILTERS

Point Number (from Flow Diagram)	Manufacturer & Model No. (if available)
L 07	FLEX-KLEEN 100WBW-112
Name of Abatement Device	**Type of Particulate Controlled**
CLINKER SILO & EQUIP.	CLINKER

GAS STREAM CHARACTERISTICS

Flow Rate (acfm)		Gas Stream Temperature (°F)	Particulate Grain Loading (grain/scf)	
Design Maximum	Average Expected		Inlet	Outlet
8500	8260	185	10	0.01

Pressure Drop (in. H_2O)	Water Vapor Content of Effluent Stream (lb water/lb dry air)	Fan Requirements
6	—	40 (hp) 8925 (ft^3/min)

PARTICULATE DISTRIBUTION
(By Weight)

Micron Range	Inlet	Outlet
0.0-0.5	%	%
0.5-1.0	%	%
1.0-5.0	%	%
5-10	%	%
10-20	%	%
over 20	%	%

FILTER CHARACTERISTICS

Filtering Velocity (acfm/ft^2 of Cloth)	Bag Diameter (in.)	Bag Length (ft)	Number of Bags	Number of Compartments in Baghouse
6.1/1	5.75	8.33	112	ONE

Bag rows will be:		Walkways will be provided between banks of bags:	
~~Staggered~~	Straight	~~Yes~~	No

Filtering Material: POLYESTER

Describe Bag Cleaning Method and Cycle: PULSE-JET

ADDITIONAL INFORMATION

On separate sheets attach the following:

A. Details regarding principle of operation

B. An assembly drawing (Front and Top View) of the abatement device dimensioned and to scale clearly showing the design, size and shape.

If the device has bypasses, safety valves, etc., include in drawing and specify when such bypasses are to be used and under what conditions.

TABLE II
FABRIC FILTERS

Point Number (from Flow Diagram)	Manufacturer & Model No. (if available)
M 09	FLEX-KLEEN 100 BVT-36
Name of Abatement Device	**Type of Particulate Controlled**
CLINKER SILO DISCH. & HOPPER	CLINKER

GAS STREAM CHARACTERISTICS

Flow Rate (acfm)		Gas Stream Temperature (°F)	Particulate Grain Loading (grain/scf)	
Design Maximum	Average Expected		Inlet	Outlet
3000	2650	150	10	0.01

Pressure Drop (in. H_2O)	Water Vapor Content of Effluent Stream (lb water/lb dry air)	Fan Requirements
6	–	7.5 (hp) 3150 (ft^3/min)

PARTICULATE DISTRIBUTION
(By Weight)

Micron Range	Inlet	Outlet
0.0-0.5	%	%
0.5-1.0	%	%
1.0-5.0	%	%
5-10	%	%
10-20	%	%
over 20	%	%

FILTER CHARACTERISTICS

Filtering Velocity (acfm/ft^2 of Cloth)	Bag Diameter (in.)	Bag Length (ft)	Number of Bags	Number of Compartments in Baghouse
6.6/1	5.75	8.33	36	ONE

Bag rows will be:		Walkways will be provided between banks of bags:	
~~Staggered~~	Straight	~~Yes~~	No

Filtering Material: POLYESTER

Describe Bag Cleaning Method and Cycle: PULSE-JET

ADDITIONAL INFORMATION

On separate sheets attach the following:

A. Details regarding principle of operation

B. An assembly drawing (Front and Top View) of the abatement device dimensioned and to scale clearly showing the design, size and shape.

If the device has bypasses, safety valves, etc., include in drawing and specify when such bypasses are to be used and under what conditions.

TABLE II
FABRIC FILTERS

Point Number (from Flow Diagram)	Manufacturer & Model No. (if available)
M 10	FLEX-KLEEN 100 WRW-117
Name of Abatement Device	**Type of Particulate Controlled**
CLINKER & GYPSUM BIN	CLINKER & GYPSUM DUST

GAS STREAM CHARACTERISTICS

Flow Rate (acfm)		Gas Stream Temperature (°F)	Particulate Grain Loading (grain/scf)	
Design Maximum	Average Expected		Inlet	Outlet
8500	8170	140	10	0.01

Pressure Drop (in. H_2O)	Water Vapor Content of Effluent Stream (lb water/lb dry air)	Fan Requirements
6	—	40 (hp) 8925 (ft^3/min)

PARTICULATE DISTRIBUTION
(By Weight)

Micron Range	Inlet	Outlet
0.0-0.5	%	%
0.5-1.0	%	%
1.0-5.0	%	%
5-10	%	%
10-20	%	%
over 20	%	%

FILTER CHARACTERISTICS

Filtering Velocity (acfm/ft^2 of Cloth)	Bag Diameter (in.)	Bag Length (ft)	Number of Bags	Number of Compartments in Baghouse
6.1/1	5.75	8.33	112	ONE

Bag rows will be:		Walkways will be provided between banks of bags:	
~~Staggered~~	Straight	~~Yes~~	No

Filtering Material: POLYESTER

Describe Bag Cleaning Method and Cycle: PULSE-JET

ADDITIONAL INFORMATION

On separate sheets attach the following:

A. Details regarding principle of operation

B. An assembly drawing (Front and Top View) of the abatement device dimensioned and to scale clearly showing the design, size and shape.

If the device has bypasses, safety valves, etc., include in drawing and specify when such bypasses are to be used and under what conditions.

SECTION V Clinker Silo Dust Collection System (No. 2 Kiln)

1) Total Process Input Rate = 142,000 lb/hr = 71 T/hr

2) Emissions

Inlet Grain Loading = 10.0 gr/ACF

Assumed Outlet Grain Loading = 0.02 gr/ACF

Flow = 8500 + 8500 + 3000 = 20,000 ACFM

Baghouses L-07, M-09, M-10

$$E = \frac{(0.02)(20,000)(60)}{(7000)} = 3.43 \text{ lb/hr}$$

$$\text{Annual Emissions} = \frac{(3.43)(24)(7)(47)}{(2000)} = 13.5 \text{ TPY}$$

3) Potential Emissions

Inlet Grain Loadings = 10 gr/ACF

Flow = 20,000 ACFM

Assume Cyclone of 85% Efficiency

$$\text{Potential Emissions} = \frac{(10)(20,000)(1-0.85)(60)}{(7000)} = 257 \text{ lb/hr} = 1015 \text{ TPY}$$

4) See Attached Manufacturers' Specifications.

5) Control Efficiency

Inlet Grain Loading = 10 gr/ACF

Outlet Grain Loading = 0.02 gr/ACF

$$N_c = 1 - \left(\frac{0.02}{10}\right) = 0.998$$

6)
7) } See Attached Diagrams
8)

DER PERMIT APPLICATION TRACKING SYSTEM MASTER RECORD

FILE#000000030444 COE# DER PROCESSOR:SVEC DER OFFICE:TLH
FILE NAME:FL. MINING & MATERIALS DATE FIRST REC: 05/01/80 APPLICATION TYPE:AC
APPL NAME:COHRS, FRED W., V.P. APPL PHONE:(904)796-7241 PROJECT COUNTY:27
ADDR:P.O. BOX 6 CITY:BROOKSVILLE ST:FLZIP:33512
AGNT NAME:TESSITORE, JOSEPH L. AGNT PHONE:(305)898-6140
ADDR:1611 EAST HILLCREST STREET. CITY:ORLANDO ST:FLZIP:32803

ADDITIONAL INFO REQ: / / / / / / REC: / / / / / /
APPL COMPLETE DATE: / / COMMENTS NEC:Y DATE REQ: / / DATE REC: / /
LETTER OF INTENT NEC:Y DATE WHEN INTENT ISSUED: / / WAIVER DATE: / /

HEARING REQUEST DATES: / / / / / /
HEARING WITHDRAWN/DENIED/ORDER -- DATES: / / / / / /
HEARING ORDER OR FINAL ACTION DUE DATE: / / MANUAL TRACKING DESIRED:N
*** RECORD HAS BEEN SUCCESSFULLY UPDATED *** 05/05/80 10:06:28
FEE PD DATE#1:05/01/80 $0020 RECEIPT#00033535 REFUND DATE: / / REFUND $
FEE PD DATE#2: / / $ RECEIPT# REFUND DATE: / / REFUND $
APPL:ACTIVE/INACTIVE/DENIED/WITHDRAWN/TRANSFERRED/EXEMPT/ISSUED:AC DATE:05/01/80
REMARKS:PORTLAND CEMENT PLANT, FINISH MILL DUST COLLECTION SYSTEM. U.S. HIGHWAY 98 N., NW OF BROKSVILLE. LAT. / LON. = 28DEG 38MIN 34SEC N. / 82DEG 28MIN 25SEC W. UTM = 356.000 E. / 3169.89 N.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

No. 33535

RECEIPT FOR APPLICATION FEES AND MISCELLANEOUS REVENUE

Received from FLA. MINING & MATERIALS, CEMENT DIV. Date 1 MAY 1980

Address U.S. 98 N. BROOKSVILLE Dollars $ 100.00

Applicant Name & Address FILE w/ COHRS V.P. P.O. BOX 6, BROOKSVILLE

Source of Revenue 30444 30451 30446 30453 30447 30454 30449 30455 30450

Revenue Code 0101 Application Number AC 27- 30449

By M Gibbs

DER PERMIT APPLICATION TRACKING SYSTEM MASTER RECORD

FILE#000000030446 COE# DER PROCESSOR:SVEC DER OFFICE:TLH
FILE NAME:FL. MINING & MATERIALS DATE FIRST REC: 05/01/80 APPLICATION TYPE:AC
APPL NAME:COHRS, FRED W., V.P. APPL PHONE:(904)796-7241 PROJECT COUNTY:29
ADDR:P.O. BOX 6 CITY:BROOKSVILLE ST:FLZIP:33512
AGNT NAME:TESSITORE, JOSEPH L. AGNT PHONE:(305)898-6140
ADDR:1611 EAST HILLCREST STREET CITY:ORLANDO ST:FLZIP:32803

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FEE PD DATE#1:05/01/80 $0020 RECEIPT#00033535 REFUND DATE: / / REFUND $
FEE PD DATE#2: / / $ RECEIPT# REFUND DATE: / / REFUND $
APPL:ACTIVE/INACTIVE/DENIED/WITHDRAWN/TRANSFERRED/EXEMPT/ISSUED:AC DATE:05/01/80
REMARKS:PORTLAND CEMENT PLANT, CEMENT AND MASONRY SILOS DUST COLLECTION SYSTEM.
LOCATION, UTM AND LAT. / LON., SEE AC27-30444.

DER PERMIT APPLICATION TRACKING SYSTEM MASTER RECORD

FILE#000000030447 COE# DER PROCESSOR:SVEC DER OFFICE:TLH
FILE NAME:FL. MINING AND MATERIALS DATE FIRST REC: 05/01/80 APPLICATION TYPE:AC
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FEE PD DATE#2: / / $ RECEIPT# REFUND DATE: / / REFUND $
APPL:ACTIVE/INACTIVE/DENIED/WITHDRAWN/TRANSFERRED/EXEMPT/ISSUED:AC DATE:05/01/80
REMARKS:PORTLAND CEMENT PLANT, CLINKER SILO DUST COLLECTION SYSTEM, #2 KILN.
LOCATION, LAT. / LON. AND UTM SEE AC27-30444.

DER PERMIT APPLICATION TRACKING SYSTEM MASTER RECORD

FILE#00000000030449 COE# DER PROCESSOR:SVEC DER OFFICE:TLH
FILE NAME:FL. MINING AND MATERIALS DATE FIRST REC: 05/01/80 APPLICATION TYPE:AC
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APPL:ACTIVE/INACTIVE/DENIED/WITHDRAWN/TRANSFERRED/EXEMPT/ISSUED:AC DATE:05/01/80
REMARKS:PORTLAND CEMENT PLANT, CLINKER COOLER DUST COLLECTION SYSTEM. LOCATION, LAT. / LON. AND UTM SEE AC27-30444.

DER PERMIT APPLICATION TRACKING SYSTEM MASTER RECORD

FILE#000000030450 COE# DER PROCESSOR:SVEC DER OFFICE:TLH
FILE NAME:FL. MINING AND MATERIALS DATE FIRST REC: 05/01/80 APPLICATION TYPE:AC
APPL NAME:COHRS, FRED W., V.P. APPL PHONE:(904)796-7241 PROJECT COUNTY:27
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AGNT NAME:TESSITORE, JOSEPH L. AGNT PHONE:(305)898-6140
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FEE PD DATE#2: / / $ RECEIPT# REFUND DATE: / / REFUND $
APPL:ACTIVE/INACTIVE/DENIED/WITHDRAWN/TRANSFERRED/EXEMPT/ISSUED:AC DATE:05/01/80
REMARKS:PORTLAND CEMENT PLANT, #2 KILN DUST COLLECTION SYSTEM. LOCATION, LAT. / LON. AND UTM SEE AC27-30444.

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APPL NAME:COHRS, FRED W., V.P. APPL PHONE:(904)796-7241 PROJECT COUNTY:27
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AGNT NAME:TESSITORE, JOSEPH L. AGNT PHONE:(305)898-6140
ADDR:1611 EAST HILLCREST STREET CITY:ORLANDO ST:FLZIP:32803

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FEE PD DATE#1:05/01/80 $0020 RECEIPT#00033535 REFUND DATE: / / REFUND $
FEE PD DATE#2: / / $ RECEIPT# REFUND DATE: / / REFUND $
APPL:ACTIVE/INACTIVE/DENIED/WITHDRAWN/TRANSFERRED/EXEMPT/ISSUED:AC DATE:05/01/80
REMARKS:PORTLAND CEMENT PLANT, BLENDING SILOS DUST COLLECTION SYSTEM, KILN #2.
LOCATION, LAT. / LON. AND UTM SEE AC27-30444.

DER PERMIT APPLICATION TRACKING SYSTEM MASTER RECORD

FILE#00000030453 COE# DER PROCESSOR:SVEC DER OFFICE:TLH
FILE NAME:FL. MINING AND MATERIALS DATE FIRST REC: 05/01/80 APPLICATION TYPE:AC
APPL NAME:COHRS, FRED W., V.P. APPL PHONE:(904)796-7241 PROJECT COUNTY:27
ADDR:P.O. BOX 6 CITY:BROOKSVILLE ST:FLZIP:33512
AGNT NAME:TESSITORE, JOSEPH L. AGNT PHONE:(305)898-6140
ADDR:1611 EAST HILLCREST STREET CITY:ORLANDO ST:FLZIP:32803

ADDITIONAL INFO REQ: / / / / / / REC: / / / / / /
APPL COMPLETE DATE: / / COMMENTS NEC:Y DATE REQ: / / DATE REC: / /
LETTER OF INTENT NEC:Y DATE WHEN INTENT ISSUED: / / WAIVER DATE: / /

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FEE PD DATE#1:05/01/80 $0020 RECEIPT#00033535 REFUND DATE: / / REFUND $
FEE PD DATE#2: / / $ RECEIPT# REFUND DATE: / / REFUND $
APPL:ACTIVE/INACTIVE/DENIED/WITHDRAWN/TRANSFERRED/EXEMPT/ISSUED:AC DATE:05/01/80
REMARKS:PORTLAND CEMENT PLANT, KILN FEED DUST COLLECTION SYSTEM, KILN #2.
LOCATION LAT. / LON. AND UTM SEE AC27-30444.

DER PERMIT APPLICATION TRACKING SYSTEM MASTER RECORD

FILE#00000000030454 COE# DER PROCESSOR:SVEC DER OFFICE:TLH
FILE NAME:FL. MINING AND MATERIALS DATE FIRST REC: 05/01/80 APPLICATION TYPE:AC
APPL NAME:COHRS, FRED W., V.P. APPL PHONE:(904)796-7241 PROJECT COUNTY:27
ADDR:P.O. BOX 6 CITY:BROOKSVILLE ST:FLZIP:33512
AGNT NAME:TESSITORE, JOSEPH L. AGNT PHONE:(305)898-6140
ADDR:1611 EAST HILLCREST STREET CITY:ORLANDO ST:FLZIP:32803

ADDITIONAL INFO REQ: / / / / / / REC: / / / / / /
APPL COMPLETE DATE: / / COMMENTS NEC:Y DATE REQ: / / DATE REC: / /
LETTER OF INTENT NEC:Y DATE WHEN INTENT ISSUED: / / WAIVER DATE: / /

HEARING REQUEST DATES: / / / / / /
HEARING WITHDRAWN/DENIED/ORDER -- DATES: / / / / / /
HEARING ORDER OR FINAL ACTION DUE DATE: / / MANUAL TRACKING DESIRED:N
THIS RECORD HAS BEEN SUCESSFULLY ADDED
FEE PD DATE#1:05/01/80 $0020 RECEIPT#00033535 REFUND DATE: / / REFUND $
FEE PD DATE#2: / / $ RECEIPT# REFUND DATE: / / REFUND $
APPL:ACTIVE/INACTIVE/DENIED/WITHDRAWN/TRANSFERRED/EXEMPT/ISSUED:AC DATE:05/01/80
REMARKS:PORTLAND CEMENT PLANT, CLAY CRUSHER DUST COLLECTION SYSTEM. LOCATION, LAT. / LON. AND UTM SEE AC27-30444.

DER PERMIT APPLICATION TRACKING SYSTEM MASTER RECORD

FILE#00000030455 COE# DER PROCESSOR:SVEC DER OFFICE:TLH
FILE NAME:FL. MINING AND MATERIALS DATE FIRST REC: 05/01/80 APPLICATION TYPE:AC
APPL NAME:COHRS, FRED W., V.P. APPL PHONE:(904)796-7241 PROJECT COUNTY:27
ADDR:P.O. BOX 6 CITY:BROOKSVILLE ST:FLZIP:33512
AGNT NAME:TESSITORE, JOSEPH L. AGNT PHONE:(305)898-6140
ADDR:1611 EAST HILLCREST STREET CITY:ORLANDO ST:FLZIP:32803

ADDITIONAL INFO REQ: / / / / / / REC: / / / / / /
APPL COMPLETE DATE: / / COMMENTS NEC:Y DATE REQ: / / DATE REC: / /
LETTER OF INTENT NEC:Y DATE WHEN INTENT ISSUED: / / WAIVER DATE: / /

HEARING REQUEST DATES: / / / / / /
HEARING WITHDRAWN/DENIED/ORDER -- DATES: / / / / / /
HEARING ORDER OR FINAL ACTION DUE DATE: / / MANUAL TRACKING DESIRED:N
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FEE PD DATE#1:05/01/80 $0020 RECEIPT#00033535 REFUND DATE: / / REFUND $
FEE PD DATE#2: / / $ RECEIPT# REFUND DATE: / / REFUND $
APPL:ACTIVE/INACTIVE/DENIED/WITHDRAWN/TRANSFERRED/EXEMPT/ISSUED:AC DATE:05/01/80
REMARKS:PORTLAND CEMENT PLANT, RAW MATERIAL DUST COLLECTION SYSTEM. LOCATION, LAT. / LON. AND UTM SEE AC27-30444.

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: _____

TO: Jake Varn

FROM: Steve Smallwood

DATE: March 7, 1980

SUBJECT: Florida Mining & Materials Inc.
Brooksville Cement Plant Expansion
Permit Application Status.

FMM representatives met with EPA's Atlanta permitting staff on Thursday March 6, 1980 to discuss their proposed permit application. FMM has not formally submitted a permit application to either FDER or EPA.

FMM is currently attempting to pursuade EPA that essentially all of the sulfur dioxide released from burning the fuel (coal) in the cement kiln will be absorbed in the kiln and none (or very little) discharged from the stack. EPA has ask the company to submit data to support their claim.

SS:es

CROSS/TESSITORE & ASSOCIATES, P.A.
1611 E. HILLCREST STREET
ORLANDO, FLORIDA 32803
305/898-6140

April 30, 1980

Mr. Steve Smallwood
State of Florida
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32301

SUBJECT: Submission of Florida Mining Construction Permit Application and PSD Analysis

Dear Steve:

The following have been submitted for your review and processing:

(1) Emission Point Status

(2) Emission Point Summary

(3) PSD Summary

(4) Construction Permit Application including BACT where required.

If you have any questions or require additional information, do not hesitate to call upon me. Your cooperation is appreciated, especially since the timing of this expansion is of critical importance.

Sincerely,

Joseph L. Tessitore

Joseph L. Tessitore
Vice President

FLC:kim
Enc.a/s

cc: Florida Mining & Materials
Environmental Resource Consultants

BEST AVAILABLE COPY

AC 27-30455

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Portland Cement Plant [ ] New[1] [X] Existing[1]

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

COMPANY NAME: Florida Mining & Materials Corp., Cement Div. COUNTY: Hernando

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) Raw Material Dust Collection System

SOURCE LOCATION: Street U. S. Highway 98 N City NW of Brooksville

UTM: East 356,000 E North 3169.89 N

Latitude 28 ° 38 ' 34 "N Longitude 82 ° 28 ' 25 "W

APPLICANT NAME AND TITLE: F. W. Cohrs, Vice President

APPLICANT ADDRESS: P. O. Box 6, Brooksville, Florida 33512

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Florida Mining & Materials Corporation

I certify that the statements made in this application for a Modification 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: Fred W. Cohrs

Fred W. Cohrs, Vice President
Name and Title (Please Type)

Date: _____ Telephone No. 904/796-7241

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: Joseph L. Tessitore

Joseph L. Tessitore
Name (Please Type)

(Affix Seal)

Cross/Tessitore & Associates, P.A.
Company Name (Please Type)

1611 East Hillcrest Street, Orlando 32803
Mailing Address (Please Type)

Florida Registration No. 23374 Date: _____ Telephone No. 305/898-6140

[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.

Process Weight would increase from 120 T/hr to 240 T/hr in Raw Mill feed silos and an additional dust control system (C-11A) will be added.

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

Start of Construction 1980 Completion of Construction 1983

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.)

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

AC-27-2252

AO-27-2252

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 ____ No

F. Normal equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 47 ; 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. Yes
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		
Limestone	TSP	0.02	383,333	C-11 & C-11A
Clay	TSP	0.18	38,333	"
Fly Ash	TSP	0.14	48,333	"
Staurolite	TSP	1.4	5,000	"
Mill Scale	TSP	1.4	5,000	"

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

1. Total Process Input Rate (lbs/hr): 480,000
2. Product Weight (lbs/hr): 480,000

C. Airborne Contaminants Emitted:

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	
TSP	2.1	8.5	Process Weight Table	41.6	161	637	C-11 &
			17-2.05(1)(a)				C-11A
Opacity	<10%		<20%				

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]
Western Precipitator	TSP	99.8%	0-60	Manufacturer's
(Pulseflo Filter)				Data
and				
American Air Filter	TSP	99.8%	0-60	"

[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

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
None			

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

Fuel Analysis:

Percent Sulfur: _____ Percent Ash: _____

Density: _____ lbs/gal Typical Percent Nitrogen: _____

Heat Capacity: _____ BTU/lb _____ BTU/gal

Other Fuel Contaminants (which may cause air pollution): _____

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.

Solid waste collected in baghouses C-11 and C-11A will be returned to the process.

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack): C-11/ C-11A

Stack Height: 80/10 ft. Stack Diameter: 5.0/ 3.33 ft^2 ft.

Gas Flow Rate: 15,000/10,000 ACFM Gas Exit Temperature: Ambient/Ambient °F.

Water Vapor Content: ~ 0 % Velocity: 50/50 FPS

SECTION IV: INCINERATOR INFORMATION

Type of Waste	Type O (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 raquired 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.
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).
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.

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.

Emission point C-11-A

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: Centrifugal Scrubber

b. Operating Principles: Gas stream moves in spiral fashion through stationary liquid sprays causing impaction and collection

c. Efficiency*: particles ~ 98% d. Capital Cost: $70,650.00

e. Useful Life: > 10 years f. Operating Cost: } $14,923.44

g. Energy*: Low Energy (low pressure drop) h. Maintenance Cost: }

i. Availability of construction materials and process chemicals: yes

j. Applicability to manufacturing processes: yes

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

2.

a. Control Device: High Energy Venturi

b. Operating Principles: Moving gas stream with atomized liquid droplets which impact with dust particles resulting in collection

c. Efficiency*: > 99% d. Capital Cost: $69,750.00

e. Useful Life: 10 years f. Operating Cost: } $23,451.12

g. Energy**: High Energy (high pressure drop) h. Maintenance Costs: }

i. Availability of construction materials and process chemicals: yes

j. Applicability to manufacturing processes: yes

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

*Explain method of determining efficiency.

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

3.

a. Control Device: Fabric Filter (pulse jet)

b. Operating Principles: Dust laden gas stream passes through filter media causing impaction and collection of particles

c. Efficiency*: > 99.8% d. Capital Cost: $67,800.00

e. Life: 10 years f. Operating Cost: } $19,187.28

g. Energy: Moderate 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: Fabric Filter
2. Efficiency*: 99.8%
3. Capital Cost: $67,800.00
4. Life: 10 years
5. Operating Cost: $19,187.28
6. Energy: Moderate
7. Maintenance Cost:
8. Manufacturer: American Air Filter
9. Other locations where employed on similar processes:

a.

(1) Company: Same as N-23

(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. Same as N-23

(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:

Same as N-23

*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.

SECTION V RAW MATERIAL DUST COLLECTION SYSTEM

1) Raw Material Input

Limestone	383,333 lb/hr
Clay	38,333 lb/hr
Fly Ash	48,333 lb/hr
Staurolite	5,000 lb/hr
Mill Scale	5,000 lb/hr

Total Process Input Rate = 480,000 lb/hr

2) Emissions

Baghouse C-11

Inlet Grain Loading = 5 gr/ACF

Outlet Grain Loading = .01 gr/ACF

Flow = 15,000 ACFM

$$E = \frac{(.01)(15{,}000)(60)}{(7000)} = 1.28 \text{ lb/hr}$$

Baghouse C-11A

Inlet Grain Loading = 5 gr/ACF

Outlet Grain Loading = .01 gr/ACF

$$E = \frac{(.01)(10{,}000)(60)}{(7000)} = 0.86 \text{ lb/hr}$$

E Total = 1.28 + 0.86 = 2.14 lb/hr

$$\text{Annual Emissions} = \frac{(2.14)(24)(330)}{(2000)} = 8.47 \text{ T/yr}$$

3) Potential Discharge

Inlet Loading = 5 gr/ACF

Total Flow = 15,000 + 10,000 = 25,000 ACFM

Assume Cyclone of 85% Efficiency

Emissions = $\frac{(5)(25,000)(60)(1-0.85)}{(7000)}$ = 161 lb/hr = 637 T/yr

4) See Attached Manufacturers' Specifications

5) Control Efficiency

Inlet Grain Loading = 5 gr/ACF

Assume Outlet Grain Loading = 0.01 gr/ACF

$N_c = 1 - (\frac{0.01}{5}) = 0.998$

6)
7) } See Attached Diagrams
8)

AC27-30454

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Portland Cement Plant [ ] New[1] [X] Existing[1]

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

COMPANY NAME: Florida Mining & Materials Corp., Cement Div. COUNTY: Hernando

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) Clay Crusher Dust Collection System

SOURCE LOCATION: Street U. S. Highway 98 N City NW of Brooksville

UTM: East 356.000 E North 3169.89 N

Latitude 28 ° 38 ' 34 "N Longitude 82 ° 28 ' 25 "W

APPLICANT NAME AND TITLE: F. W. Cohrs, Vice President

APPLICANT ADDRESS: P. O. Box 6, Brooksville, Florida 33512

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Florida Mining & Materials Corporation

I certify that the statements made in this application for a Modification 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: Fred W. Cohrs

Fred W. Cohrs, Vice President
Name and Title (Please Type)

Date: _____ Telephone No. 904/796-7241

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: Joseph L. Tessitore

Joseph L. Tessitore
Name (Please Type)

(Affix Seal)

Cross/Tessitore & Associates, P.A.
Company Name (Please Type)

1611 East Hillcrest Street, Orlando 32803
Mailing Address (Please Type)

Florida Registration No. 23374 Date: _____ Telephone No. 305/898-6140

[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.

Clay Crusher will be operated for more hours on an annual basis resulting in increased annual emissions

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

Start of Construction _____ Completion of Construction _____

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.)

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

AC 27-2260 December 28, 1973

AO 27-2260

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 16 ; 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? No
   b. If yes, has "Lowest Achievable Emission Rate" been applied? No
   c. If yes, list non-attainment pollutants.
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) 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		
Clay	Dust		50,000	C-10

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

1. Total Process Input Rate (lbs/hr): 50,000

2. Product Weight (lbs/hr): 40,000

C. Airborne Contaminants Emitted:

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	
TSP	7.7	18.5	Process Weight Table 17-2.05(1)(a)	28.9	1157	2777	C-10
Opacity	<10%		<20%	<20%			

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]
Pulseflo Filter (Western Precipitation Div. of Joy Mfg. Co.)	Clay Dust	99.9	0-20	Manufacturers' Data

[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

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
None			

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

Fuel Analysis:

Percent Sulfur: _____ Percent Ash: _____

Density: _____ lbs/gal Typical Percent Nitrogen: _____

Heat Capacity: _____ BTU/lb _____ BTU/gal

Other Fuel Contaminants (which may cause air pollution): _____

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.

Dust collected in baghouse is returned to the process.

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

Stack Height: 20 ft. Stack Diameter: 20 ft^2 ft.

Gas Flow Rate: 60,000 ACFM Gas Exit Temperature: 270 °F.

Water Vapor Content: _____ % Velocity: 50 FPS

SECTION IV: INCINERATOR INFORMATION

Type of Waste	Type O (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.
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).
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.

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.

SECTION V CLAY CRUSHER DUST COLLECTION SYSTEM

1) Clay Crusher

Input 50,000 lb/hr

Impurities 10,000

Product Weight 10,000 lb/hr

2) Emission Estimates

From Manufacturer's Specifications and Previous Operations

Inlet Grain Loading = 15 gr/ACF

Control Efficiency = .999

Flow = 60,000 ACFM

$$E = \frac{(15)(1-0.999)(60{,}000)(60)}{(7000)} = 7.71 \text{ lb/hr}$$

4800

$$E = \frac{(7.71)(16)(6)(50)}{(2000)} = 18.5 \text{ T/yr}$$

3) Potential Discharge

Inlet Loading = 15 gr/ACF

Flow = 60,000 ACFM

Assume Cyclone of 85% Efficiency

$$\text{Emissions} = \frac{(15)(60{,}000)(60)(1-0.85)}{(7000)} = 1157 \text{ lb/hr} = 2777 \text{ T/yr}$$

4) See Attached Manufacturers' Specifications

5) Control Efficiency

N_c = 0.999 (Manufacturer's Data)

6)
7) } See Attached Diagrams
8)

AC27-30453

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Portland Cement Plant [X] New[1] [ ] Existing[1]

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

COMPANY NAME: Florida Mining & Materials Corp., Cement Div. COUNTY: Hernando

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) Kiln Feed Dust Collection System (No. 2 Kiln)

SOURCE LOCATION: Street U. S. Highway 98 N City NW of Brooksville

UTM: East 356000 E North 3169.89 N

Latitude 28 ° 38 ' 34 "N Longitude 82 ° 28 ' 25 "W

APPLICANT NAME AND TITLE: F. W. Cohrs, Vice President

APPLICANT ADDRESS: P. O. Box 6, Brooksville, FL 33512

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Florida Mining & Materials Corporation

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: Fred W. Cohrs

Fred W. Cohrs, Vice President
Name and Title (Please Type)

Date: _____ Telephone No 904/796-7241

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: Joseph L. Tessitore

Joseph L. Tessitore
Name (Please Type)

(Affix Seal)

Cross/Tessitore & Associates, P.A.
Company Name (Please Type)

1611 East Hillcrest Street, Orlando 32803
Mailing Address (Please Type)

Florida Registration No. 23374 Date: _____ Telephone No. 305/898-6140

[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.

The controls of particulate emissions connected with the operation of the preheater (kiln) feed system. This project is designed to result in full compliance of this source.

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

Start of Construction 1980 Completion of Construction 1983

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.)

Equipment for Baghouse	$19,400.00
Erection and Duct Work	20,000.00
Total	$39,400.00

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

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 24 ; days/wk 7 ; wks/yr 47 ; 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. Yes
3. Does the State "Prevention of Significant Deterioriation" (PSD) requirements apply to this source? If yes, see Sections VI and VII. Yes
4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source? Yes
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		
Limestone	particulate	.02	191667	H-13
Clay	particulate	.18	19167	H-13
Fly Ash	particulate	.14	24167	H-13
Staurolite	particulate	1.4	2500	H-13
Mill Scale	particulate	1.4	2500	H-13

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

1. Total Process Input Rate (lbs/hr): 240,000
2. Product Weight (lbs/hr): 240,000

C. Airborne Contaminants Emitted:

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	
particulate	1.02	2.37	Process Weight Table 1	37.21	0.6	2.37	H-13
			17-2.05 (1)(a)				
opacity	<10%		<20%				

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])
Flex-Kleen	Cement Raw	99.8%	0-60	Manufacturers'
Fabric Filter				Data

[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

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
None			

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

Fuel Analysis:

Percent Sulfur: _____ Percent Ash: _____

Density: _____ lbs/gal Typical Percent Nitrogen: _____

Heat Capacity: _____ BTU/lb _____ BTU/gal

Other Fuel Contaminants (which may cause air pollution): _____

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.

Solid waste that is generated in particulate matter that is collected in the baghouse of the dust collector. The dust collected is returned to the production material of the process in a closed circuit.

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

Stack Height: 90 ft. Stack Diameter: 1'6" x 1'6" ft.

Gas Flow Rate: 6000 ACFM Gas Exit Temperature: 130 °F.

Water Vapor Content: _____ % Velocity: 44.4 FPS

SECTION IV: INCINERATOR INFORMATION

Type of Waste	Type O (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.
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).
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.

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?
[X] Yes [ ] No

Contaminant	Rate or Concentration
Opacity	<10%

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

Contaminant	Rate or Concentration

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

Contaminant	Rate or Concentration
Particulate	1.02 lb/hr
Opacity	<10%

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

1. Control Device/System: Not Applicable
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.

Emission Point H-13

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: Centrifugal Scrubber

b. Operating Principles: Gas stream moves in spiral fashion through stationary liquid sprays causing impaction and collection of particles

c. Efficiency*: 98 d. Capital Cost: $51,750.00

e. Useful Life: 10 years f. Operating Cost: $8,954.06

g. Energy*: Low Energy (low pressure drop) h. Maintenance Cost:

i. Availability of construction materials and process chemicals: Yes

j. Applicability to manufacturing processes: Yes

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

2.

a. Control Device: High Energy Venturi

b. Operating Principles: Moving gas stream with atomized liquid droplets which impact with dust particles resulting in collection

c. Efficiency*: 99% d. Capital Cost: $55,800.00

e. Useful Life: 10 years f. Operating Cost: $14,070.67

g. Energy**: High Energy (high pressure drop) h. Maintenance Costs:

i. Availability of construction materials and process chemicals: yes

j. Applicability to manufacturing processes: yes

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

*Explain method of determining efficiency.

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

3.

a. Control Device: Fabric Filter (pulse jet)

b. Operating Principles: Dust laden gas stream passes through filter media causing impaction and collection of particles

c. Efficiency*: 99.8% d. Capital Cost: $38,736.40

e. Life: 10 years f. Operating Cost: $11,512.37

g. Energy: Moderate Energy h. Maintenance Cost:

*Explain method of determining efficiency above.

i. Availability of construction materials and process chemicals: yes

j. Applicability to manufacturing processes: yes

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

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: Fabric Filter
2. Efficiency*: > 99.8%
3. Capital Cost: $38,736.40
4. Life: 10 years
5. Operating Cost: $11,512.37
6. Energy: Moderate
7. Maintenance Cost:
8. Manufacturer: Flex-Kleen
9. Other locations where employed on similar processes:

a. Same as N-23

(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: Same as N-23

(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:

Same as N-23

*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.

SECTION V Kiln Feed Dust Collection System (No. 2 Kiln)

1) Total Process Input Rate = 240,000 lb/hr = 120 T/hr

2) Emissions

Inlet Grain Loading = 10.0 gr/ACF

Assumed Outlet Grain Loading = 0.02 gr/ACF

Flow = 6,000 ACFM

Baghouse H-13

$$E = \frac{(0.02)(6{,}000)(60)}{(7000)} = 1.02 \text{ lb/hr}$$

$$\text{Annual Emissions} = \frac{(1.02)(24)(7)(47)}{(2000)} = 4.0 \text{ TPY}$$

3) Potential Emissions

Inlet Grain Loading = 10.0 gr/ACF

Flow = 6,000 ACFM

Assume Cyclone of 85% Efficiency

$$\text{Potential Emissions} = \frac{(10)(6{,}000)(1-0.85)(60)}{(7000)} = 77.1 \text{ lb/hr} = 304.6 \text{ TPY}$$

4) See Attached Manufacturers Specifications

5) Control Efficiency

Inlet Grain Loading = 10 gr/ACF

Outlet Grain Loading = 0.02 gr/ACF

$$N_c = 1 - \left(\frac{0.02}{10}\right) = 0.998$$

6)
7) } See Attached Diagrams
8)

TABLE II
FABRIC FILTERS

Point Number (from Flow Diagram)	Manufacturer & Model No. (if available)
H 13	FLEX-KLEEN 100WRW-80
Name of Abatement Device	**Type of Particulate Controlled**
BUFFER BIN & SILO DISC. EQUIP.	RAW MEAL

GAS STREAM CHARACTERISTICS

Flow Rate (acfm)		Gas Stream Temperature (°F)	Particulate Grain Loading (grain/scf)	
Design Maximum	Average Expected		Inlet	Outlet
6000	5780	130	10	0.01

Pressure Drop (in. H_2O)	Water Vapor Content of Effluent Stream (lb water/lb dry air)	Fan Requirements
6	—	25 (hp) 6,300 (ft^3/min)

PARTICULATE DISTRIBUTION
(By Weight)

Micron Range	Inlet	Outlet
0.0-0.5	%	%
0.5-1.0	%	%
1.0-5.0	%	%
5-10	%	%
10-20	%	%
over 20	%	%

FILTER CHARACTERISTICS

Filtering Velocity (acfm/ft^2 of Cloth)	Bag Diameter (in.)	Bag Length (ft)	Number of Bags	Number of Compartments in Baghouse
6/1	5.75	8.33	80	ONE

Bag rows will be:		Walkways will be provided between banks of bags:	
Staggered	Straight	Yes	No

Filtering Material; POLYESTER

Describe Bag Cleaning Method and Cycle: PULSE-JET

ADDITIONAL INFORMATION

On separate sheets attach the following:

A. Details regarding principle of operation

B. An assembly drawing (Front and Top View) of the abatement device dimensioned and to scale clearly showing the design, size and shape.

If the device has bypasses, safety valves, etc., include in drawing and specify when such bypasses are to be used and under what conditions.

AC27-30451

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Portland Cement Plant [X] New[1] [ ] Existing[1]

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

COMPANY NAME: Florida Mining & Materials Corp., Cement Div. COUNTY: Hernando

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) Blending Silos Dust Collection System (No. 2 kiln)

SOURCE LOCATION: Street U. S. Highway 98 N City NW of Brooksville

UTM: East 356000 E North 3169.89 N

Latitude 28 ° 38 ' 34 "N Longitude 82 ° 28 ' 25 "W

APPLICANT NAME AND TITLE: F. W. Cohrs, Vice President

APPLICANT ADDRESS: P. O. Box 6, Brooksville, Florida 33512

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Florida Mining & Materials Corporation

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: Fred W. Cohrs

Fred W. Cohrs, Vice President
Name and Title (Please Type)

Date: _____ Telephone No. 904/796-6241

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: Joseph L. Tessitore

Joseph L. Tessitore
Name (Please Type)

(Affix Seal)

Cross/Tessitore & Associates, P.A.
Company Name (Please Type)

1611 East Hillcrest Street, Orlando 32803
Mailing Address (Please Type)

Florida Registration No. 23374 Date: _____ Telephone No. 305/898-6140

[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.

Controls of particulate emission connected with the operation of the equipment relating to the bottom of the blending and storage silos, involving blending and handling blended materials between the blending unit and the kiln preheater. The project is designed to result in full compliance of this source.

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

Start of Construction 1980 Completion of Construction 1983

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.)

Equipment for Baghouse	$ 74,275.00
Erection and Duct Work	75,000.00
Total	$149,275.00

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

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 24 ; days/wk 7 ; wks/yr 47 ; 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. Yes
3. Does the State "Prevention of Significant Deterioriation" (PSD) requirements apply to this source? If yes, see Sections VI and VII. Yes
4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source? Yes
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		
Limestone	Particulate	.02	191667	G-11 & F-17
Clay	Particulate	.18	19167	G-11 & F-17
Fly Ash	Particulate	.14	24167	G-11 & F-17
Staurolite	Particulate	1.4	2500	G-11 & F-17
Millscale	Particulate	1.4	2500	G-11 & F-17

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

1. Total Process Input Rate (lbs/hr): 240,000
2. Product Weight (lbs/hr): 240,000

C. Airborne Contaminants Emitted:

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	
Particulate	3.94	15.6	Process Weight Table	37.21	295	1167	G-11
Dust			17-2.05(1)(a)				
Opacity	<10%		<20%				

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]
Flex-Kleen Fabric Filter	Particulate	99.8%	0-60	Manufacturers'
	Dust			Data

[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

Blending Silos Dust Collection System (No. 2 Kiln) G-11

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	

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

Fuel Analysis:

Percent Sulfur: _____ Percent Ash: _____

Density: _____ lbs/gal Typical Percent Nitrogen: _____

Heat Capacity: _____ BTU/lb _____ BTU/gal

Other Fuel Contaminants (which may cause air pollution): _____

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.

Solid waste generated in this process is returned to the flow of blended material for inclusion with the production material being fed to the kiln preheater in a closed circuit.

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

Stack Height: 220 ft. Stack Diameter: 2.5' x 2.5' ft.

Gas Flow Rate: 23,000 ACFM Gas Exit Temperature: 200 °F.

Water Vapor Content: _____ % Velocity: 61.3 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.
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).
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.

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?
[X] Yes [ ] No

Contaminant	Rate or Concentration
Opacity	<10%

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

Contaminant	Rate or Concentration

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

Contaminant	Rate or Concentration
Opacity	<10%
Particulate	3.94 lb/hr

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

1. Control Device/System: Not Applicable
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.

Emission Point G-11

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: Centrifugal Scrubber

b. Operating Principles: Gas stream moves in spiral fashion through stationary liquid sprays causing impaction and collection of particles

c. Efficiency*: ~ 98% d. Capital Cost: $123,975.00

e. Useful Life: > 10 year f. Operating Cost: } $34,323.91

g. Energy**: Low Energy (low pressure drop) h. Maintenance Cost: }

i. Availability of construction materials and process chemicals: Yes

j. Applicability to manufacturing processes: Yes

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

2.

a. Control Device: High Energy Venturi

b. Operating Principles: Moving gas stream with atomized liquid droplets which impact with dust particles resulting in collection

c. Efficiency*: > 99% d. Capital Cost: $114,300.00

e. Useful Life: 10 years f. Operating Cost: } $53,937.58

g. Energy**: High Energy (high pressure drop) h. Maintenance Costs: }

i. Availability of construction materials and process chemicals: Yes

j. Applicability to manufacturing processes: Yes

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

*Explain method of determining efficiency.

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

3.

a. Control Device: Fabric Filter (pulse jet)

b. Operating Principles: Dust laden gas stream passes through filter media causing impaction and collection of particles

c. Efficiency*: > 99.8% d. Capital Cost: $148,549.80

e. Life: 10 years f. Operating Cost: } $44,130.74

g. Energy: Moderate Energy h. Maintenance Cost: }

*Explain method of determining efficiency above.

i. Availability of construction materials and process chemicals: Yes

j. Applicability to manufacturing processes: Yes

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

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: Fabric Filter (Pulse Jet)
2. Efficiency*: > 99.8%
3. Capital Cost: $148,549.80
4. Life: 10 years
5. Operating Cost: } $44,130.74
6. Energy: Moderate
7. Maintenance Cost: }
8. Manufacturer: Flex-Kleen
9. Other locations where employed on similar processes:

a.

(1) Company: Texas Industries

(2) Mailing Address:

(3) City: Hunter (4) State: Texas

(5) Environmental Manager: Virgil P. Sewell

(6) Telephone No.:

*Explain method of determining efficiency above.

(7) Emissions*:

Contaminant	Rate or Concentration

(8) Process Rate*:

b.

(1) Company: National Gypsum Co.

(2) Mailing Address:

(3) City: Alpina (4) State: Michigan

*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:

See N-27

*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.

Emission Point F-17

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: Centrifugal Scrubber

b. Operating Principles: Gas stream moves in spiral fashion through stationary liquid sprays causing impaction and collection of particles

c. Efficiency*: ~ 98 % d. Capital Cost: $51,750.00

e. Useful Life: > 10 years f. Operating Cost: } $8,954.06

g. Energy*: Low Energy (low pressure drop) h. Maintenance Cost: }

i. Availability of construction materials and process chemicals: Yes

j. Applicability to manufacturing processes: Yes

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

Collection efficiency marginal

2.

a. Control Device: High energy venturi

b. Operating Principles: Moving gas stream with atomized liquid droplets which impact with dust particles resulting in collection

c. Efficiency*: > 99% d. Capital Cost: $55,800.00

e. Useful Life: 10 years f. Operating Cost: } $14,070.67

g. Energy**: High Energy (high pressure drop) h. Maintenance Costs: }

i. Availability of construction materials and process chemicals: Yes

j. Applicability to manufacturing processes: Yes

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

*Explain method of determining efficiency.

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

3.

a. Control Device: Fabric Filter (Pulse jet)

b. Operating Principles: Dust laden gas stream passes through filter media causing impaction and collection of particles

c. Efficiency*: > 99.8% d. Capital Cost: $51,652.00

e. Life: 10 years f. Operating Cost: } $11,512.37

g. Energy: Moderate Energy h. Maintenance Cost: }

*Explain method of determining efficiency above.

i. Availability of construction materials and process chemicals: yes

j. Applicability to manufacturing processes: yes

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

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: Fabric Filter (Pulse jet)
2. Efficiency*: > 99.8%
3. Capital Cost: $51,652.00
4. Life: 10 years
5. Operating Cost: } $11,512.37
6. Energy: Moderate
7. Maintenance Cost: }
8. Manufacturer: Flex-Kleen
9. Other locations where employed on similar processes:

a. Same as G-11

(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: Same as G-11

(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:

Same as G-11

*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.

SECTION V Blending Silos Dust Collection System (No. 2 Kiln)

1) Total Process Input Rate = 240,000 lb/hr = 120 T/hr

2) Emissions

Inlet Grain Loading = 10.0 gr/ACF

Assumed Outlet Grain Loading 0.02 gr/ACF

Flow = 23,000 ACFM

Baghouse G-11

$$E = \frac{(0.02)(23,000)(60)}{(7000)} = 3.94 \text{ lb/hr}$$

$$\text{Annual Emissions} = \frac{(3.94)(24)(7)(47)}{(2000)} = 15.6 \text{ TPY}$$

G-11

3) Potential Emissions

Inlet Grain Loading = 10 gr/ACF

Flow = 23,000 ACFM

Assume Cyclone of 85% Efficiency

$$\text{Potential Emissions} = \frac{(10)(23,000)(1-0.85)(60)}{(7000)}$$

= 295 lb/hr

= 1167 TPY

4) See Attached Manufacturers Specifications

5) Control Efficiency

Inlet Grain Loading = 10 gr/ACF

Outlet Grain Loaing = 0.02 gr/ACF

$$N_c = 1 - (\frac{0.02}{10}) = 0.998$$

6)
7)
8) } See attached diagrams

TABLE II
FABRIC FILTERS

Point Number (from Flow Diagram)	Manufacturer & Model No. (if available)
G 11	FLEX-KLEEN 100WMW-300
Name of Abatement Device	**Type of Particulate Controlled**
SILO	RAW MEAL

GAS STREAM CHARACTERISTICS

Flow Rate (acfm)		Gas Stream Temperature (°F)	Particulate Grain Loading (grain/scf)	
Design Maximum	Average Expected		Inlet	Outlet
23,000	22,750	200	10	0.01

Pressure Drop (in. H_2O)	Water Vapor Content of Effluent Stream (lb water/lb dry air)	Fan Requirements
6	—	100 (hp) 24,150 (ft^3/min)

PARTICULATE DISTRIBUTION
(By Weight)

Micron Range	Inlet	Outlet
0.0-0.5	%	%
0.5-1.0	%	%
1.0-5.0	%	%
5-10	%	%
10-20	%	%
over 20	%	%

FILTER CHARACTERISTICS

Filtering Velocity (acfm/ft^2 of Cloth)	Bag Diameter (in.)	Bag Length (ft)	Number of Bags	Number of Compartments in Baghouse
6.2	5.75		300	ONE

Bag rows will be:	Walkways will be provided between banks of bags:
~~Staggered~~ Straight	~~Yes~~ No

Filtering Material: POLYESTER

Describe Bag Cleaning Method and Cycle: PULSE-JET

ADDITIONAL INFORMATION

On separate sheets attach the following:

A. Details regarding principle of operation

B. An assembly drawing (Front and Top View) of the abatement device dimensioned and to scale clearly showing the design, size and shape.

If the device has bypasses, safety valves, etc., include in drawing and specify when such bypasses are to be used and under what conditions.

Blending silo for kiln no. 2

TABLE II
FABRIC FILTERS

Point Number (from Flow Diagram)	Manufacturer & Model No. (if available)
F 17	FLEX-KLEEN 100 WRW - 80
Name of Abatement Device	**Type of Particulate Controlled**
PNUEMATIC CONVEYING EQUIP.	RAW MEAL

GAS STREAM CHARACTERISTICS

Flow Rate (acfm)		Gas Stream Temperature (°F)	Particulate Grain Loading (grain/scf)	
Design Maximum	Average Expected		Inlet	Outlet
6000	5600	200	10	0.01

Pressure Drop (in. H_2O)	Water Vapor Content of Effluent Stream (lb water/lb dry air)	Fan Requirements
6	—	25 (hp) 6300 (ft^3/min)

PARTICULATE DISTRIBUTION
(By Weight)

Micron Range	Inlet	Outlet
0.0-0.5	%	%
0.5-1.0	%	%
1.0-5.0	%	%
5-10	%	%
10-20	%	%
over 20	%	%

FILTER CHARACTERISTICS

Filtering Velocity (acfm/ft^2 of Cloth)	Bag Diameter (in.)	Bag Length (ft)	Number of Bags	Number of Compartments in Baghouse
6/1	5.75	8.33	80	ONE

Bag rows will be:		Walkways will be provided between banks of bags:	
~~Staggered~~	Straight	~~Yes~~	No

Filtering Material: POLYESTER

Describe Bag Cleaning Method and Cycle: PULSE-JET

ADDITIONAL INFORMATION

On separate sheets attach the following:

A. Details regarding principle of operation

B. An assembly drawing (Front and Top View) of the abatement device dimensioned and to scale clearly showing the design, size and shape.

If the device has bypasses, safety valves, etc., include in drawing and specify when such bypasses are to be used and under what conditions.

BEST AVAILABLE COPY

AC 27-30446

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Portland Cement Plant [X] New[1] [ ] Existing[1]

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

COMPANY NAME: Florida Mining & Materials Corp., ement Div. COUNTY: Hernando

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) Cement/Masonry Silos Dust Collection System

SOURCE LOCATION: Street U. S. Highway 98 N City NW of Brooksville

UTM: East 356000 E North 3169.89 N

Latitude 28 ° 38 ' 34 "N Longitude 82 ° 28 ' 25 "W

APPLICANT NAME AND TITLE: F. W. Cohrs, Vice President

APPLICANT ADDRESS: P. O. Box 6, Brooksville, FL 33512

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Florida Mining & Materials Corporation

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: Fred W. Cohrs

Fred W. Cohrs, Vice President
Name and Title (Please Type)

Date: _____ Telephone No. 904/796-7241

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: Joseph L. Tessitore

Joseph L. Tessitore
Name (Please Type)

(Affix Seal)

Cross/Tessitore & Associates, P.A.
Company Name (Please Type)

1611 East Hillcrest Street, Orlando 32803
Mailing Address (Please Type)

Florida Registration No. 23374 Date: _____ Telephone No. 305/898-6140

[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.

Covers controls of particulate emission connected with the operation of the material handling in and out of the Finished Cement Storage Silos. The project is designed to result in full compliance of this source.

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

Start of Construction 1980 Completion of Construction 1983

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.)

	P-05	P-07	Q-17
Equipment for Baghouse	$27,080	$17,140	$17,140
Erection and Duct Work	34,120	21,596	21,596
Total Cost	$61,200	$38,736	$38,736

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

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 24 ; days/wk 7 ; wks/yr 47 ; 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. Yes
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? Yes
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		
Finished Portland Cement	Particulate	.007	142,000	P-05, P-07, Q-17

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

1. Total Process Input Rate (lbs/hr): 142,000
2. Product Weight (lbs/hr): 142,000

C. Airborne Contaminants Emitted:

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	
Particulate	3.9	15.2	Process Weight Table 17-2.05 (1)(a)	34.3	289	1142	P-05, P-07, Q-17
Opacity	<10%		<20%				

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])
Flex-Kleen Fabric Filters (3) See Attached Specifications	Particulate	99.9%	0-60	Manufacturers' Data

[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

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
None			

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

Fuel Analysis:

Percent Sulfur: _____ Percent Ash: _____

Density: _____ lbs/gal Typical Percent Nitrogen: _____

Heat Capacity: _____ BTU/lb _____ BTU/gal

Other Fuel Contaminants (which may cause air pollution): _____

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.
Solid waste generated is particulate dust which is returned to the silos for inclusion in the finished cement product in a closed circuit.

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack): P-05/ P-07/ Q-17

Stack Height: 210/210/70 ft. Stack Diameter: 3.83/ 1.83/ 1.83 sq.ft. ft.

Gas Flow Rate: 11,500/5,500/5,500 ACFM Gas Exit Temperature: 145/150/150 °F.

Water Vapor Content: ~ 0 % Velocity: 50/50/50 FPS

SECTION IV: INCINERATOR INFORMATION

Type of Waste	Type O (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.
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).
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.

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?
[X] Yes [ ] No

Contaminant	Rate or Concentration
Opacity	<10%

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

Contaminant	Rate or Concentration

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

Contaminant	Rate or Concentration
TSP	3.85 lb/hr
Opacity	<10%

D. Describe the existing control and treatment technology (if any). Not Applicable

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: Centrifugal Scrubber

b. Operating Principles: Gas stream moves in spiral fashion through stationary liquid sprays causing impaction and collection of particles

c. Efficiency*: ~ 98 % d. Capital Cost: $75,825.00

e. Useful Life: > 10 years f. Operating Cost: } $17,161.96

g. Energy*: Low energy (low pressure drop) h. Maintenance Cost: }

i. Availability of construction materials and process chemicals: Yes

j. Applicability to manufacturing processes: Yes

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

2.

a. Control Device: High energy Venturi

b. Operating Principles: Moving gas stream with atomized liquid droplets which impact with dust particles resulting in collection

c. Efficiency*: 99% d. Capital Cost: $79,875.00

e. Useful Life: > 10 years f. Operating Cost: } $26,968.79

g. Energy**: High Energy (high pressure drop) h. Maintenance Costs: }

i. Availability of construction materials and process chemicals: yes

j. Applicability to manufacturing processes: yes

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

*Explain method of determining efficiency.

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

3.

a. Control Device: Fabric Filter (Pulse jet)

b. Operating Principles: Dust laden gas stream passes through filter media causing impaction and collection of particles

c. Efficiency*: 99.8% d. Capital Cost: $61,200.80

e. Life: > 10 years f. Operating Cost: } $22,065.37

g. Energy: Moderate Energy h. Maintenance Cost: }

*Explain method of determining efficiency above.

i. Availability of construction materials and process chemicals: yes

j. Applicability to manufacturing processes: yes

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

4. yes

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: Fabric Filter (Pulse jet)

2. Efficiency*: > 99.8%

3. Capital Cost: $61,200.80

4. Life: 10 years

5. Operating Cost: } $22,065.37

6. Energy: Moderate

7. Maintenance Cost: }

8. Manufacturer: Flex-Kleen

9. Other locations where employed on similar processes:

a.

(1) Company: See N-23

(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. See N-23

(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.

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: Centrifugal Scrubber

b. Operating Principles: Gas stream moves in spiral fashion through stationary liquid sprays causing impaction and collection of particles

c. Efficiency*: 98% d. Capital Cost: $49,050.00

e. Useful Life: ~ 10 years f. Operating Cost: } $8,207.89

g. Energy**: Low Energy (low pressure drop) h. Maintenance Cost: }

i. Availability of construction materials and process chemicals: Yes

j. Applicability to manufacturing processes: Yes

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

Collection efficiency Marginal

2.

a. Control Device: High energy Venturi

b. Operating Principles: Moving gas stream with atomized liquid droplets which impact with dust particles resulting in collection

c. Efficiency*: > 99% d. Capital Cost: $56,475.00

e. Useful Life: 10 years f. Operating Cost: } $12,898.12

g. Energy**: High energy (high pressure drop) h. Maintenance Costs }

i. Availability of construction materials and process chemicals: Yes

j. Applicability to manufacturing processes: Yes

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

Yes

*Explain method of determining efficiency.

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

3.

a. Control Device: Fabric Filter (Pulse jet)

b. Operating Principles: Dust laden gas stream passes through filter media causing impaction and collection of particles

c. Efficiency*: > 99.8% d. Capital Cost: $38,736.40

e. Life: 10 years f. Operating Cost: } $10,553.00

g. Energy: Moderate 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: Fabric Filter
2. Efficiency*: > 99.8%
3. Capital Cost: $38,736.40
4. Life: 10 years
5. Operating Cost: } $10,553.00
6. Energy: Moderate
7. Maintenance Cost: }
8. Manufacturer: Flex-Kleen
9. Other locations where employed on similar processes:

a.

(1) Company:

(2) Mailing Address: See N-23

(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: See N-23

(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:

See N-23

*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.

SECTION V CEMENT/MASONRY SILOS DUST COLLECTION SYSTEM

1) Total Process Weight = 142,000 lb/hr = 71 T/hr

2) Emission Estimates

From Manufacturers' Specifications and Previous Operations

Inlet Grain Loading = 10 gr/ACF

Control Efficiency = 0.998

Baghouse P-05

Flow = 11,500 ACFM

$$E = \frac{(10)(1-0.998)(11,500)(60)}{(7000)} = 1.97 \text{ lb/hr}$$

Baghouse P-07 and Q-17

Flow = 5,500 ACFM

$$E = \frac{(10)(1-0.998)(5,500)(60)}{(7000)} = 0.94 \text{ lb/hr}$$

Total Emissions = 1.97 + 0.94 + 0.94 = 3.85 lb/hr

$$\text{Annual Emissions} = \frac{(3.85)(24)(7)(47)}{(2000)} = 15.2 \text{ T/yr}$$

3) Potential Discharge

Inlet Loading = 10 gr/ACF

Total Flow = 11,500 + 5,500 + 5,500 = 22,500 ACFM

Assume Cyclone of 85% Efficiency

$$\text{Emissions} = \frac{(10)(22,500)(60)(1-0.85)}{(7000)} = 289 \text{ lb/hr} = 1142 \text{ T/yr}$$

4) See Attached Manufacturers' Specifications

5) Control Efficiency

Inlet Grain Loading = 10 gr/ACF

Assume Outlet Grain Loading = 0.02 gr/ACF

$N_c = 1 - (\frac{0.02}{10}) = 0.998$

6)
7) } See Attached Diagrams
8)

TABLE II
FABRIC FILTERS

Point Number (from Flow Diagram)	Manufacturer & Model No. (if available)
P 0 5	FLEX-KLEEN 100 WRW-144
Name of Abatement Device	**Type of Particulate Controlled**
CEMENT SILO CONVEYING EQUIP.	CEMENT DUST

GAS STREAM CHARACTERISTICS

Flow Rate (acfm)		Gas Stream Temperature (°F)	Particulate Grain Loading (grain/scf)	
Design Maximum	Average Expected		Inlet	Outlet
11,500	11,055	145	10	0.01

Pressure Drop (in. H_2O)	Water Vapor Content of Effluent Stream (lb water/lb dry air)	Fan Requirements
6	—	40 (hp) 12,000 (ft^3/min)

PARTICULATE DISTRIBUTION
(By Weight)

Micron Range	Inlet	Outlet
0.0-0.5	%	%
0.5-1.0	%	%
1.0-5.0	%	%
5-10	%	%
10-20	%	%
over 20	%	%

FILTER CHARACTERISTICS

Filtering Velocity (acfm/ft^2 of Cloth)	Bag Diameter (in.)	Bag Length (ft)	Number of Bags	Number of Compartments in Baghouse
6.4/1	5.75	8.33	144	ONE

Bag rows will be:		Walkways will be provided between banks of bags:	
~~Staggered~~	Straight	~~Yes~~	No

Filtering Material: POLYESTER

Describe Bag Cleaning Method and Cycle: PULSE-JET

ADDITIONAL INFORMATION

On separate sheets attach the following:

A. Details regarding principle of operation

B. An assembly drawing (Front and Top View) of the abatement device dimensioned and to scale clearly showing the design, size and shape.

If the device has bypasses, safety valves, etc., include in drawing and specify when such bypasses are to be used and under what conditions.

TABLE II
FABRIC FILTERS

Point Number (from Flow Diagram)	Manufacturer & Model No. (if available)
P 07	FLEX-KLEEN 100WRW-80
Name of Abatement Device	**Type of Particulate Controlled**
MASONARY CEMENT SILO	MASONARY CEMENT

GAS STREAM CHARACTERISTICS

Flow Rate (acfm)		Gas Stream Temperature (°F)	Particulate Grain Loading (grain/scf)	
Design Maximum	Average Expected		Inlet	Outlet
5,500	5,200	150	10	0.01

Pressure Drop (in. H_2O)	Water Vapor Content of Effluent Stream (lb water/lb dry air)	Fan Requirements
6	—	20 (hp) 5775 (ft^3/min)

PARTICULATE DISTRIBUTION
(By Weight)

Micron Range	Inlet	Outlet
0.0-0.5	%	%
0.5-1.0	%	%
1.0-5.0	%	%
5-10	%	%
10-20	%	%
over 20	%	%

FILTER CHARACTERISTICS

Filtering Velocity (acfm/ft^2 of Cloth)	Bag Diameter (in.)	Bag Length (ft)	Number of Bags	Number of Compartments in Baghouse
5.5/1	5.75	8.33	80	ONE

Bag rows will be:		Walkways will be provided between banks of bags:	
~~Staggered~~	Straight	~~Yes~~	No

Filtering Material: POLYESTER

Describe Bag Cleaning Method and Cycle: PULSE-JET

ADDITIONAL INFORMATION

On separate sheets attach the following:

A. Details regarding principle of operation

B. An assembly drawing (Front and Top View) of the abatement device dimensioned and to scale clearly showing the design, size and shape.

If the device has bypasses, safety valves, etc., include in drawing and specify when such bypasses are to be used and under what conditions.

TABLE II
FABRIC FILTERS

Point Number (from Flow Diagram)	Manufacturer & Model No. (if available)
Q 17	FLEX-KLEEN 100WRW-80
Name of Abatement Device	**Type of Particulate Controlled**
CEMENT LOAD-OUT EQUIP.	CEMENT

GAS STREAM CHARACTERISTICS

Flow Rate (acfm)		Gas Stream Temperature (°F)	Particulate Grain Loading (grain/scf)	
Design Maximum	Average Expected		Inlet	Outlet
5,500	5,050	150	10	0.01

Pressure Drop (in. H_2O)	Water Vapor Content of Effluent Stream (lb water/lb dry air)	Fan Requirements
6	-	20 (hp) 5,775 (ft^3/min)

PARTICULATE DISTRIBUTION (By Weight)

Micron Range	Inlet	Outlet
0.0-0.5	%	%
0.5-1.0	%	%
1.0-5.0	%	%
5-10	%	%
10-20	%	%
over 20	%	%

FILTER CHARACTERISTICS

Filtering Velocity (acfm/ft^2 of Cloth)	Bag Diameter (in.)	Bag Length (ft)	Number of Bags	Number of Compartments in Baghouse
5.5/1	5.75	8.33	80	ONE

Bag rows will be:		Walkways will be provided between banks of bags:	
~~Staggered~~	Straight	~~Yes~~	No

Filtering Material: POLYESTER

Describe Bag Cleaning Method and Cycle: PULSE-JET

ADDITIONAL INFORMATION

On separate sheets attach the following:

A. Details regarding principle of operation

B. An assembly drawing (Front and Top View) of the abatement device dimensioned and to scale clearly showing the design, size and shape.

If the device has bypasses, safety valves, etc., include in drawing and specify when such bypasses are to be used and under what conditions.

AC 27-30444

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

RECEIVED MAY 1980 BUREAU AQM

SOURCE TYPE: Portland Cement Plant [X] New[1] [ ] Existing[1]

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

COMPANY NAME: Florida Mining & Materials Corp., Cement Div. COUNTY: Hernando

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) Finish Mill Dust Collection System

SOURCE LOCATION: Street U. S. Highway 98 North City NW of Brooksville

UTM: East 356000 E North 3169.89 N

Latitude 28 ° 38 ' 34 "N Longitude 82 ° 28 ' 25 "W

APPLICANT NAME AND TITLE: F. W. Cohrs, Vice President

APPLICANT ADDRESS: P. O. Box 6, Brooksville, Florida 33512

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Florida Mining & Materials Corporation

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: Fred W. Cohrs

Fred W. Cohrs, Vice President
Name and Title (Please Type)

Date: _____ Telephone No. 904/796-7241

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: Joseph L. Tessitore

Joseph L. Tessitore, P.E.
Name (Please Type)

(Affix Seal)

Cross/Tessitore & Associates, P.A.
Company Name (Please Type)

1611 East Hillcrest Street
Orlando Mailing Address (Please Type) 32803

Florida Registration No. 23374 Date: _____ Telephone No. 305/898-6140

[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.

Controls of particulate emissions connected with the operation of one finish clinker grinding mill. The project is designed to result in full compliance of this source.

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

Start of Construction 1980 Completion of Construction 1983

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.)

	N-23	N-27
Equipment for Baghouse	$176,000	$25,000
Total Installed Cost	$352,000	$50,000

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

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 24 ; days/wk 7 ; wks/yr 47 ; 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. Yes
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? Yes
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		
Portland Cement Clinker	Particulate	.007	200,000	N-23 & N-27

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

1. Total Process Input Rate (lbs/hr): 200,000
2. Product Weight (lbs/hr): 200,000

C. Airborne Contaminants Emitted:

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	
Particulate	9.3	36.8	Process Weight Table	36.15	1401	5531	N-23
Dust			17-2.05(1)(a)				& N-27
Opacity	<10%		<20%				

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]
Flex-Kleen Dust Filter (Two)	Particulate	99.9%	0-60	Manufacturers Data

Revised mail no. 3 N-23

[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

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	

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

Fuel Analysis:

Percent Sulfur: _____ Percent Ash: _____

Density: _____ lbs/gal Typical Percent Nitrogen: _____

Heat Capacity: _____ BTU/lb _____ BTU/gal

Other Fuel Contaminants (which may cause air pollution): _____

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.

Solid Waste generated is particulate dust which is disposed of by being discharged into the finish cement s-los in a closed circuit system.

Finish mill No. 3 (N-23)

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

Stack Height: (N-23)75/(N-27)75 ft. Stack Diameter: (N-23)15.33 sq.ft./(N-27)2.83 sq.ft.

Gas Flow Rate: (N-23)46,000/(N-27)8500 ACFM Gas Exit Temperature: (N-23)200/(N-27)160 °F.

Water Vapor Content: ~0 % Velocity: (N-23)50/(N-27)50 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.
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).
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.

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?
[x] Yes [ ] No

Contaminant	Rate or Concentration
Opacity	<10%

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

Contaminant	Rate or Concentration

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

Contaminant	Rate or Concentration
TSP	9.3 lb/hr
Opacity	<10%

D. Describe the existing control and treatment technology (if any). Not Applicable

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.

Emission Point N-23

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: Centrifugal Scrubber

b. Operating Principles: Gas stream moves in spiral fashion through stationary liquid sprays causing impaction and collection of particles

c. Efficiency*: ~98% d. Capital Cost: $202,500.00

e. Useful Life: >10 year f. Operating Cost: } $68,647.82

g. Energy**: Low Energy (low pressure drop) h. Maintenance Cost: }

i. Availability of construction materials and process chemicals: Yes

j. Applicability to manufacturing processes: yes

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

2.

a. Control Device: High Energy Venturi

b. Operating Principles: Moving gas stream with atomized liquid droplets which impact with dust particles resulting in collection

c. Efficiency*: ~99% d. Capital Cost: $202,500.00

e. Useful Life: 10 years f. Operating Cost: } $107,875.15

g. Energy**: High Energy (high pressure drop) h. Maintenance Costs: }

i. Availability of construction materials and process chemicals: Yes

j. Applicability to manufacturing processes: Yes

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

*Explain method of determining efficiency.

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

3.

a. Control Device: Fabric Filter (Pulse Jet)

b. Operating Principles: Dust laden gas stream passes through filter media causing impaction and collection at particles

c. Efficiency*: > 99.8% d. Capital Cost: $351,701.20

e. Life: 10 year f. Operating Cost: } $88,261.49

g. Energy: Moderate Energy h. Maintenance Cost: }

*Explain method of determining efficiency above.

i. Availability of construction materials and process chemicals:
Yes

j. Applicability to manufacturing processes: Yes

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

4. Yes

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: Fabric Filter-Flex Kleen
2. Efficiency*: 99.9%
3. Capital Cost: $351,701.00
4. Life: 10 years
5. Operating Cost: } $88,261.49
6. Energy: Moderate
7. Maintenance Cost: }
8. Manufacturer: Western Precipitator
9. Other locations where employed on similar processes:

a.

(1) Company: Texas Industries

(2) Mailing Address:

(3) City: Hunter

(4) State: Texas

(5) Environmental Manager: Virgil P. Sewell

(6) Telephone No.:

*Explain method of determining efficiency above.

(7) Emissions*:

Contaminant	Rate or Concentration

(8) Process Rate*:

b.

(1) Company: National Gypsum Co.

(2) Mailing Address:

(3) City: Alpina

(4) State: Michigan

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

(5) Environmental Manager: Mr. H.E. Mensing

(6) Telephone No.:

(7) Emissions*:

Contaminant	Rate or Concentration

(8) Process Rate*:

10. Reason for selection and description of systems:

Fabric filter provides high efficiency dust collection with moderate operating cost and no liquid waste products.

*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 ___/___/___ (month day year) to ___/___/___ (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 ___/___/___ (month day year) to ___/___/___ (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.

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: Centrifugal Scrubber

b. Operating Principles: Gas stream moves in spiral fashion through stationary liquid sprays causing impaction and collection of particles

c. Efficiency*: ~98% d. Capital Cost: $67,725.00

e. Useful Life: > 10 years f. Operating Cost: } $12,684.92

g. Energy**: Low Energy (low pressure drop) h. Maintenance Cost: }

i. Availability of construction materials and process chemicals: Yes

j. Applicability to manufacturing processes: Yes

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

2.

a. Control Device: High Energy Venturi

b. Operating Principles: Moving gas stream with atomized liquid droplets which impact with dust particles resulting in collection

c. Efficiency*: > 99% d. Capital Cost: $60,750.00

e. Useful Life: 10 years f. Operating Cost: } $19,933.45

g. Energy**: High energy (high pressure drop) h. Maintenance Costs: }

i. Availability of construction materials and process chemicals: Yes

j. Applicability to manufacturing processes: Yes

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: Fabric Filter (Pulse Jet)

b. Operating Principles: Dust laden gas stream passes through filter media causing impaction and collection of particles

c. Efficiency*: > 99.8% d. Capital Cost: $49,912.10

e. Life: 10 years f. Operating Cost: } $16,309.19

g. Energy: Moderate Energy h. Maintenance Cost: }

*Explain method of determining efficiency above.

i. Availability of construction materials and process chemicals:
Yes

j. Applicability to manufacturing processes:
Yes

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

4. Yes

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: $49,912.00

4. Life:

5. Operating Cost. } $16,309.19

6. Energy:

7. Maintenance Cost: }

8. Manufacturer:

9. Other locations where employed on similar processes:

a. same as N-23

(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: same as N-23

(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:

same as N-23

*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 ___/___/___ (month day year) to ___/___/___ (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 ___/___/___ (month day year) to ___/___/___ (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.

SECTION V FINISH MILL DUST COLLECTION SYSTEM

1) Finish Clinker Grinding Mill Capacity = 200,000 lb/hr

2) Based on Attached Manufacturer Equipment Specifications Outlet Grain Loading = 0.01 gr/ACF which gives a control efficiency of 99.95% (This is optimistic and 99.9% for this inlet grain loading would be more achievable)

Therefore, for the given flow rates and above efficiency, the emissions are as follows:

finish mill No. 3
N-23

Baghouse N-23 Flow = 46,000 ACFM

Inlet Grain Loading = 20 gr/ACF

$$E = \frac{(20)(1-0.999)(46{,}000)(60)}{(7000)} = 7.88 \text{ lb/hr}$$

Baghouse N-27 Flow = 8,500 ACFM

Inlet Grain Loading = 20 gr/ACF

$$E = \frac{(20)(1-0.999)(8500)(60)}{(7000)} = 1.46 \text{ lb/hr}$$

Total Emissions = 7.88 + 1.46 = 9.34 lb/hr

$$\text{Annual Emissions} = \frac{(9.34)(24)(7)(47)}{(2000)} = 36.8 \text{ T/yr}$$

3) Potential Discharge based on Inlet Loading = 20 gr/ACF

Total Flow = 46,000 + 8,500 = 54,500 ACFM

Assume Cyclone of 85% Efficiency

$$\text{Potential Emissions} = \frac{(20)(54,500)(60)(1-0.85)}{(7000)}$$

= 1401 lb/hr

= 5531 T/yr

4) See attached Manufacturers' Specifications

5) Control Efficiency

From Manufacturers' Specifications

Inlet Grain Loading = 20 gr/ACF

Assume Outlet Grain Loading = 0.02 gr/ACF

$$N_c = 1 - \left(\frac{0.02}{20}\right) = 0.999$$

6)
7) } See attached diagrams
8)

TABLE II
FABRIC FILTERS

Point Number (from Flow Diagram)	Manufacturer & Model No. (if available)
N23	Flex Klean or Equivalent
Name of Abatement Device	**Type of Particulate Controlled**
Finish Mill Dust Collector	Cement

GAS STREAM CHARACTERISTICS

Flow Rate (acfm)		Gas Stream Temperature (°F)	Particulate Grain Loading (grain/~~scf~~ACF	
Design Maximum	Average Expected		Inlet	Outlet
46000	45000	200	150	0.01

Pressure Drop (in. H_2O)	Water Vapor Content of Effluent Stream (lb water/lb dry air)	Fan Requirements (hp)	Fan Requirements (ft^3/min)
	1.043	250	46000

PARTICULATE DISTRIBUTION
(By Weight)

Micron Range	Inlet	Outlet
0.0-0.5	%	%
0.5-1.0	%	%
1.0-5.0	%	%
5-10	%	%
10-20	%	%
over 20	%	%

FILTER CHARACTERISTICS

Filtering Velocity (acfm/ft^2 of Cloth)	Bag Diameter (in.)	Bag Length (ft)	Number of Bags	Number of Compartments in Baghouse
5.0	4	8	720	ONE

Bag rows will be:		Walkways will be provided between banks of bags:	
Staggered	(Straight)	Yes	(No)

Filtering Material: Orlon felt 16 oz.

Describe Bag Cleaning Method and Cycle: Pulse Jet Cleaning

ADDITIONAL INFORMATION

On separate sheets attach the following:

A. Details regarding principle of operation

B. An assembly drawing (Front and Top View) of the abatement device dimensioned and to scale clearly showing the design, size and shape.

If the device has bypasses, safety valves, etc., include in drawing and specify when such bypasses are to be used and under what conditions.

TABLE II
FABRIC FILTERS

Point Number (from Flow Diagram)	Manufacturer & Model No. (if available)
N 27	FLEX-KLEEN 100WRW-112
Name of Abatement Device	**Type of Particulate Controlled**
FINISH MILL EQUIP.	FINISH CEMENT

GAS STREAM CHARACTERISTICS

Flow Rate (acfm)		Gas Stream Temperature (°F)	Particulate Grain Loading (grain/scf)	
Design Maximum	Average Expected		Inlet	Outlet
8500	8330	160	20	0.01

Pressure Drop (in. H_2O)	Water Vapor Content of Effluent Stream (lb water/lb dry air)	Fan Requirements
6	—	40 (hp) 8925 (ft^3/min)

PARTICULATE DISTRIBUTION
(By Weight)

Micron Range	Inlet	Outlet
0.0-0.5	%	%
0.5-1.0	%	%
1.0-5.0	%	%
5-10	%	%
10-20	%	%
over 20	%	%

FILTER CHARACTERISTICS

Filtering Velocity (acfm/ft^2 of Cloth)	Bag Diameter (in.)	Bag Length (ft)	Number of Bags	Number of Compartments in Baghouse
6.1/1	5.75	8.33	112	ONE

Bag rows will be:		Walkways will be provided between banks of bags:	
~~Staggered~~	Straight	~~Yes~~	No

Filtering Material: POLYESTER

Describe Bag Cleaning Method and Cycle: PULSE-JET

ADDITIONAL INFORMATION

On separate sheets attach the following:

A. Details regarding principle of operation

B. An assembly drawing (Front and Top View) of the abatement device dimensioned and to scale clearly showing the design, size and shape.

If the device has bypasses, safety valves, etc., include in drawing and specify when such bypasses are to be used and under what conditions.

SECTION VII – PREVENTION OF SIGNIFICANT DETERIORATION

A. *Company Monitored Data*

1. 3 no sites X TSP ( ) SO^{2*} X Wind spd/dir

Period of monitoring 11 / 14 / 79 to 4 / 15 / 80
month day year month day year

Other data recorded _____

Attach all data or statistical summaries to this application. (To be submitted)

2. Instrumentation, Field and Laboratory

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

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

B. Meteorological Data Used for Air Quality Modeling

1. 5 Year(s) of data from 1 / 1 / 70 to 12 / 31 / 74 Note: 1973 worst year used to model
month day year month day year

2. Surface data obtained from (location) Tampa (NCC)

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

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

C. Computer Models Used

1. CRSTER - general Modified? If yes, attach description.

2. PTMTP (within 1 kil) 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	6.62 grams/sec
SO^2	N/A grams/sec

E. Emission Data Used in Modeling See attached

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.

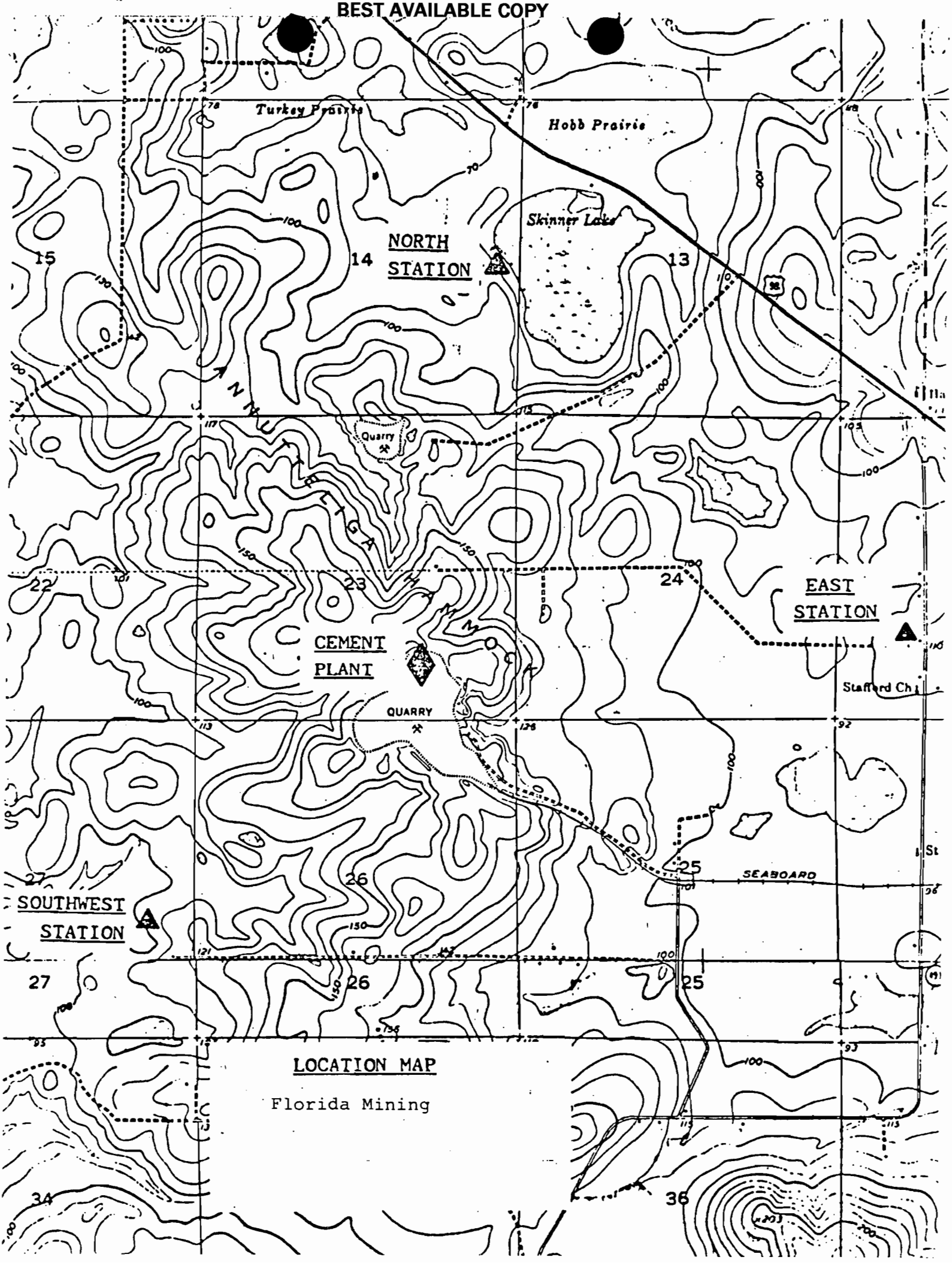
F. Attach all other information supportive to the PSD review.

*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.

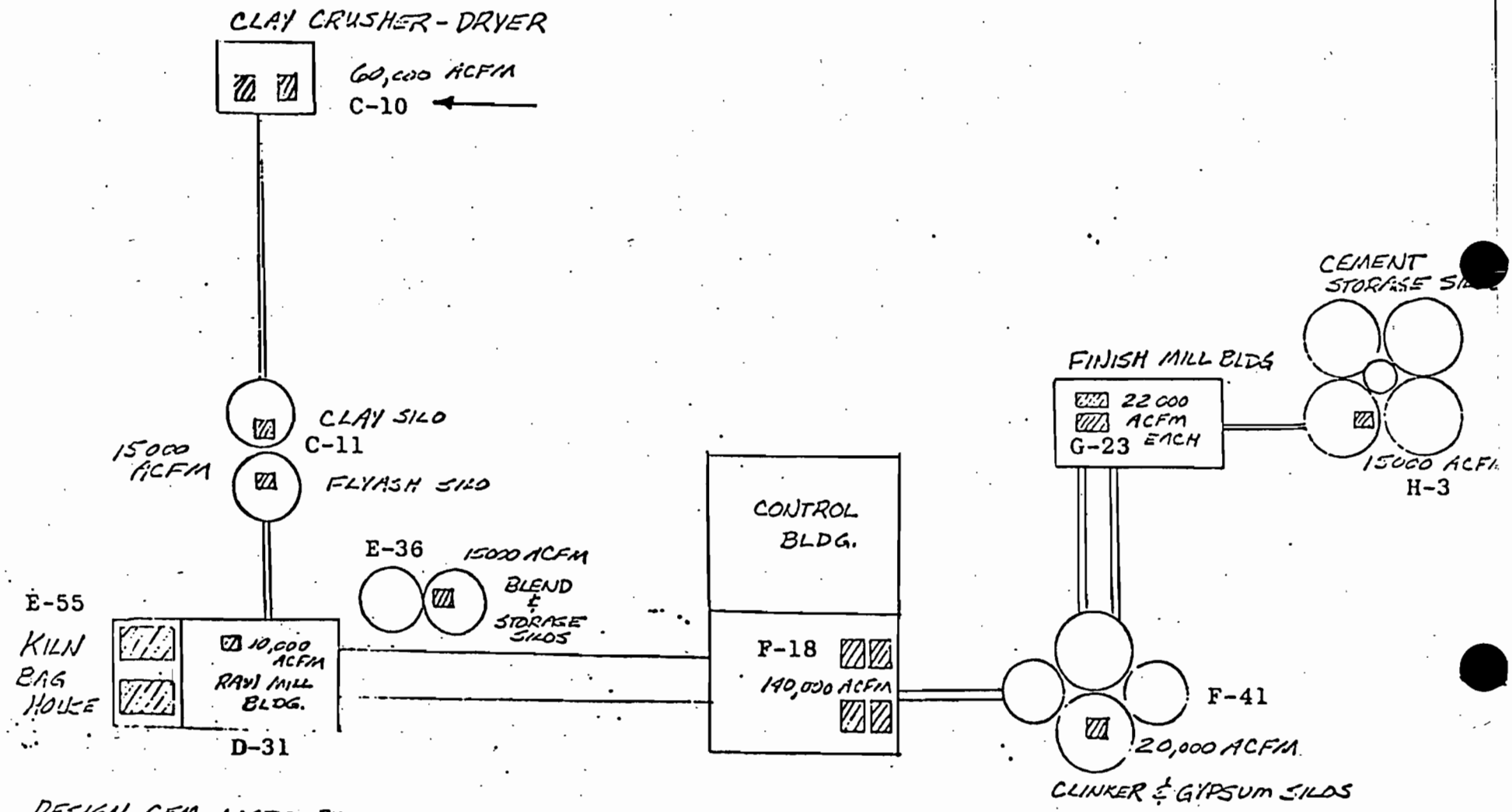
Technology selected has no differential impact over technologies considered.

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.



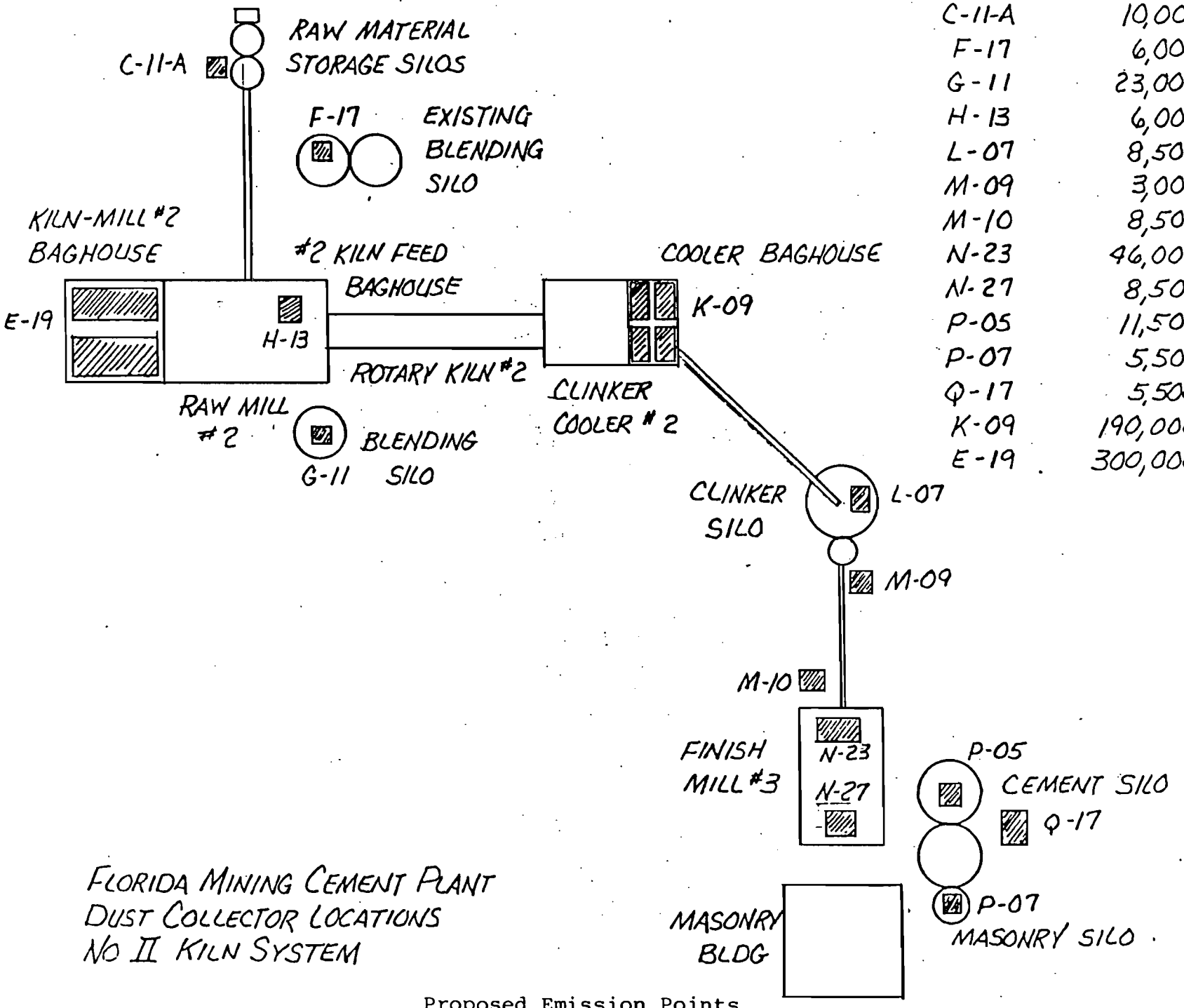
LOCATION MAP

Florida Mining



Existing Emission Points

(No. 1 Kiln)



D.C. NO.	ACFM
C-11-A	10,000
F-17	6,000
G-11	23,000
H-13	6,000
L-07	8,500
M-09	3,000
M-10	8,500
N-23	46,000
N-27	8,500
P-05	11,500
P-07	5,500
Q-17	5,500
K-09	190,000
E-19	300,000

FLORIDA MINING CEMENT PLANT
DUST COLLECTOR LOCATIONS
NO II KILN SYSTEM

Proposed Emission Points
(No. II Kiln)

4/28/80