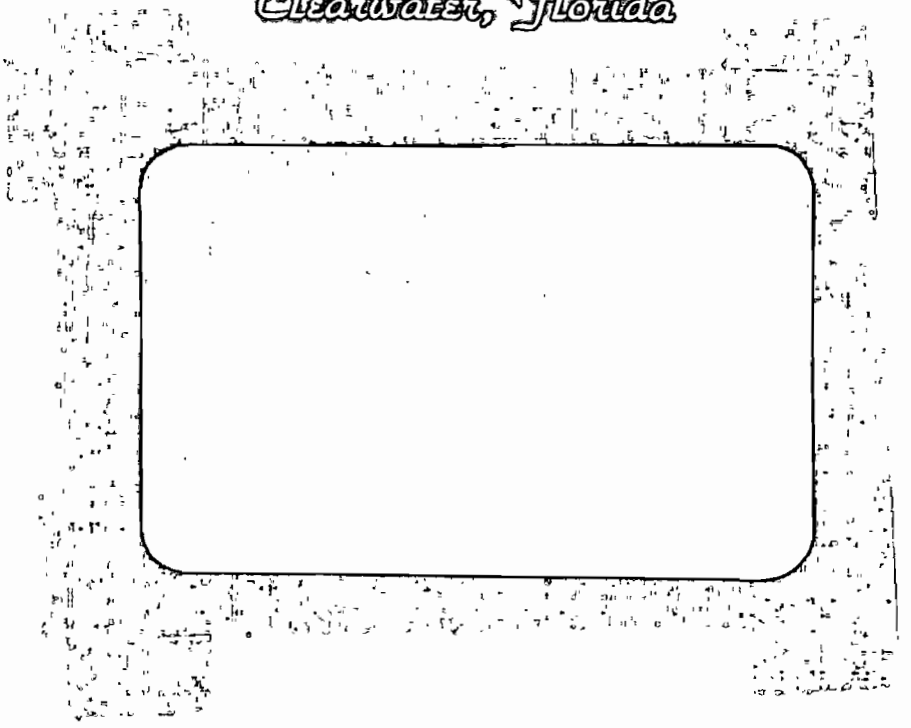
Central Florida Testing Laboratories, Inc.

Clearwater, Florida



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EST. 1971
CENTRAL FLORIDA TESTING LABORATORIES

Testing Development and Research

Engineering Consultants

AJAX PAVING INDUSTRIES, INC.

Portable BCE - Drum Mix Asphalt Plant

FDEP "Statewide" Permit Application

FDEP Operation No. 1150060-001-AO

JULY - 1999

RECEIVED
JUL 29 1999
BUREAU OF AIR REGULATION

Department of Environmental Protection

Division of Air Resources Management

APPLICATION FOR AIR PERMIT - NON-TITLE V SOURCE

See Instructions for Form No. 62-210.900(3)

I. APPLICATION INFORMATION

Identification of Facility

1. Facility Owner/Company Name: **AJAX PAVING INDUSTRIES, INC.**	
2. Site Name: **AJAX PAVING INDUSTRIES, INC. – PORTABLE PLANT**	
3. Facility Identification Number: **1150060** (changed to 7770060) [ ] Unknown	
4. Facility Location: **(Mailing Address – Relocatable Plant)** Street Address or Other Locator: **510 Gene Green Road** City: **Nokomis** County: **Sarasota** Zip Code: **34275-3624**	
5. Relocatable Facility? [X] Yes [ ] No	6. Existing Permitted Facility? [X] Yes [ ] No

Application Contact

1. Name and Title of Application Contact: **Mr. Bernard A. Ball, Jr., Environmental Engineer**
2. Application Contact Mailing Address: Organization/Firm: **Central Florida Testing Laboratories, Inc.** Street Address: **12625 – 40th Street North** City: **Clearwater** State: **Florida** Zip Code: **33762**
3. Application Contact Telephone Numbers: Telephone: **(727) 572-9797** Fax: **(727) 299-0023**

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	7-29-1999
2. Permit Number:	7770060-003-AC

Purpose of Application

Air Operation Permit Application

This Application for Air Permit is submitted to obtain: (Check one)

[ ] Initial non-Title V air operation permit for one or more existing, but previously unpermitted, emissions units.

[ ] Initial non-Title V air operation permit for one or more newly constructed or modified emissions units.

Current construction permit number:_____

[ ] Non-Title V air operation permit revision to address one or more newly constructed or modified emissions units.

Current construction permit number:_____

Operation permit number to be revised:_____

[ ] Initial non-Title V air operation permit under Rule 62-210.300(2)(b), F.A.C., for an existing facility seeking classification as a synthetic non-Title V source.

Current operation/construction permit number(s):

_____

[ ] Non-Title V air operation permit revision for a synthetic non-Title V source. Give reason for revision; e.g., to address one or more newly constructed or modified emissions units.

Operation permit number to be revised:_____

Reason for revision:_____

Air Construction Permit Application

This Application for Air Permit is submitted to obtain: (Check one)

[ ] Air construction permit to construct or modify one or more emissions units.

[ ] Air construction permit to make federally enforceable an assumed restriction on the potential emissions of one or more existing, permitted emissions units.

[ ] Air construction permit for one or more existing, but unpermitted, emissions units.

Owner/Authorized Representative

1. Name and Title of Owner/Authorized Representative:
   Mr. Michael Horan, President
2. Owner/Authorized Representative Mailing Address:
   Organization/Firm: **Ajax Paving Industries, Inc.**
   Street Address: **510 Gene Green Road**
   City: **Nokomis** State: **Florida** Zip Code: **34275-3624**
3. Owner/Authorized Representative Telephone Numbers:
   Telephone: **(941) 486-3600** Fax: **(941) 486-3500**
4. Owner/Authorized Representative Statement:

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

   Michael A. Horan — Signature
   7/27/99 — Date

* Attach letter of authorization if not currently on file.

Professional Engineer Certification

1. Professional Engineer Name: **Mr. George C. Sinn, Jr., P.E.**
   Registration Number: **16911**
2. Professional Engineer Mailing Address:
   Organization/Firm: **Central Florida Testing Laboratories, Inc.**
   Street Address: **12625 – 40th Street North**
   City: **Clearwater** State: **Florida** Zip Code: **33762**
3. Professional Engineer Telephone Numbers:
   Telephone: **(727) 572-9797** Fax: **(727) 299-0023**

4. Professional Engineer Statement:

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

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

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

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

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

Signature 7-26-99

Date

(seal)

- Attach any exception to certification statement.
- ***With the exception of production and efficiency guarantees by the manufacturer.***

Scope of Application

Emissions Unit ID	Description of Emissions Unit	Permit Type	Processing Fee
001	250 TPH Portable Bituma Construction & Engineering Company (BCE) Drum Mix Asphalt Plant, fired on No.5 "on-spec" fuel oil with a 0.5% sulfur limit, with No.2 virgin diesel fuel being an alternate fuel with a 0.5% sulfur limit, controlled by a primary dry cyclone separator followed by a BCE Model 400 baghouse system.	AC1D	$2000.00
002	Gentec/HyWay Model HGYO 200, oil heating system rated at 2.0 MMBtu/hr, fired on No.2 virgin diesel fuel with a maximum sulfur limit of 0.5% by weight. utilized to heat fuel oil supplied to asphalt plant burner and to heat 20,000 gallon liquid asphalt tanks.	ACM1	Combined w/ asphalt plant
003	BCE – Reclaimed Asphalt Vibrating Screener - used to screen reclaimed crushed asphalt to a desired size before entering mixing area of the rotary drum of asphalt plant.	ACM1	$250.00
004	Fugitive emissions from paved and unpaved areas at this facility.	ACM1	Combined w/ asphalt plant
005	Fugitive emissions from stockpiles, conveyor drop points and dumping of aggregates into hoppers.	ACM1	Combined w/ asphalt plant

Application Processing Fee

Check one: [X] Attached - Amount: $ 2250.00 [ ] Not Applicable

Construction/Modification Information

1. Description of Proposed Project or Alterations:

This project consists of an existing 250 TPH - Portable Bituma Equipment & Engineering Company, Inc. (BCE) Drum Mix Asphalt Plant now located at 500 Gene Green Road in Sarasota County, Florida and permitted under FDEP Operation Permit No. 1150060-001-AO. Because of the construction of a new stationary asphalt plant at this site, Ajax Paving Industries is applying for a statewide FDEP Operation Permit for the existing portable BCE Drum Mix Asphalt Plant for relocation to the counties of Collier and Hendry as soon as the stationary asphalt plant is constructed and running. Other locations will be requested for later as they are known.

This asphalt producing facility is equipped to burn No. 5 "on-spec" fuel oil in it's plant's burner system with virgin No.2 fuel oil being an alternate fuel, both fuels having a maximum sulfur limit of 0.5% by weight. The emissions from the mixing/drying drum of this plant are controlled by a BCE primary dry cyclone separator followed by a BCE Model 400 baghouse control system rated at 66,000 ACFM and 99.9% efficient by the manufacturer @ 3-4 "Hg of Pressure Drop.

Liquid Asphalt Tanks and the fuel oil used by the plants burner system at this facility are heated as needed by a Gentec/HyWay, Inc. Model 200, oil heating system rated at 2.0 MBtu/hr fired on No.2 virgin diesel fuel with a maximum sulfur content of 0.5% by weight.

This asphalt producing also employs a BCE Reclaimed Asphalt Vibrating Screening System used to screen and size reclaimed asphalt material to a desired size before it enters the mixing zone of the rotary drum of this asphalt plant.

This facility as in the past will comply with all FDEP Rules and Regulations for relocatable facilities of this type.

2. Projected or Actual Date of Commencement of Construction: **Existing Facility**

3. Projected Date of Completion of Construction: **Existing Facility**

Application Comment

This project consists of an existing 250 TPH – Portable Bituma Equipment & Engineering Company, Inc. (BCE) Drum Mix Asphalt Plant now located at 500 Gene Green Road in Sarasota County, Florida and permitted under FDEP Operation Permit No. 1150060-001-AO. Because of the construction of a new stationary asphalt plant at this site, Ajax Paving Industries is applying for a statewide FDEP Operation Permit for the existing portable BCE Drum Mix Asphalt Plant for relocation to the counties of Collier and Hendry as soon as the stationary asphalt plant is constructed and running. Other locations will be requested for later as they are known.

This asphalt producing facility is equipped to burn No. 5 "on-spec" fuel oil in it's plant's burner system with virgin No.2 fuel oil being an alternate fuel, both fuels having a maximum sulfur limit of 0.5% by weight. The emissions from the mixing/drying drum of this plant are controlled by a BCE primary dry cyclone separator followed by a BCE Model 400 baghouse control system rated at 66,000 ACFM and 99.9% efficient by the manufacturer @ 3-4 "Hg of Pressure Drop.

Liquid Asphalt Tanks and the fuel oil used by the plants burner system at this facility are heated as needed by a Gentec/HyWay, Inc. Model 200, oil heating system rated at 2.0 MBtu/hr fired on No.2 virgin diesel fuel with a maximum sulfur content of 0.5% by weight.

This asphalt producing also employs a BCE Reclaimed Asphalt Vibrating Screening System used to screen and size reclaimed asphalt material to a desired size before it enters the mixing zone of the rotary drum of this asphalt plant.

This facility as in the past will comply with all FDEP Rules and Regulations for relocatable facilities of this type.

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates: (**Present Location other coordinates not known yet**) Zone: **17** East (km): **362.3 E** North (km): **3004.0 N**			
2. Facility Latitude/Longitude: Latitude (DD/MM/SS): **27°08'58" N** Longitude (DD/MM/SS): **82°45'10" W**			
3. Governmental Facility Code: **O**	4. Facility Status Code: **ACTIVE**	5. Facility Major Group SIC Code: **2951**	6. Facility SIC(s): **2951**

7. Facility Comment (limit to 500 characters):

This project consists of an existing 250 TPH - Portable Bituma Equipment & Engineering Company, Inc. (BCE) Drum Mix Asphalt Plant now located at 500 Gene Green Road in Sarasota County, Florida and permitted under FDEP Operation Permit No. 1150060-001-AO. Because of the construction of a new stationary asphalt plant at this site, Ajax Paving Industries is applying for a statewide FDEP Operation Permit for the existing portable BCE Drum Mix Asphalt Plant for relocation to the counties of Collier and Hendry as soon as the stationary asphalt plant is constructed and running. Other locations will be requested for later as they are known.

This asphalt producing facility is equipped to burn No. 5 "on-spec" fuel oil in it's plant's burner system with virgin No.2 fuel oil being an alternate fuel, both fuels having a maximum sulfur limit of 0.5% by weight. The emissions from the mixing/drying drum of this plant are controlled by a BCE primary dry cyclone separator followed by a BCE Model 400 baghouse control system rated at 66,000 ACFM and 99.9% efficient by the manufacturer @ 3-4 "Hg of Pressure Drop.

Liquid Asphalt Tanks and the fuel oil used by the plants burner system at this facility are heated as needed by a Gentec/HyWay, Inc. Model 200, oil heating system rated at 2.0 MBtu/hr fired on No.2 virgin diesel fuel with a maximum sulfur content of 0.5% by weight.

This asphalt producing also employs a BCE Reclaimed Asphalt Vibrating Screening System used to screen and size reclaimed asphalt material to a desired size before it enters the mixing zone of the rotary drum of this asphalt plant.

This facility as in the past will comply with all FDEP Rules and Regulations for relocatable facilities of this type.

Facility Contact

1.	Name and Title of Facility Contact: **Mr. Robert K. Ray, Asphalt Plant Operations Manager**
2.	Facility Contact Mailing Address: Organization/Firm: **Ajax Paving Industries, Inc.** Street Address: **510 Gene Green Road** City: **Nokomis** State: **Florida** Zip Code: **34272**
3.	Facility Contact Telephone Numbers: Telephone: **(941) 486-3600** Fax: **(941) 486-3500**

Facility Regulatory Classifications

Check all that apply:

1. [ ] Small Business Stationary Source?	[X] Unknown
2. [X] Synthetic Non-Title V Source? (**Emissions less than 100 ton/yr)**	
3. [X] Synthetic Minor Source of Pollutants Other than Haps?	
4. [X] Synthetic Minor Source of HAPs? **(Total HAP's less than 25 ton/yr)**	
5. [X] One or More Emissions Units Subject to NSPS?	
6. [ ] One or More Emission Units Subject to NESHAP Recordkeeping or Reporting?	
7. Facility Regulatory Classifications Comment (limit to 200 characters): **This facility does not meet the criteria of Title V "conditional exemption" in 62-210.300 (3) but is considered a "synthetic minor source" and is exempt from Title V permitting in accordance with EPA's definition.** **Emissions from facility less than 100 ton/year, regulated total HAPs emissions (in fuel oil) less than 25 ton/year.**	

Rule Applicability Analysis

This facility is subject to NSPS and 40 CFR 60, subpart 000. This facility does not meet the criteria of Title V "conditional exemption" in 62-210.300 (3) but is considered a "synthetic minor source" and is exempt from Title V permitting in accordance with EPA's definition.

B. FACILITY POLLUTANTS

List of Pollutants Emitted

1. Pollutant Emitted	2. Pollutant Classif.	3. Requested Emissions Cap lb/hour	tons/year	4. Basis for Emissions Cap	5. Pollutant Comment
PM	**B**	**0.04 gr/dscf**		**RULE**	
PM10	**B**			**RULE**	
SO2	**B**			**RULE**	
NOx	**B**			**RULE**	
CO	**B**			**RULE**	
TOC	**B**			**RULE**	

C. FACILITY SUPPLEMENTAL INFORMATION

Supplemental Requirements

1. Area Map Showing Facility Location: [**X**] Attached, Document ID:__**I**_____ [ ] Not Applicable [ ] Waiver Requested *** Present Location, other locations not determined as of yet**
2. Facility Plot Plan: [**X**] Attached, Document ID:__**II**_____[ ] Not Applicable [ ] Waiver Requested *** Present Location, other locations may very with space available.**
3. Process Flow Diagram(s): [**X**] Attached, Document ID:___**III**____[ ] Not Applicable [ ] Waiver Requested
4. Precautions to Prevent Emissions of Unconfined Particulate Matter: [**X**] Attached, Document ID:__**IV**_____[ ] Not Applicable [ ] Waiver Requested
5. Supplemental Information for Construction Permit Application: [**X**] Attached, Document ID:___**V**_____[ ] Not Applicable
6. Supplemental Requirements Comment:

EMISSIONS ID. NO. 001

250 TPH BCE – PORTABLE DRUM MIX ASPHALT PLANT

III. EMISSIONS UNIT INFORMATION – *Asphalt Plant*

A separate Emissions Unit Information Section (including subsections A through G as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

A. GENERAL EMISSIONS UNIT INFORMATION

Emissions Unit Description and Status

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

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

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

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

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters):
250 tph Portable Bituma Construction & Engineering Company, Inc. Drum Mix Asphalt Plant, fired on "on-spec" No.5 reclaimed fuel oil with No.2 virgin diesel fuel being an alternate fuel, both fuels having a 0.5% maximum sulfur content by weight, controlled by a BCE primary collector seperator followed by a BCE Model 400 baghouse system.

3. Emissions Unit Identification Number:
ID: **001**
[ ] No ID
[ ] ID Unknown

2. Emissions Unit Status Code:	3. Initial Startup Date:	4. Emissions Unit Major Group SIC Code:
ACTIVE	**ACTIVE**	**2951**

5. Emissions Unit Comment: (Limit to 500 Characters):

The emissions generated in the drying drum of this asphalt plant producing facility will be controlled by the BCE – Primary Collector Seperator. This collector recycles and returns 50% of the dust emissions generated in the drum back into the aggregate / recycle mixing zone. The primary collector will be followed by an existing BCE, Model 400 baghouse control system rated at 66,000 ACFM and 99.9 % by the manufacturer.

Emissions Unit Control Equipment

1. Control Equipment/Method Description (limit to 200 characters per device or method):

A Bituma Engineering & Equipment Company (BCE) – Primary Collector Seperator followed by a BCE, Model 400 baghouse system rated at 66,000 ACFM and 99.9 % by the manufacturer.

2. Control Device or Method Code(s): **101**

Emissions Unit Details

1. Package Unit: **Drum Mix Asphalt Plant controlled with primary collector and baghouse**
   Manufacturer: **Bituma Engineering & Equipment Company (BCE)**
   Model Number: **Primary Collector / Baghouse Model 400**
2. Generator Nameplate Rating: MW
3. Incinerator Information:
   Dwell Temperature: °F
   Dwell Time: seconds
   Incinerator Afterburner Temperature: °F

Emissions Unit Operating Capacity and Schedule

1. Maximum Heat Input Rate: **110.0** mmBtu/hr **(plant's burner system)**
2. Maximum Incineration Rate: lb/hr tons/day
3. Maximum Process or Throughput Rate: **Maximum of 250 tph of hot mix asphalt concrete and a maximum of 750 gallons per hour of "on-spec" No.5 reclaimed fuel oil burned by the plant's burner system.**
4. Maximum Production Rate: **250 tph of hot mix asphaltic concrete.**
5. Requested Maximum Operating Schedule:

24 hours/day **7 days/week**

52 weeks/year ***not to exceeed:*** **4000 hrs/year**

6. Operating Capacity/Schedule Comment (limit to 200 characters):
Annual Production at this facility will consist of the following:

Total Tons of asphalt to be produced = 1 million ton
Total Fuel Consunption per year, by plant's burner system = maximum of 3.0 million gallons
Total Production Hours = 4000 maximum of operation by plant's burner system.

Facility is a "synthetic minor" source. Emissions are less than 100 tpy, while HAP's emissions are less than 25 tpy.

B. EMISSION POINT (STACK/VENT) INFORMATION

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram? **001 Exhaust Stack**		2. Emission Point Type Code: **1**
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): **NOT APPLICABLE**		
3. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: **NOT APPLICABLE**		
4. Discharge Type Code: **V**	6. Stack Height: **~30** feet	7. Exit Diameter: **~10 sq.** feet
8. Exit Temperature: **~275°F**	9. Actual Volumetric Flow Rate: **~66,000** acfm	10. Water Vapor: **~30 %**
11. Maximum Dry Standard Flow Rate: **~35,000** dscfm		12. Nonstack Emission Point Height: feet
13. Emission Point UTM Coordinates: **(present location Sarasota County other UTM no yet confirmed)** Zone: **17** East (km): **362.2 E** North (km): **3004.0 N**		
14. Emission Point Comment (limit to 200 characters):		

C. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment _1__ of __1___ **(Emissions for No.2 & 5 the Same)**

1. Segment Description (Process/Fuel Type) (limit to 500 characters):
Bituma Engineering & Equipment Company, Inc. (BCE) – Portable Drum Mix Asphalt Plant, Burner System rated at 110.0 MMBtu/hr fired on "on-spec" No. 5 reclaimed fuel oil or No.2 virgin diesel fuel as a backup, with maximum sulfur limits of 0.5 % by weight and maximum consumption of 750 gallons per hour.

2. Source Classification Code (SCC): **30500201**	3. SCC Units: **1,000 gallons burned**	
4. Maximum Hourly Rate: **750 gal/hr max.**	5. Maximum Annual Rate: **3.0 million gal/yr max.**	6. Estimated Annual Activity Factor: **NA**
6. Maximum % Sulfur: **0.50 % by weight**	7. Maximum % Ash: **< 0.01 % by weight**	8. Million Btu per SCC Unit: **0.138 MMBtu**
10. Segment Comment (limit to 200 characters): **The emissions factors contained in AP-42, table 11.1-8 for Drum Mix Asphalt Plants (1/95) indicated same emission factors for both types of fuel oil that will be used at this facility by the plant's burner system.**		

Segment Description and Rate: Segment _____ of _____

1. Segment Description (Process/Fuel Type) (limit to 500 characters):

2. Source Classification Code (SCC):	3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment (limit to 200 characters):		

D. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION

Potential Emissions

1. Pollutant Emitted: **PM**	2. Pollutant Regulatory Code: **EL**	
3. Primary Control Device Code: **101**	4. Secondary Control Device Code:	5. Total Percent Efficiency of Control: **99.9%**
6. Potential Emissions: **10.00** lb/hour **20.00** tons/year		7. Synthetically Limited? **[X] YES**
8. Emission Factor: **0.040 lb/ton** Reference: **AP-42 (Table 11.1-5)**		9. Emissions Method Code: **3**

10. Calculation of Emissions (limit to 600 characters):

PM = (0.040 lb/ton) (250 ton/hr) = 10.00 lb/hr
PM_{yearly} = (10.00 lb/hr)(4000 hr/yr) / 2000 lb/ton = 20.00 ton/yr

10. Pollutant Potential Emissions Comment (limit to 200 characters):
The emission factors contained in AP-42, table 11.1-8 Drum Mix Asphalt Plants (1/95) indicate the same emission factors for both types of fuel oils that will be used at this facility by the plant's burner system.

Allowable Emissions Allowable Emissions **1** of **5**

1. Basis for Allowable Emissions Code: **RULE – Emissions subject to NSPS**	2. Future Effective Date of Allowable Emissions: **NA**
2. Requested Allowable Emissions and Units: **0.04 grains/dscf**	4. Equivalent Allowable Emissions: **10.00** lb/hour **20.00** tons/year

5. Method of Compliance (limit to 60 characters): **Compliance will be achieved through initial and annual emissions compliance testing.**

6. Allowable Emissions Comment (Desc. Of Operating Method) (limit to 200 characters):

D. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION

Potential Emissions

1. Pollutant Emitted: **SO2**	2. Pollutant Regulatory Code: **EL**	
3. Primary Control Device Code:	4. Secondary Control Device Code:	5. Total Percent Efficiency of Control:
6. Potential Emissions: **14.00** lb/hour **28.00** tons/year		7. Synthetically Limited? **[X] YES**
8. Emission Factor: **0.056 lb/ton** Reference: **AP-42 (Table 11.1-8)**		11. Emissions Method Code: **3**

10. Calculation of Emissions (limit to 600 characters):

SO2 = (0.056 lb/ton) (250 ton/hr) = 14.00 lb/hr
$SO2_{yearly}$ = (14.00 lb/hr)(4000 hr/yr) / 2000 lb/ton = 28.00 ton/yr

12. Pollutant Potential Emissions Comment (limit to 200 characters):
The emission factors contained in AP-42, table 11.1-8 Drum Mix Asphalt Plants (1/95) indicate the same emission factors for both types of fuel oils that will be used at this facility by the plant's burner system.

Allowable Emissions Allowable Emissions ___2___ of __5____

3. Basis for Allowable Emissions Code: **RULE – Emissions subject to VE standards**	2. Future Effective Date of Allowable Emissions: **NA**
4. Requested Allowable Emissions and Units: **0.50 % sulfur by weight**	4. Equivalent Allowable Emissions: **14.00** lb/hour **28.00** tons/year

5. Method of Compliance (limit to 60 characters): **Compliance will be achieved through fuel oil analyses supplies with every load delivered to this plant and kept on record.**

6. Allowable Emissions Comment (Desc. Of Operating Method) (limit to 200 characters):

D. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION

Potential Emissions

1. Pollutant Emitted: **NOx**	2. Pollutant Regulatory Code: **EL**	
3. Primary Control Device Code:	4. Secondary Control Device Code:	5. Total Percent Efficiency of Control:
6. Potential Emissions: **18.75** lb/hour **37.50** tons/year		7. Synthetically Limited? **[X] YES**
8. Emission Factor: **0.040 lb/ton** Reference: **AP-42 (Table 11.1-5)**		13. Emissions Method Code: **3**

10. Calculation of Emissions (limit to 600 characters):

NOx = (0.075 lb/ton) (250 ton/hr) = 18.75 lb/hr
NOx_{yearly} = (18.75 lb/hr)(4000 hr/yr) / 2000 lb/ton = 37.50 ton/yr

14. Pollutant Potential Emissions Comment (limit to 200 characters):
The emission factors contained in AP-42, table 11.1-8 Drum Mix Asphalt Plants (1/95) indicate the same emission factors for both types of fuel oils that will be used at this facility by the plant's burner system.

Allowable Emissions Allowable Emissions ___**3**___ of __**5**____

5. Basis for Allowable Emissions Code: **RULE**	2. Future Effective Date of Allowable Emissions: **NA**
6. Requested Allowable Emissions and Units: **Emissions subject to VE standards**	4. Equivalent Allowable Emissions: **18.75** lb/hour **37.50** tons/year

5. Method of Compliance (limit to 60 characters): **Compliance will be achieved through fuel oil analyses supplies with every load delivered to this plant and kept on record.**

6. Allowable Emissions Comment (Desc. Of Operating Method) (limit to 200 characters):

D. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION

Potential Emissions

1. Pollutant Emitted: **CO**	2. Pollutant Regulatory Code: **EL**	
3. Primary Control Device Code:	4. Secondary Control Device Code:	5. Total Percent Efficiency of Control:
6. Potential Emissions: **9.00** lb/hour **18.00** tons/year		7. Synthetically Limited? [**X**] **YES**
8. Emission Factor: **0.040 lb/ton** Reference: **AP-42 (Table 11.1-8)**		15. Emissions Method Code: **3**

10. Calculation of Emissions (limit to 600 characters):

CO = (0.036 lb/ton) (250 ton/hr) = 9.00 lb/hr
CO_{yearly} = (9.00 lb/hr)(4000 hr/yr) / 2000 lb/ton = 18.00 ton/yr

16. Pollutant Potential Emissions Comment (limit to 200 characters):
The emission factors contained in AP-42, table 11.1-8 Drum Mix Asphalt Plants (1/95) indicate the same emission factors for both types of fuel oils that will be used at this facility by the plant's burner system.

Allowable Emissions Allowable Emissions ___**4**___ of __**5**____

7. Basis for Allowable Emissions Code: **RULE**	2. Future Effective Date of Allowable Emissions: **NA**
8. Requested Allowable Emissions and Units: **Emissions subject to VE standards**	4. Equivalent Allowable Emissions: **9.00** lb/hour **18.00** tons/year

5. Method of Compliance (limit to 60 characters): **Compliance will be achieved through fuel oil analyses supplies with every load delivered to this plant and kept on record.**

6. Allowable Emissions Comment (Desc. Of Operating Method) (limit to 200 characters):

D. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION

Potential Emissions

1. Pollutant Emitted: **TOC**	2. Pollutant Regulatory Code: **EL**	
3. Primary Control Device Code:	4. Secondary Control Device Code:	5. Total Percent Efficiency of Control: **0%**
6. Potential Emissions: **17.25** lb/hour **34.50** tons/year		7. Synthetically Limited? **[X] YES**
8. Emission Factor: **0.069 lb/ton** Reference: **AP-42 (Table 11.1-5)**		17. Emissions Method Code: **3**

10. Calculation of Emissions (limit to 600 characters):

TOC = (0.069 lb/ton) (250 ton/hr) = 17.25 lb/hr
TOC_{yearly} = (17.25 lb/hr)(4000 hr/yr) / 2000 lb/ton = 34.50 ton/yr

18. Pollutant Potential Emissions Comment (limit to 200 characters):
The emission factors contained in AP-42, table 11.1-8 Drum Mix Asphalt Plants (1/95) indicate the same emission factors for both types of fuel oils that will be used at this facility by the plant's burner system.

Allowable Emissions Allowable Emissions ___5___ of __5____

9. Basis for Allowable Emissions Code: **RULE**	2. Future Effective Date of Allowable Emissions: **NA**
10. Requested Allowable Emissions and Units: **Emissions subject to VE standards**	4. Equivalent Allowable Emissions: **17.25** lb/hour **34.50** tons/year

5. Method of Compliance (limit to 60 characters): **Compliance will be achieved through fuel oil analyses supplies with every load delivered to this plant and kept on record.**

6. Allowable Emissions Comment (Desc. Of Operating Method) (limit to 200 characters):

E. VISIBLE EMISSIONS INFORMATION
(Only Emissions Units Subject to a VE Limitation)

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype: **VE20**	2. Basis for Allowable Opacity: [X] Rule [ ] Other
3. Requested Allowable Opacity: Normal Conditions: **20 %** Exceptional Conditions: **20 %** Maximum Period of Excess Opacity Allowed: **NONE** min/hour	
4. Method of Compliance: **EPA METHOD 9**	
5. Visible Emissions Comment (limit to 200 characters): **Regulated under 62-296.320**	

F. CONTINUOUS MONITOR INFORMATION
(Only Emissions Units Subject to Continuous Monitoring)

Continuous Monitoring System: Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	[ ] Rule [ ] Other
4. Monitor Information: Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters): **NOT APPLICABLE**	

G. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Supplemental Requirements

1. Process Flow Diagram [**X**] Attached, Document ID: **I** [ ] Not Applicable [ ] Waiver Requested
2. Fuel Analysis or Specification [**X**] Attached, Document ID: **V** [ ] Not Applicable [ ] Waiver Requested **Can be found in supplemental information section of application**
3. Detailed Description of Control Equipment [**X**] Attached, Document ID: **VI** [ ] Not Applicable [ ] Waiver Requested
4. Description of Stack Sampling Facilities [ ] Attached, Document ID:_____ [ ] Not Applicable [ ] Waiver Requested
5. Compliance Test Report [ ] Attached, Document ID:_____ [ ] Previously submitted, Date:_____ [**X**] Not Applicable
6. Procedures for Startup and Shutdown [ ] Attached, Document ID:_____ [ ] Not Applicable [ ] Waiver Requested
7. Operation and Maintenance Plan [ ] Attached, Document ID:_____ [ ] Not Applicable [**X**] Waiver Requested
8. Supplemental Information for Construction Permit Application [**X**] Attached, Document ID: **V** [ ] Not Applicable
9. Other Information Required by Rule or Statute [ ] Attached, Document ID:_____ [ ] Not Applicable
10. Supplemental Requirements Comment:

EMISSIONS ID. NO. 002

EMISSIONS GENTEC / HY-WAY OIL HEATING SYSTEM

III. EMISSIONS UNIT INFORMATION - Genctec Hy-Way Heater

A separate Emissions Unit Information Section (including subsections A through G as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

A. GENERAL EMISSIONS UNIT INFORMATION

Emissions Unit Description and Status

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

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

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

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

6. Description of Emissions Unit Addressed in This Section (limit to 60 characters):
Gentec Hy-Way Model No. HGYO-200 Oil Heating System, fired on No.2 Virgin Diesel Fuel with a maximum sulfur content of 0.5% by weight, rated at 2.0 MBtu/hr. Utilized to heat liquid asphalt tanks and fuel oil supplied to the plant's burner system.

3. Emissions Unit Identification Number: ID: **002**		[ ] No ID [ ] ID Unknown
7. Emissions Unit Status Code: **ACTIVE**	8. Initial Startup Date: **ACTIVE – ASAP**	9. Emissions Unit Major Group SIC Code: **2951**

10. Emissions Unit Comment: (Limit to 500 Characters):
This is an existing emissions unit and will remain as is with no changes.

Emissions Unit Information Section 2 of 5

Emissions Unit Control Equipment

5. Control Equipment/Method Description (limit to 200 characters per device or method):

NONE – limiting sulfur limits in fuel oil burned by this unit

2. Control Device or Method Code(s):

Emissions Unit Details

1. Package Unit: **Hot Oil Heating System**
   Manufacturer: **Genctec/ Hy-Way** Model Number: **HGYO-200**
2. Generator Nameplate Rating: MW
3. Incinerator Information:
   Dwell Temperature: °F
   Dwell Time: seconds
   Incinerator Afterburner Temperature: °F

Emissions Unit Operating Capacity and Schedule

1. Maximum Heat Input Rate: **2.00** mmBtu/hr **(oil heater's burner system)**
2. Maximum Incineration Rate: lb/hr tons/day
3. Maximum Process or Throughput Rate: **Maximum of 10.0 gal/hr.**
4. Maximum Production Rate: **10.0 gal/hr.**
7. Requested Maximum Operating Schedule:

24 hours/day **7 days/week**

52 weeks/year ***not to exceeed:*** **8760 hrs/year**

8. Operating Capacity/Schedule Comment (limit to 200 characters):

This unit will operate continuously but will cycle at high and low fires. The maximum fuel consumption for this unit is 10.0 gallons hour.

B. EMISSION POINT (STACK/VENT) INFORMATION

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram? **002 Oil Heater**		6. Emission Point Type Code: **1**
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): **NOT APPLICABLE**		
7. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: **NOT APPLICABLE**		
8. Discharge Type Code: **V**	6. Stack Height: **~ 10** feet	7. Exit Diameter: **~ 0.75** feet
8. Exit Temperature: **~200°F**	9. Actual Volumetric Flow Rate: **Unknown**	10. Water Vapor: **~5 %**
11. Maximum Dry Standard Flow Rate: dscfm		12. Nonstack Emission Point Height: feet
13. Emission Point UTM Coordinates: **(@ present location, other locations not as yet determined)** Zone: **17** East (km): **362.2 E** North (km): **3004.0 N**		
14. Emission Point Comment (limit to 200 characters):		

C. SEGMENT (PROCESS/FUEL) INFORMATION – Gencor Hy-Way Oil Heater

Segment Description and Rate: Segment ___1__ of __1__

1. Segment Description (Process/Fuel Type) (limit to 500 characters): **Gentec Hy-Way Model HYGO-200 Oil Heating System fired on No.2 Virgin diesel fuel with a maximum sulfur content of 0.5% by weight, used to heat fuel oil going to plants burner system and to heat liquid asphalt before entering mixing drum of the plant.**		
19. Source Classification Code (SCC): **30500201**	20. SCC Units: **1,000 gallons burned**	
21. Maximum Hourly Rate: **10.00 gal/hr max.**	22. Maximum Annual Rate: **87,600 gal/yr max.**	6. Estimated Annual Activity Factor: **NA**
23. Maximum % Sulfur: **0.50 % by weight**	24. Maximum % Ash: **< 0.01 % by weight**	25. Million Btu per SCC Unit: **0.138 MMBtu**
10. Segment Comment (limit to 200 characters): **Unit will be solely fired on No.2 virgin diesel fuel, this unit cycles from high to low fire dependent on heat needed.**		

Segment Description and Rate: Segment _____ of _____

1. Segment Description (Process/Fuel Type) (limit to 500 characters):		
2. Source Classification Code (SCC):	3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment (limit to 200 characters):		

D. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION

Potential Emissions

1. Pollutant Emitted: **PM**	2. Pollutant Regulatory Code: **EL**	
3. Primary Control Device Code: **NA**	4. Secondary Control Device Code:	5. Total Percent Efficiency of Control: **0.0%**
6. Potential Emissions: **0.02** lb/hour **0.08** tons/year		7. Synthetically Limited? [**X**] **YES**
8. Emission Factor: **2.0 lb/1,000 gal** Reference: **AP-42 (Table 1.3-7)**		26. Emissions Method Code: **3**
10. Calculation of Emissions (limit to 600 characters): **PM = (2.0 lb/1,000 gal) (10.0 gal/hr) = 0.02 lb/hr** **PM_{yearly} = (0.02 lb/hr)(8,760 hr/yr) / 2000 lb/ton = 0.08 ton/yr**		
27. Pollutant Potential Emissions Comment (limit to 200 characters):		

Allowable Emissions Allowable Emissions ___1___ of __5___

11. Basis for Allowable Emissions Code: **RULE – Emissions subject to Opacity Stds.**	2. Future Effective Date of Allowable Emissions: **NA**
12. Requested Allowable Emissions and Units: **20 % Opacity**	4. Equivalent Allowable Emissions: **0.02** lb/hour **0.08** tons/year
5. Method of Compliance (limit to 60 characters): **Compliance will be achieved through proper maintenance of oil heating system, initial and annual visible emissions testing and fuel analyses supplied by oil supplier.**	
6. Allowable Emissions Comment (Desc. Of Operating Method) (limit to 200 characters):	

D. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION

Potential Emissions

1. Pollutant Emitted: **SO2**	2. Pollutant Regulatory Code: **EL**	
3. Primary Control Device Code: **NA**	4. Secondary Control Device Code:	5. Total Percent Efficiency of Control: **0 %**
6. Potential Emissions: **1.42** lb/hour **6.22** tons/year		7. Synthetically Limited? [**X**] **YES**
8. Emission Factor: **142.0 lb/1,000 gal.** Reference: **AP-42 (Table 1.3-2)**		28. Emissions Method Code: **3**
10. Calculation of Emissions (limit to 600 characters): **ESO2 = (142.0 lb/1,000 gal) (10.0 gal/hr) = 1.42 lb/hr** **$ESO2_{yearly}$ = (1.42 lb/hr)(8,760 hr/yr) / 2000 lb/ton = 6.22 ton/yr**		
29. Pollutant Potential Emissions Comment (limit to 200 characters):		

Allowable Emissions Allowable Emissions ___**2**___ of __**5**____

13. Basis for Allowable Emissions Code: **RULE – Emissions subject to Opacity Stds.**	2. Future Effective Date of Allowable Emissions: **NA**
14. Requested Allowable Emissions and Units: **0.50 % sulfur by weight**	4. Equivalent Allowable Emissions: **1.42** lb/hour **6.22** tons/year
5. Method of Compliance (limit to 60 characters): **Compliance will be achieved through fuel oil analyses supplies with every load delivered to this plant and kept on record, proper maintenance of burner system.**	
6. Allowable Emissions Comment (Desc. Of Operating Method) (limit to 200 characters):	

D. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION

Potential Emissions

1. Pollutant Emitted: **NOx**		2. Pollutant Regulatory Code: **EL**
3. Primary Control Device Code:	4. Secondary Control Device Code:	5. Total Percent Efficiency of Control:
6. Potential Emissions: **0.20** lb/hour **0.88** tons/year		7. Synthetically Limited? **[X] YES**
8. Emission Factor: **20.0 lb/1,000 gal** Reference: **AP-42 (Table 1.3-2)**		30. Emissions Method Code: **3**

10. Calculation of Emissions (limit to 600 characters):

NOx = (20.0 lb/1,000 gal) (10.0 gal/hr) = 0.20 lb/hr
NOx_{yearly} = (0.20 lb/hr)(8,760 hr/yr) / 2000 lb/ton = 0.88 ton/yr

31. Pollutant Potential Emissions Comment (limit to 200 characters):

Allowable Emissions Allowable Emissions **3** of **5**

15. Basis for Allowable Emissions Code: **RULE**	2. Future Effective Date of Allowable Emissions: **NA**
16. Requested Allowable Emissions and Units: **Emissions subject to Opacity stds.**	4. Equivalent Allowable Emissions: **0.20** lb/hour **0.88** tons/year

5. Method of Compliance (limit to 60 characters): **Compliance will be achieved through fuel oil analyses supplies with every load delivered to this plant and kept on record and proper maintenance of this unit.**

6. Allowable Emissions Comment (Desc. Of Operating Method) (limit to 200 characters):

D. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION

Potential Emissions

1. Pollutant Emitted: **CO**	2. Pollutant Regulatory Code: **EL**	
3. Primary Control Device Code: **NA**	4. Secondary Control Device Code:	5. Total Percent Efficiency of Control: **0%**
6. Potential Emissions: **0.05** lb/hour **0.22** tons/year		7. Synthetically Limited? [**X**] **YES**
8. Emission Factor: **5.0 lb/1,000 gal** Reference: **AP-42 (Table 1.3-2)**		32. Emissions Method Code: **3**

10. Calculation of Emissions (limit to 600 characters):

CO = (5.0 lb/1,000 gal)(10.0 gal/hr) = 0.05 lb/hr
CO_{yearly} = (0.05 lb/hr)(8,760 hr/yr) / 2000 lb/ton = 0.22 ton/yr

33. Pollutant Potential Emissions Comment (limit to 200 characters):

Allowable Emissions Allowable Emissions ___**4**___ of __**5**____

17. Basis for Allowable Emissions Code: **RULE**	2. Future Effective Date of Allowable Emissions: **NA**
18. Requested Allowable Emissions and Units: **Emissions subject to opacity stds.**	4. Equivalent Allowable Emissions: **0.05** lb/hour **0.22** tons/year

5. Method of Compliance (limit to 60 characters): **Compliance will be achieved through fuel oil analyses supplies with every load delivered to this plant and kept on record and proper maintenance of this unit.**

6. Allowable Emissions Comment (Desc. Of Operating Method) (limit to 200 characters):

D. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION

Potential Emissions

1. Pollutant Emitted: **TOC**	2. Pollutant Regulatory Code: **EL**	
3. Primary Control Device Code: **NA**	4. Secondary Control Device Code:	5. Total Percent Efficiency of Control: **0%**
6. Potential Emissions: **0.003** lb/hour **0.013** tons/year		7. Synthetically Limited? [**X**] **YES**
8. Emission Factor: **0.252 lb/1,000 gal** Reference: **AP-42 (Table 1.3-4)**		34. Emissions Method Code: **3**

10. Calculation of Emissions (limit to 600 characters):

TOC = (0.252 lb/1,000 gal) (10.0 gal/hr) = 0.003 lb/hr
TOC_{yearly} = (0.003 lb/hr)(8,760 hr/yr) / 2000 lb/ton = 0.013 ton/yr

35. Pollutant Potential Emissions Comment (limit to 200 characters):

Allowable Emissions Allowable Emissions ___**5**___ of __**5**____

19. Basis for Allowable Emissions Code: **RULE**	2. Future Effective Date of Allowable Emissions: **NA**
20. Requested Allowable Emissions and Units: **Emissions subject to opacity standards**	4. Equivalent Allowable Emissions: **0.003** lb/hour **0.013** tons/year

5. Method of Compliance (limit to 60 characters): **Compliance will be achieved through fuel oil analyses supplies with every load delivered to this plant and kept on record and proper maintenance of this unit.**

6. Allowable Emissions Comment (Desc. Of Operating Method) (limit to 200 characters):

E. VISIBLE EMISSIONS INFORMATION
(Only Emissions Units Subject to a VE Limitation)

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype: **VE20**	2. Basis for Allowable Opacity: [X] Rule [ ] Other
3. Requested Allowable Opacity: Normal Conditions: **20 %** Exceptional Conditions: **20 %** Maximum Period of Excess Opacity Allowed: **NONE** min/hour	
4. Method of Compliance: **EPA METHOD 9**	
5. Visible Emissions Comment (limit to 200 characters): **Regulated under 62-296.320**	

F. CONTINUOUS MONITOR INFORMATION
(Only Emissions Units Subject to Continuous Monitoring)

Continuous Monitoring System: Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	[ ] Rule [ ] Other
4. Monitor Information: Manufacturer: Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters): **NOT APPLICABLE**	

EMMISSIONS ID. NO. 003

EMISSIONS FROM BCE - RECLAIMED ASPHALT VIBRATING SCREENER

III. EMISSIONS UNIT INFORMATION

BCE – Vibrating Reclaimed Asphalt Screener

A separate Emissions Unit Information Section (including subsections A through G as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

A. GENERAL EMISSIONS UNIT INFORMATION

Emissions Unit Description and Status

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

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

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

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

2. Description of Emissions Unit Addressed in This Section (limit to 60 characters):

BCE - Vibrating Reclaimed Asphalt Screening unit – used to screen reclaimed crushed asphalt to adesired size before entering rotary mixing drum of asphalt plant

3. Emissions Unit Identification Number:
ID: **003**

[ ] No ID
[ ] ID Unknown

11. Emissions Unit Status Code:	12. Initial Startup Date:	13. Emissions Unit Major Group SIC Code:
ACTIVE	**ACTIVE (ASAP)**	**2951**

14. Emissions Unit Comment: (Limit to 500 Characters):
This is an existing emissions unit and will remain as is with no changes.

Emissions Unit Control Equipment

9. Control Equipment/Method Description (limit to 200 characters per device or method):

All material crushed or ground by this crusher is already coated with liquid asphalt, therefore fugitive emissions from this point will be minimum to nil.

2. Control Device or Method Code(s):

Emissions Unit Details

1. Package Unit: **Vibrating Material Screener**
   Manufacturer: **Bituma Engineering & Equipment Co.** Model Number: **RAP-100**
2. Generator Nameplate Rating: MW
3. Incinerator Information:
   Dwell Temperature: °F
   Dwell Time: seconds
   Incinerator Afterburner Temperature: °F

Emissions Unit Operating Capacity and Schedule

1. Maximum Heat Input Rate:
2. Maximum Incineration Rate: lb/hr tons/day
3. Maximum Process or Throughput Rate: **Maximum of 90.0 tph**
4. Maximum Production Rate: **90.0 ton/hr.**
9. Requested Maximum Operating Schedule:

24 hours/day **7 days/week**

52 weeks/year ***not to exceeed: 4000*** **hrs/year**

10. Operating Capacity/Schedule Comment (limit to 200 characters):
This unit will operate continuously as recycle asphalt is produced. Unit will screen and feed no more than 90.0 tph to plant's mixing drum.

B. EMISSION POINT (STACK/VENT) INFORMATION

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram? **003 RAP Screener**		10. Emission Point Type Code: **4**
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): **NA – Fugitive Emission Point**		
11. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: **NOT APPLICABLE**		
12. Discharge Type Code: **F**	6. Stack Height: **~ 12** feet	7. Exit Diameter: **Not Determinable** feet
8. Exit Temperature: **~Ambient** °F	9. Actual Volumetric Flow Rate: **Unknown**	10. Water Vapor: **~5 %**
11. Maximum Dry Standard Flow Rate: dscfm		12. Nonstack Emission Point Height: feet
13. Emission Point UTM Coordinates: (@ **present location, other locations not as yet determined)** Zone: **17** East (km): **362.2 E** North (km): **3004.0 N**		
14. Emission Point Comment (limit to 200 characters): **This emission point subject to 40 CFR 60, subpart 000**		

C. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment ___1__ of __2___

1. Segment Description (Process/Fuel Type) (limit to 500 characters): **Fugitive emissions from vibrating screening unit. (Material Handling) emissions related to screening of reclaimed material.**		
36. Source Classification Code (SCC): **30502510**	37. SCC Units: **Tons of product**	
38. Maximum Hourly Rate: **90.0 ton/hr**	39. Maximum Annual Rate: **36,000 ton/yr max.**	6. Estimated Annual Activity Factor: **NA**
40. Maximum % Sulfur: **NA**	41. Maximum % Ash: **NA**	42. Million Btu per SCC Unit: **NA**
10. Segment Comment (limit to 200 characters): **FUGITIVE EMISSIONS CALCULATED AT WORST CASE SCENARIO**		

Segment Description and Rate: Segment _____ of _____

1. Segment Description (Process/Fuel Type) (limit to 500 characters):		
2. Source Classification Code (SCC):	3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment (limit to 200 characters):		

D. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION

Potential Emissions

1. Pollutant Emitted: **PM10, TSP**		2. Pollutant Regulatory Code: **EL**
3. Primary Control Device Code: **None**	4. Secondary Control Device Code:	5. Total Percent Efficiency of Control: **0.0%**
6. Potential Emissions: PM10 : **0.21 lb/hr, 0.43 ton/yr** TSP: **0.44** lb/hour **0.90** tons/year		7. Synthetically Limited? [**X**] **YES**
8. Emission Factor: **0.0024 lb/ton** Reference: **AP-42 (Table 11.19.2-2)**		43. Emissions Method Code: **3**

10. Calculation of Emissions (limit to 600 characters):

PM10 = (90.0 ton/hr) (0.0024 lb/ton) = 0.21 lb/hr
$PM10_{yearly}$ = [(90.0 ton/hr)(4000 hr/yr)(0.0024 lb/ton)] / 2000 lb/ton = 0.43 ton/yr

TSP_{hour} = (0.21 lb/hr) (2.1) = 0.44 lb/hr

TSP_{yearly} = (0.43 ton/hr)(2.1) = 0.90 ton/yr

44. Pollutant Potential Emissions Comment (limit to 200 characters):

Allowable Emissions Allowable Emissions ___1___ of __7____

3. Basis for Allowable Emissions Code: **RULE – Emissions subject to subpart 000**	2. Future Effective Date of Allowable Emissions: **NA**
4. Requested Allowable Emissions and Units: **<10% Opacity**	5. Equivalent Allowable Emissions: PM10 = **0.21 lb/hr, 0.43 ton/hr** TSP = **0.44** lb/hour, **0.90** tons/year

5. Method of Compliance (limit to 60 characters): **Compliance will be achieved through initial and annual emissions compliance testing.**

6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):

E. VISIBLE EMISSIONS INFORMATION
(Only Emissions Units Subject to a VE Limitation)

Visible Emissions Limitation: Visible Emissions Limitation ___1___ of ___1___

1. Visible Emissions Subtype: **VE10**	2. Basis for Allowable Opacity: [X] Rule [ ] Other
3. Requested Allowable Opacity: Normal Conditions: **10 %** Exceptional Conditions: **10 %** Maximum Period of Excess Opacity Allowed: **NONE** min/hour	
4. Method of Compliance: **EPA METHOD 9**	
5. Visible Emissions Comment (limit to 200 characters): **Regulated under 40 CFR 60 subpart 000.**	

F. CONTINUOUS MONITOR INFORMATION
(Only Emissions Units Subject to Continuous Monitoring)

Continuous Monitoring System: Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	[ ] Rule [ ] Other
4. Monitor Information: Manufacturer: Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters): **NOT APPLICABLE**	

G. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Supplemental Requirements

1. Process Flow Diagram [**X**] Attached, Document ID: **I** [ ] Not Applicable [ ] Waiver Requested
2. Fuel Analysis or Specification [**X**] Attached, Document ID: **V** [ ] Not Applicable [ ] Waiver Requested **Can be found in supplemental information section of application**
3. Detailed Description of Control Equipment [**X**] Attached, Document ID: **VI** [ ] Not Applicable [ ] Waiver Requested
4. Description of Stack Sampling Facilities [ ] Attached, Document ID: _____ [ ] Not Applicable [ ] Waiver Requested
5. Compliance Test Report [ ] Attached, Document ID: _____ [ ] Previously submitted, Date: _____ [**X**] Not Applicable
6. Procedures for Startup and Shutdown [ ] Attached, Document ID: _____ [ ] Not Applicable [ ] Waiver Requested
7. Operation and Maintenance Plan [ ] Attached, Document ID: _____ [**X**] Not Applicable [ ] Waiver Requested
8. Supplemental Information for Construction Permit Application [**X**] Attached, Document ID: **V** [ ] Not Applicable
9. Other Information Required by Rule or Statute [ ] Attached, Document ID: _____ [ ] Not Applicable
10. Supplemental Requirements Comment:

EMISSIONS ID. NO. 004

FUGITIVE EMISSIONS FROM PAVED & UNPAVED ROADS

III. EMISSIONS UNIT INFORMATION

FUGITIVE EMISSIONS FROM PAVED & UNPAVED AREAS

A separate Emissions Unit Information Section (including subsections A through G as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

A. GENERAL EMISSIONS UNIT INFORMATION

Emissions Unit Description and Status

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

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

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

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

6. Description of Emissions Unit Addressed in This Section (limit to 60 characters):

Fugitive emissions from paved and unpaved areas – worst case scenario. All paved and unpaved areas and aggregate piles at this facility as well as other locations will be kept damp on a as needed basis.

3. Emissions Unit Identification Number: ID: **004**	[ ] No ID [ ] ID Unknown	
15. Emissions Unit Status Code: **NA**	16. Initial Startup Date: **ASAP**	17. Emissions Unit Major Group SIC Code: **2951**

18. Emissions Unit Comment: (Limit to 500 Characters):

Fugitive emissions from paved and unpaved areas – worst case scenario. All paved and unpaved areas and aggregate piles at this facility and other locations will be kept damp on a as needed basis.

Emissions Unit Information Section 4 of 5

Emissions Unit Control Equipment

13. Control Equipment/Method Description (limit to 200 characters per device or method):

All unpaved roadways at this facility and other locations are and will be kept damp by water truck and sprlinker system on a as needed basis. Vehicular traffic speed will be posted and enforced at a maximum of 5 m.p.h. at all locations.

2. Control Device or Method Code(s): **099**

Emissions Unit Details

1. Package Unit: **NA**
   Manufacturer: Model Number:
2. Generator Nameplate Rating: MW
3. Incinerator Information:
   Dwell Temperature: °F
   Dwell Time: seconds
   Incinerator Afterburner Temperature: °F

Emissions Unit Operating Capacity and Schedule

1. Maximum Heat Input Rate:
2. Maximum Incineration Rate: lb/hr tons/day
3. Maximum Process or Throughput Rate:
4. Maximum Production Rate:
11. Requested Maximum Operating Schedule:

24 hours/day **7 days/week**

52 weeks/year ***not to exceeed: 4000*** **hrs/year**

12. Operating Capacity/Schedule Comment (limit to 200 characters):
Vehicular traffic at this facility will not be continuous 24 hrs/day

B. EMISSION POINT (STACK/VENT) INFORMATION

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram? **004 – Unpaved/Paved Areas**		14. Emission Point Type Code: **4**
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): **NA – Fugitive Emission Point**		
15. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: **NOT APPLICABLE**		
16. Discharge Type Code: **F**	6. Stack Height: **~ 0.0** feet	7. Exit Diameter: **Not Determinable** feet
8. Exit Temperature: **~Ambient** °F	9. Actual Volumetric Flow Rate: **Unknown**	10. Water Vapor: **~5 %**
11. Maximum Dry Standard Flow Rate: dscfm		12. Nonstack Emission Point Height: feet
13. Emission Point UTM Coordinates: (@ **present location, other locations UTM not determined as of yet.)** Zone: **17** East (km): **362.6 E** North (km): **3004.0 N**		
14. Emission Point Comment (limit to 200 characters): **This emission point subject to 62-296.310 FAC Rules and Regulations.**		

Emissions Unit Information Section 4 of 5

C. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment ___1__ of __2___

1. Segment Description (Process/Fuel Type) (limit to 500 characters):		
Fugitive emissions from paved, unpaved roads and stockpiles (Material Handling) emissions related to silt content on roadways and vehicular traffic in facility. Worst case scenario.		
45. Source Classification Code (SCC): **3050204**	46. SCC Units: **Vehicle Miles Traveled**	
47. Maximum Hourly Rate: **NA**	48. Maximum Annual Rate: **NA**	6. Estimated Annual Activity Factor: **NA**
49. Maximum % Sulfur: **NA**	50. Maximum % Ash: **NA**	51. Million Btu per SCC Unit: **NA**
10. Segment Comment (limit to 200 characters): **FUGITIVE EMISSIONS CALCULATED AT WORST CASE SCENARIO**		

Segment Description and Rate: Segment _____ of _____

1. Segment Description (Process/Fuel Type) (limit to 500 characters):		
2. Source Classification Code (SCC):	3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment (limit to 200 characters):		

D. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION

Potential Emissions

1. Pollutant Emitted: **PM10, TSP**	2. Pollutant Regulatory Code: **EL**	
3. Primary Control Device Code: **099**	4. Secondary Control Device Code:	5. Total Percent Efficiency of Control: **90.0%**
6. Potential Emissions: PM10 : **1.0 lb/hr, 1.67 ton/yr** TSP: **2.1** lb/hour **3.28** tons/year		7. Synthetically Limited? [**X**] **YES**
8. Emission Factor: **0.24 lb/VMT** Reference: **AP-42 (Section 13.2.1.1) unpaved roads**		52. Emissions Method Code: **3**

53. Calculation of Emissions (limit to 600 characters):

$E = k(5.9)[s/12][S/30][W/3]^{0.7}[w/4]^{0.5}[365-P/365]$

$E = 0.36(5.9)[8.9/12][5/30][31.3/3]^{0.7}[10/4]^{0.5}[365-120/365] = 2.0$ lb/VMT

$E = 2.0$ lb/VMT (1-0.90 control efficiency fron water truck) $= 0.2$ lb/VMT

$E_{daily} = (0.2$ lb/VMT$)(50$ VMT/day$) = 10.0$ lb/day

$E_{year} = [(10.0$ lb/day$) / (\sim 12$ hr/day$) (4000$ hr/yr$) / 2000$ lb/ton $= 1.67$ ton/yr

54. Pollutant Potential Emissions Comment (limit to 200 characters):

Allowable Emissions Allowable Emissions ___1___ of __7____

7. Basis for Allowable Emissions Code: **RULE**	2. Future Effective Date of Allowable Emissions: **NA**
8. Requested Allowable Emissions and Units: **<10% Opacity**	9. Equivalent Allowable Emissions: PM10 = **1.0 lb/hr, 1.67 ton/hr** TSP = **2.10** lb/hour, **3.28** tons/year

5. Method of Compliance (limit to 60 characters): **Compliance will be achieved through initial and annual emissions compliance testing. Watering of roadways and stockpiles will be performed as to control fugitive emissions at all locations.**

6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):

E. VISIBLE EMISSIONS INFORMATION
(Only Emissions Units Subject to a VE Limitation)

Visible Emissions Limitation: Visible Emissions Limitation ___1___ of ___1___

1. Visible Emissions Subtype: **VE10**	2. Basis for Allowable Opacity: [X] Rule [ ] Other
3. Requested Allowable Opacity: Normal Conditions: **10** % Exceptional Conditions: **10** % Maximum Period of Excess Opacity Allowed: **NONE** min/hour	
4. Method of Compliance: **EPA METHOD 9**	
5. Visible Emissions Comment (limit to 200 characters): **Regulated under 62-296.320**	

F. CONTINUOUS MONITOR INFORMATION
(Only Emissions Units Subject to Continuous Monitoring)

Continuous Monitoring System: Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	[ ] Rule [ ] Other
4. Monitor Information: Manufacturer: Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters): **NOT APPLICABLE**	

G. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Supplemental Requirements

1. Process Flow Diagram [**X**] Attached, Document ID: **I** [ ] Not Applicable [ ] Waiver Requested
2. Fuel Analysis or Specification [**X**] Attached, Document ID: **V** [ ] Not Applicable [ ] Waiver Requested **Can be found in supplemental information section of application**
3. Detailed Description of Control Equipment [**X**] Attached, Document ID: **VI** [ ] Not Applicable [ ] Waiver Requested
4. Description of Stack Sampling Facilities [ ] Attached, Document ID: _____ [ ] Not Applicable [ ] Waiver Requested
5. Compliance Test Report [ ] Attached, Document ID: _____ [ ] Previously submitted, Date: _____ [**X**] Not Applicable
6. Procedures for Startup and Shutdown [ ] Attached, Document ID: _____ [ ] Not Applicable [ ] Waiver Requested
7. Operation and Maintenance Plan [ ] Attached, Document ID: _____ [**X**] Not Applicable [ ] Waiver Requested
8. Supplemental Information for Construction Permit Application [**X**] Attached, Document ID: **V** [ ] Not Applicable
9. Other Information Required by Rule or Statute [ ] Attached, Document ID: _____ [ ] Not Applicable
10. Supplemental Requirements Comment:

EMISSIONS ID. NO. 005

FUGITIVES FROM STOCKPILES & CONVEYOR DROP POINTS

III. EMISSIONS UNIT INFORMATION

FUGITIVE EMISSIONS FROM AGGREGATE HANDLING

A separate Emissions Unit Information Section (including subsections A through G as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

A. GENERAL EMISSIONS UNIT INFORMATION

Emissions Unit Description and Status

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

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

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

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

10. Description of Emissions Unit Addressed in This Section (limit to 60 characters):

Fugitive emissions from paved and unpaved areas – worst case scenario. All paved and unpaved areas and aggregate piles at this facility and other locations will be kept damp on a as needed basis.

3. Emissions Unit Identification Number: ID: **005**		[ ] No ID [ ] ID Unknown
19. Emissions Unit Status Code: **NA**	20. Initial Startup Date: **ASAP**	21. Emissions Unit Major Group SIC Code: **2951**

22. Emissions Unit Comment: (Limit to 500 Characters):

Fugitive emissions from Aggregate Handling – worst case scenario. All aggregate piles at this facility and other locations will be kept damp on a as needed basis.

Emissions Unit Information Section ___5___ of __5____

Emissions Unit Control Equipment

17. Control Equipment/Method Description (limit to 200 characters per device or method):

All aggregate stockpiles at this facility and other locations will be kept damp by water truck and sprlinker system on a as needed basis.

2. Control Device or Method Code(s): **099**

Emissions Unit Details

1. Package Unit: **NA**
   Manufacturer: Model Number:
2. Generator Nameplate Rating: MW
3. Incinerator Information:
   Dwell Temperature: °F
   Dwell Time: seconds
   Incinerator Afterburner Temperature: °F

Emissions Unit Operating Capacity and Schedule

1. Maximum Heat Input Rate:
2. Maximum Incineration Rate: lb/hr tons/day
3. Maximum Process or Throughput Rate:
4. Maximum Production Rate:

13. Requested Maximum Operating Schedule:

24 hours/day **7 days/week**

52 weeks/year ***not to exceeed: 4000*** **hrs/year**

14. Operating Capacity/Schedule Comment (limit to 200 characters):
Aggregate Handling at this facility will not be continuous 24 hrs/day

B. EMISSION POINT (STACK/VENT) INFORMATION

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram? **005 – Conveyor Drops, Loader Operations**	18. Emission Point Type Code: **4**
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): **NA – Fugitive Emission Point**	
19. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: **NOT APPLICABLE**	

20. Discharge Type Code: **F**	6. Stack Height: **~ 0.0** feet	7. Exit Diameter: **Not Determinable** feet
8. Exit Temperature: **~Ambient** °F	9. Actual Volumetric Flow Rate: **Unknown**	10. Water Vapor: **~5** %

11. Maximum Dry Standard Flow Rate: dscfm	12. Nonstack Emission Point Height: feet

13. Emission Point UTM Coordinates: **(@ present location. UTM's for other locations have not been determined as of yet)**

Zone: **17** East (km): **362.2 E** North (km): **3004.0 N**

14. Emission Point Comment (limit to 200 characters):
This emission point subject to 62-296.310 FAC Rules and Regulations.

C. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment ___1__ of __2___

1. Segment Description (Process/Fuel Type) (limit to 500 characters):		
Fugitive emissions from aggregate stockpiles and conveyor belts (Material Handling) emissions related to fugitives from conveyor belt drops and from aggregate storage piles from prevailing winds.		
55. Source Classification Code (SCC): **3050207, 3050205**	56. SCC Units: **Area of stockpiles / tons of products**	
57. Maximum Hourly Rate: **NA**	58. Maximum Annual Rate: **NA**	6. Estimated Annual Activity Factor: **NA**
59. Maximum % Sulfur: **NA**	60. Maximum % Ash: **NA**	61. Million Btu per SCC Unit: **NA**
10. Segment Comment (limit to 200 characters): **FUGITIVE EMISSIONS CALCULATED AT WORST CASE SCENARIO**		

Segment Description and Rate: Segment _____ of _____

1. Segment Description (Process/Fuel Type) (limit to 500 characters):		
2. Source Classification Code (SCC):	3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment (limit to 200 characters):		

D. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION

Potential Emissions

1. Pollutant Emitted: **PM10, TSP**	2. Pollutant Regulatory Code: **EL**	
3. Primary Control Device Code: **099**	4. Secondary Control Device Code:	5. Total Percent Efficiency of Control: **90.0%**
6. Potential Emissions: PM10 : **0.20 lb/hr, 0.41 ton/yr** TSP = **0.42 lb/hr, 0.86 ton/yr**		7. Synthetically Limited? [**X**] **YES**
6. Emission Factor: Reference: **AP-42 (Section 13.2.4.2)**		9.Emissions Method Code: **3**

7. Calculation of Emissions (limit to 600 characters):

$E = k(0.0032)[u/5]^{1.3}[M/2]^{1.4}$

$E = 0.35(0.0032)[7/5]^{1.3} / [0.7/2]^{1.4} = 0.0081$ lb/ton

E = 250 ton/hr (0.0081 lb/ton) = 2.03 lb/hr

E = (2.03 lb/hr)(1-0.90 collector efficiency) (~24 hr/day) = 4.87 lb/day

E = [(4.87 lb/day) / (~24 hr/day) (4000 hr/yr) / 2000 lb/ton = 0.41 ton/yr

8. Pollutant Potential Emissions Comment (limit to 200 characters):

Aggregate Storage Piles & Conveyor Drops – Fugitive Emissions (controlled) are subject to 62-296.700 (2)(e)(f)

Allowable Emissions Allowable Emissions ___1___ of __7____

11. Basis for Allowable Emissions Code: **RULE**	2. Future Effective Date of Allowable Emissions: **NA**
12. Requested Allowable Emissions and Units: **<10% Opacity**	13. Equivalent Allowable Emissions: PM10: **0.20 lb/hr, 0.41 ton/hr** TSP = **0.42 lb/hr, 0.86 ton/yr**

5. Method of Compliance (limit to 60 characters): **Compliance will be achieved through initial and annual emissions compliance testing. Watering of stockpiles will be performed as to control fugitive emissions at all sites.**

6. Allowable Emissions Comment (Desc. Of Operating Method) (limit to 200 characters):

E. VISIBLE EMISSIONS INFORMATION
(Only Emissions Units Subject to a VE Limitation)

Visible Emissions Limitation: Visible Emissions Limitation 1 of 1

1. Visible Emissions Subtype: **VE10**	2. Basis for Allowable Opacity: [X] Rule [ ] Other
3. Requested Allowable Opacity: Normal Conditions: **10 %** Exceptional Conditions: **10 %** Maximum Period of Excess Opacity Allowed: **NONE** min/hour	
4. Method of Compliance: **EPA METHOD 9**	
5. Visible Emissions Comment (limit to 200 characters): **Regulated under 62-296.320**	

F. CONTINUOUS MONITOR INFORMATION
(Only Emissions Units Subject to Continuous Monitoring)

Continuous Monitoring System: Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	[ ] Rule [ ] Other
4. Monitor Information: Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters): **NOT APPLICABLE**	

G. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Supplemental Requirements

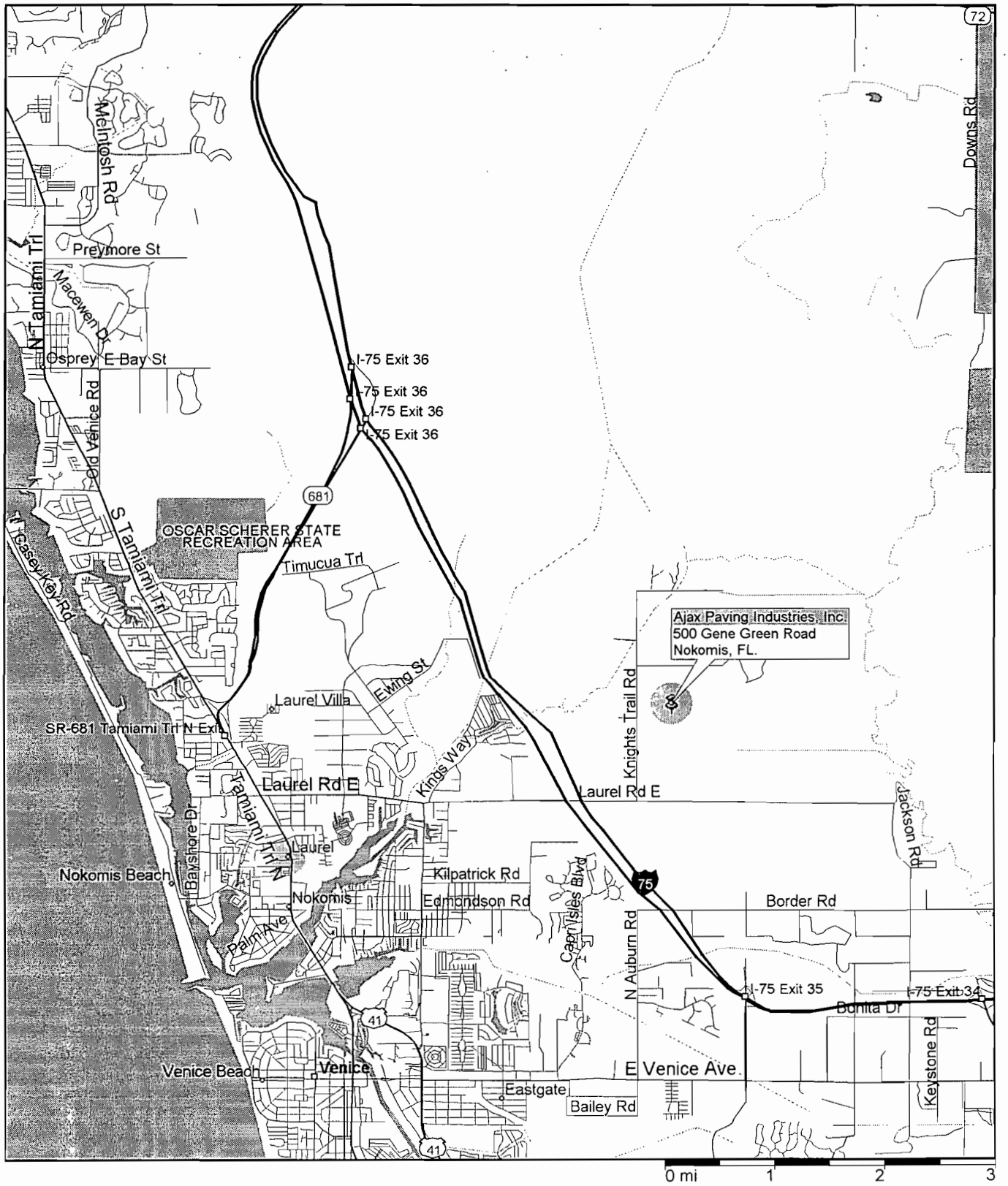
1. Process Flow Diagram [**X**] Attached, Document ID:__**I**_____ [ ] Not Applicable [ ] Waiver Requested
2. Fuel Analysis or Specification [**X**] Attached, Document ID:__**V**_____[ ] Not Applicable [ ] Waiver Requested **Can be found in supplemental information section of application**
3. Detailed Description of Control Equipment [**X**] Attached, Document ID:_**VI**_____ [ ] Not Applicable [ ] Waiver Requested
4. Description of Stack Sampling Facilities [ ] Attached, Document ID:_____ [ ] Not Applicable [ ] Waiver Requested
5. Compliance Test Report [ ] Attached, Document ID:_____ [ ] Previously submitted, Date:_____ [**X**] Not Applicable
6. Procedures for Startup and Shutdown [ ] Attached, Document ID:_____ [ ] Not Applicable [ ] Waiver Requested
7. Operation and Maintenance Plan [ ] Attached, Document ID:_____ [**X**] Not Applicable [ ] Waiver Requested
8. Supplemental Information for Construction Permit Application [**X**] Attached, Document ID:__**V**_____[ ] Not Applicable
9. Other Information Required by Rule or Statute [ ] Attached, Document ID:_____ [ ] Not Applicable
10. Supplemental Requirements Comment:

TABLE OF CONTENTS

I. FACILITY LOCATION

AJAX PAVING INDUSTRIES - BCE PORTABLE ASPHALT PLANT

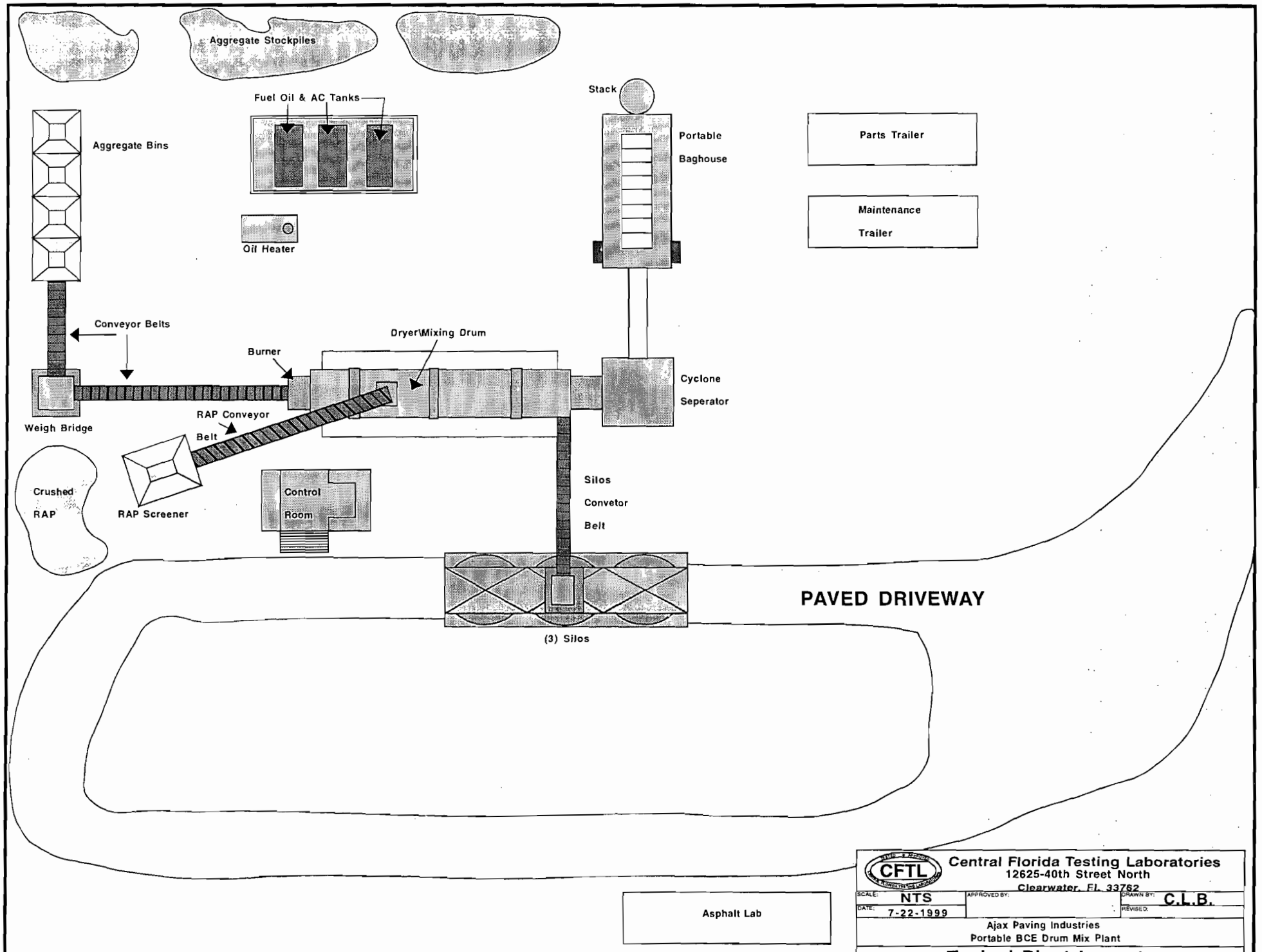
PRESENT LOCATION OF PORTABLE PLANT UNTIL NEW ONE IS CONSTRUCTED



Microsoft Expedia

Streets98

II. SITE PLAN



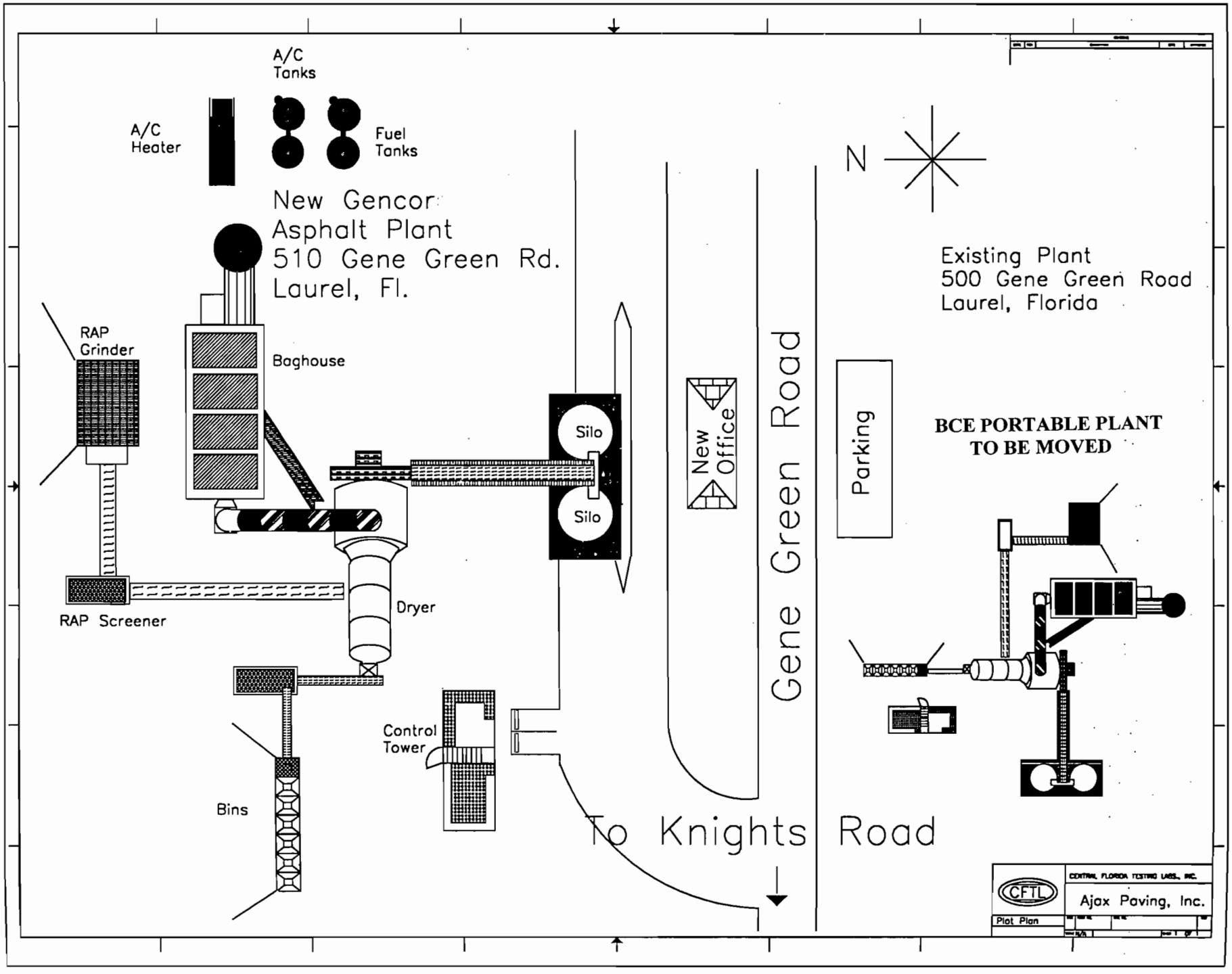
CFTL

Central Florida Testing Laboratories
12625-40th Street North
Clearwater, Fl. 33762

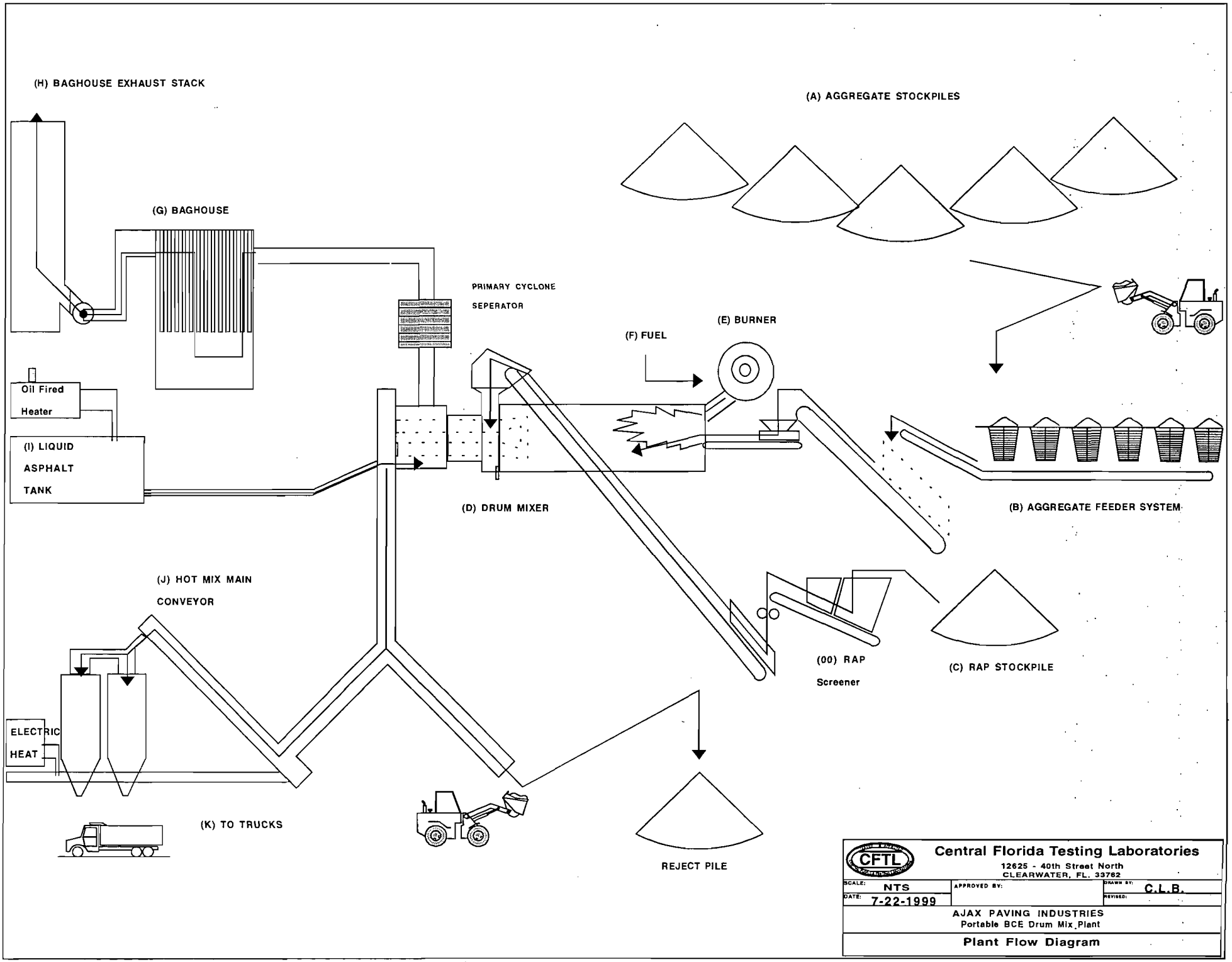
SCALE: NTS	APPROVED BY:	DRAWN BY: C.L.B.
DATE: 7-22-1999		REVISED:

Ajax Paving Industries
Portable BCE Drum Mix Plant

Typical Plant Layout


A/C
Tanks
A/C
Heater
Fuel
Tanks
New Gencor
Asphalt Plant
510 Gene Green Rd.
Laurel, Fl.
N
Existing Plant
500 Gene Green Road
Laurel, Florida
RAP
Grinder
Baghouse
Silo
Silo
New
Office
Parking
BCE PORTABLE PLANT
TO BE MOVED
Gene Green Road
RAP Screener
Dryer
Control
Tower
Bins
To Knights Road
CFTL
CENTRAL FLORIDA TESTING LABS., INC.
Ajax Paving, Inc.
Plot Plan

III. FLOW DIAGRAM



CFTL	Central Florida Testing Laboratories
	12625 - 40th Street North CLEARWATER, FL. 33762
SCALE: NTS	APPROVED BY:
DRAWN BY: C.L.B.	
DATE: 7-22-1999	REVISED:
AJAX PAVING INDUSTRIES Portable BCE Drum Mix Plant	
Plant Flow Diagram	

IV. UNCONFINED EMISSIONS

FUGITIVE EMISSION CONTROL

Precautions to control and prevent fugitive emissions will be accomplished at the sites which this asphalt plant will be located in several manners. Any stockpiles at this location or any other location will be kept dampened by sprinkler systems or by water truck to control airborne emissions by prevailing winds. All traffic areas will have an enforced and instructed 5 mph speed limit as well as kept damp by water truck or sprinkler system on an as needed basis to control fugitive emissions.

V. SUPPLEMENTAL INFORMATION

HOWCO Environmental Services

RECEIVED
AUG 12 1998
PLANT # 2

Manifest #: 214728

CERTIFICATE OF ANALYSIS

TO: AJAX PAVING - Plant 2
FT. MYERS, FL.

FROM: HOWCO ENVIRONMENTAL SERVICES
843 43RD ST. SOUTH
ST. PETERSBURG, FL 33711

PHONE: 1-800-435-8467
DISPATCH: 1-800-872-6715

Typical Analysis

SAMPLE TYPE: FUEL OIL #5
BATCH : 1115, TANK- 125
DATE : August 12, 1998

PARAMETER	CONCENTRATION	UNIT	TEST METHOD
ARSENIC	< 1	PPM	EPASW-846(3050-7061)
CADMIUM	0.4	PPM	EPASW-846(3040-7130)
CHROMIUM	1.8	PPM	EPASW-846(3040-7190)
LEAD	72	PPM	EPASW-846(3040-7420)
SULFUR	0.47	%	ASTM D4294
FLASHPOINT (PMCC)	120	°F	ASTM D93
TOTAL HALOGENS	707	PPM	EPA SW-846 (9075)
SEDIMENT	0.4	%	ASTM D96
VISCOSITY, SAYBOLT	196/100	SSU/°F	ASTM D445
WATER	0.7	%	ASTM D95
API GRAVITY	29.2	60°F	ASTM D287
HEAT OF COMBUSTION	139K	BTU/GAL.	ASTM D240
SPECIFIC GRAVITY	0.8805	60°F	ASTM D1298
PCB'S	< 2	PPM	EPA SW-846 (8080)

Arsenic and PCB testing are performed on a monthly basis.
All analysis were performed in accordance with EPA, ASTM or other FDER approved procedures.

Quality Assurance Officer

REMARKS: 7.285 lbs/gallon

3701 Central Avenue - St. Petersburg, FL 33713 - Tel. 813-327-8467 Fax: 813-321-6213
Operations: Tampa Bay - Ocala - Ft. Myers - 24-Hour Emergency Access 1-800-435-8467

PALMETTO, FL 34221
(941) 723-2263
ASTM MEMBER

REPORT OF LABORATORY ANALYSIS

LAB NO, ML 8504 SAMPLE MARKED: STK 407 after "Mekhanik Yumya

SAMPLE DATE: 10-27-98 REPORT DATE: 10-27-98

LOCATION: Coastal Refining&Marketing Inc.-Port Manatee

SAMPLE SUBMITTED BY: Intertek Caleb Bratt

SAMPLE DESCRIPTION: DIESEL HIGH SULFUR No. 2 Virgin

Typical Analysis

TEST	METHOD	RESULT
API GRAVITY AT 60 F	D1298	33.3
ACID NO.	D974	------
DENSITY, kg/L AT 15 C	D1298	858.2
FLASH PT, F, PMCC	D93	172
SEDIMENT & WATER, VOL.%	D2709	0
VISCOSITY AT 40 C cSt	D445	3.77
VISCOSITY AT 122 F,cSt	D445	3.05
S.U.S. VISCOSITY AT 100 F	D445	39.1
CLOUD PT., F	D2500	+10
POUR POINT, F	D97	0
SULFUR, WT.%	D4294	0.27
ASH, WT.%	D482	0.001
APPEARANCE	D4176	1-pass
B.T.U./ GAL. HHV/	D240	139953
DYE,PPM/PTB	DT-100	12.3/4.3
NITROGEN, PPM	D4629	-------
COMPATIBILITY, SPOT NO.	D4740	-------
CORROSION, COPPER	D130	1a
CCR 10% BOTTOMS WT.%	D189	0.05
CETANE INDEX, CALCULATED	D976	48
PARTICULATES, mg/L	D2276	7.7
ACCELERATED STABILITY	D2274	-------
DuPONT STABILITY	DuPont	2
DISTILLATION, IBP	D86	380
10% RECOVERED	D86	460
50% RECOVERED	D86	546
90% RECOVERED	D86	630
FINAL BOILING POINT	D86	688
RECOVERY	D86	99.0
RESIDUE	D86	1.0
LOSS	D86	0.0
TRACE METALS	AA	
ALUMINUM, PPM		<0.1
CALCIUM, PPM		<0.1
LEAD, PPM		<0.1
SODIUM, PPM		<0.1
VANADIUM, PPM		<0.1

BY Marie Calhoon
MARIE F. CALHOON, CHEMIST

VI. CONTROL EQUIPMENT

AJAX PAVING INDUSTRIES, INC

250 TPH – PORTABLE DRUM MIX ASPHALT PLANT

PORTABLE BCE MODEL 400 BAGHOUSE SYSTEM

OPERATING PARAMETERS

GAS FLOW RATE :	**66,000 ACFM**
STACK DIMENSIONS:	**48" diameter**
GAS STREAM VELOCITY:	**68.8 FT/SEC**
BAGHOUSE PRESSURE DROP :	**3.0 – 4.0 " Hg**
BAG MATERIAL :	**NOMEX (SPUN)**
GAS EXIT TEMPERATURE :	**300 °F**
AIR TO CLOTH RATIO :	**5.7 to 1**
STACK HEIGHT :	**30 FEET**
BAG CLEANING MECHANISM :	**REVERSE PULSE**
CLEANING FREQUENCY :	**10 SECONDS**
CLEANING DURATION :	**1/10th SECOND**
EFFICIENCY RATING :	**99.9 %**

PURCHASER'S NAME	QUOTATION NUMBER	DATE
	001636	July 15, 1985

ITEM NO.	QUANTITY	BCE PART/ MODEL NO.	DESCRIPTION	PRICE
6	1	BCE400	PORTABLE BAGHOUSE, 66,000 CFM	$282,000.

Cloth area: 11,580 sq. ft.
Air/cloth ratio: 5.7:1
Exhaust fan capacity: 66 MCF

Standard equipment includes:

A. 100% Nomex bags with snap band bag top
B. Cage with rolled flange top and built-in venturi
C. 40 HP 160 ACFM Sullair single stage air compressor in acoustically lined enclosure-mounted on trailer frame
D. High efficiency backward curved exhaust fan complete with 200 HP drive and exhaust stack-includes use of BCE provided stack for testing purposes
E. 30 HP 12 PSI Schwitzer blower-4" dia. air line with AR steel elbows
F. Drop through air lock with 1 HP A.C. drive
G. The following safety controls are furnished as standard equipment:
   1) Thermocouple is mounted in the doughnut duct section and is designed with two adjustable temperature limits.

      If exhaust temperature reaches the first high limit, the burner will automatically go to low fire and a warning light will come on at the operator's control station.

      If the exhaust temperature reaches the second high limit, fuel to the burner will be automatically shut off and an alarm will sound at the operator's control panel.

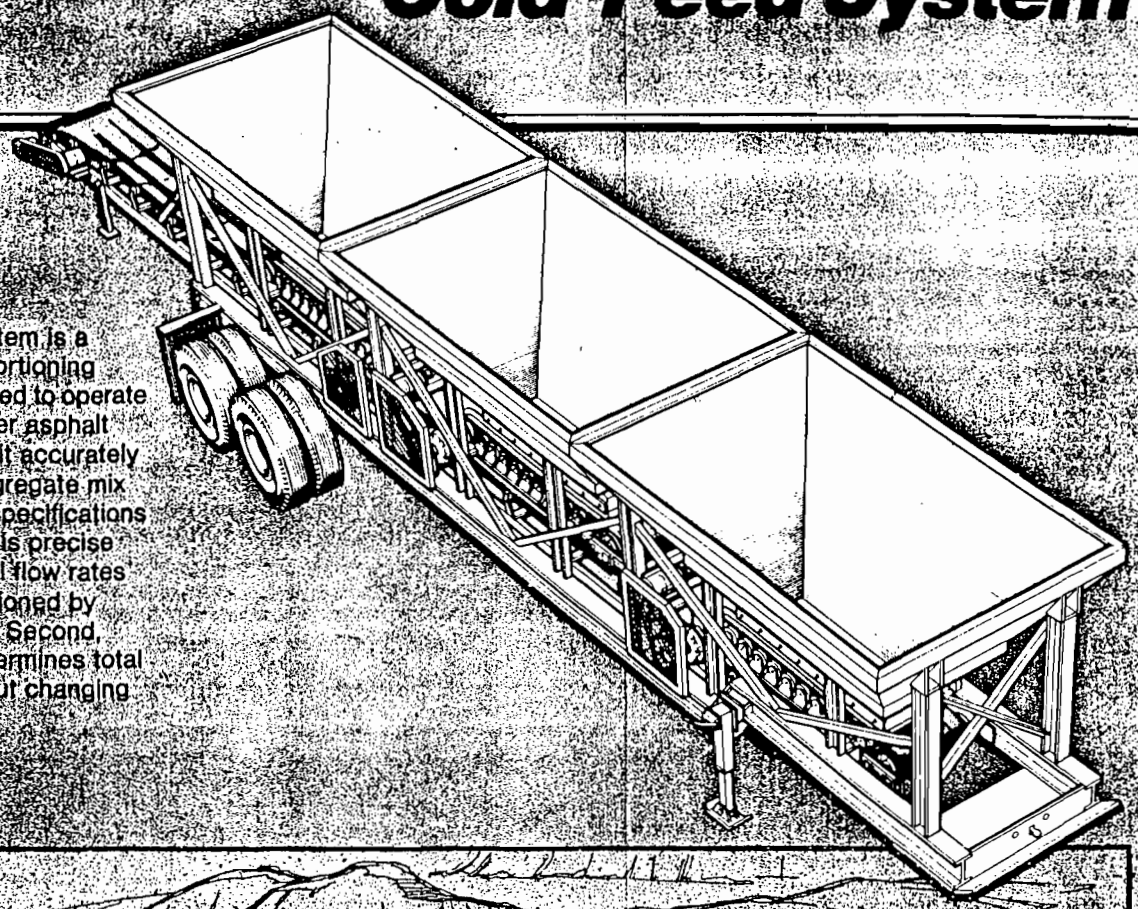
   2) The baghouse is also furnished with an infra-red fire detection system which is installed in the inlet section of the doughnut ductwork. This device will detect any spark or material that is on fire as well as detecting a fire in the baghouse. The fire detection system is designed to detect the source of fire on a timely basis and will automatically shut off the fan and close the fire door when activated.

PURCHASER'S NAME	QUOTATION NUMBER	DATE
	001636	July 15, 1985

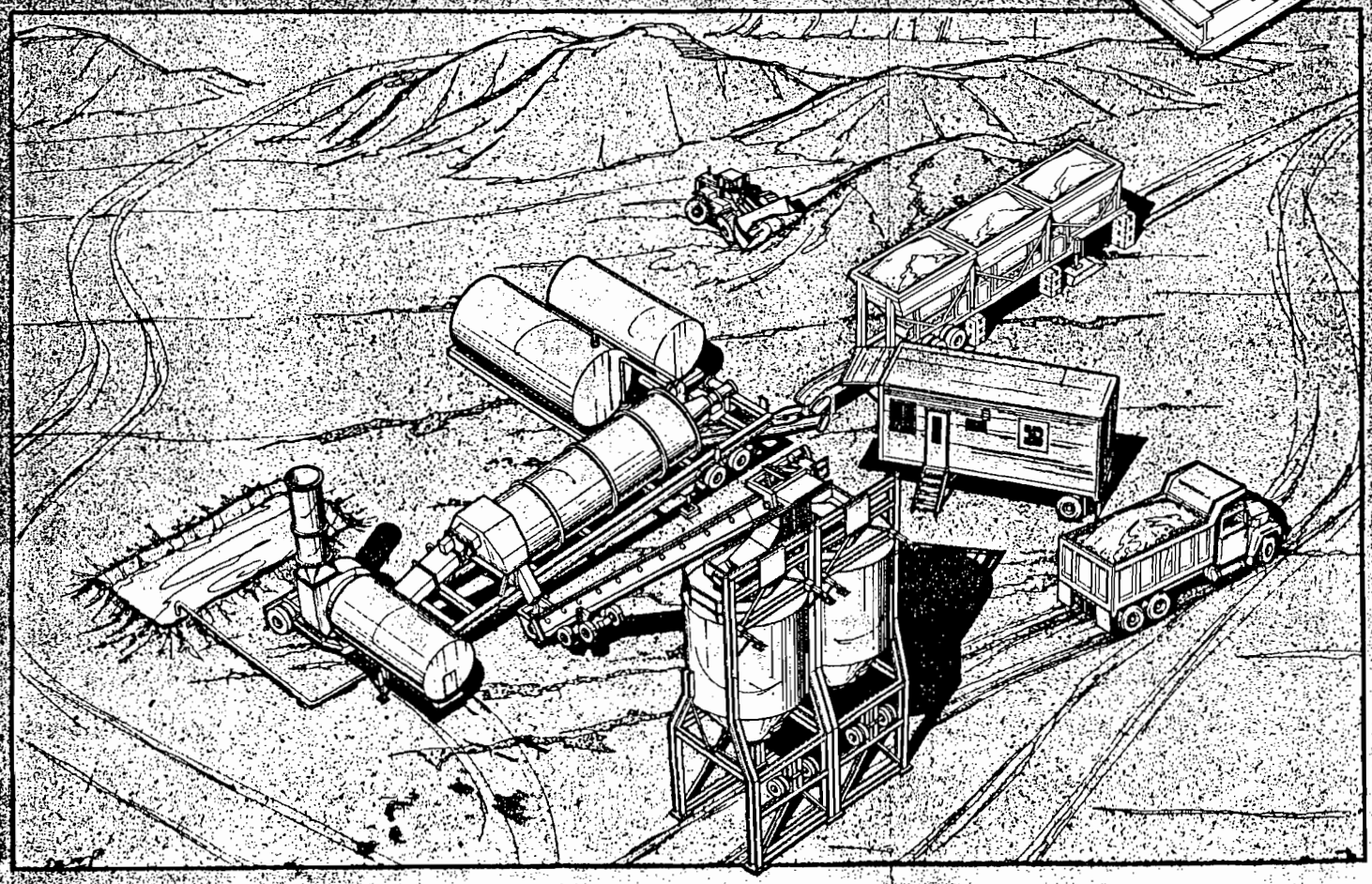
ITEM NO.	QUANTITY	BCE PART/ MODEL NO.	DESCRIPTION	PRICE
6		cont'd	3) The doughnut ductwork is furnished with an air-actuated fire door which opens each time the fan is started and closes each time the fan is shut down. It will also close upon signal from the infra-red fire detection system as noted above. The fire door is designed to operate on a daily basis, thus establishing reliability if ever required. Some competitive systems are electrically actuated and will fail to operate in an emergency if power is shut off. Field reports also indicate fire doors designed to operate only when there is an emergency often fail to operate when an emergency actually happens due to buildup on the door or other mechanical problems. H. Starting gear in a Nema 4 enclosure mounted on trailer frame I. Portability package complete with 5th wheel attachment, air brakes, taillights, and turn signals-Dayton style wheels with 10:00 by 20 tires J. Complete operating controls and electrical cables-S.O. type	

Bituma Construction Equipment Company

Cold-Feed System



The Bituma cold-feed system is a complete aggregate proportioning system, specifically designed to operate with the Bituma drum mixer asphalt plant. This field-proven unit accurately produces a controlled aggregate mix over a wide range of mix specifications and flow rates. Operation is precise yet simple. First, individual flow rates from each bin are proportioned by individual feeder controls. Second, a master feed control determines total aggregate flow rate without changing desired proportions.



System Design

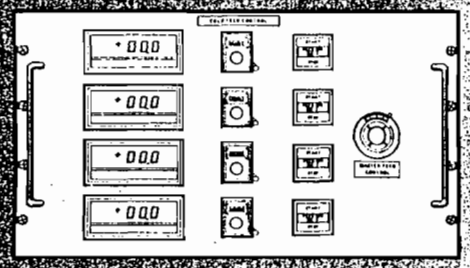
Operation

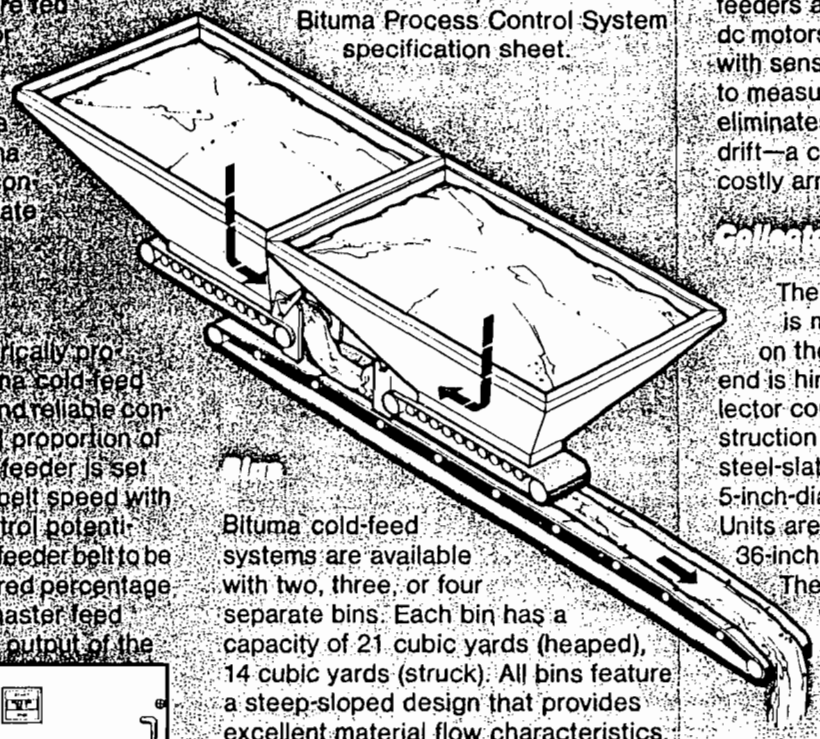
Various aggregates are loaded into the feed bins. Material travels from each bin on an independent, variable-speed feeder belts. Tonnage output from each feed bin is proportional to feeder-belt speed. Aggregates from the individual feeder belts are fed onto a common collector conveyor. The collector conveyor transfers the combined aggregate mix directly to the Bituma drum mixer underfeed conveyor or to an intermediate transfer conveyor.

Controls

Aggregates are volumetrically proportioned from the Bituma cold-feed system by an accurate and reliable control system. The desired proportion of material flow from each feeder is set by adjusting the feeder-belt speed with an individual feeder control potentiometer. This allows each feeder belt to be preset to run at any desired percentage of maximum output. A master feed control adjusts the total output of the cold-feed system and maintains the preset proportions of the individual feeder controls. Feeder speeds are displayed on digital rate meters.

For additional information on Bituma cold-feed controls, refer to the Bituma Process Control System specification sheet.





Bituma cold-feed systems are available with two, three, or four separate bins. Each bin has a capacity of 21 cubic yards (heaped), 14 cubic yards (struck). All bins feature a steep-sloped design that provides excellent material flow characteristics. Bin discharge openings are tapered to provide even material flow and to eliminate bridging. Adjustable gates allow accurate feed-bin output calibration. Large, 9- by 14-foot top-bin openings allow maximum top-loading area.

Feeders

Feeders are channel-frame construction with closely spaced 5-inch-diameter ball-bearing idlers, lagged-head pulley, and steel-slatted tail pulley. Units are standard with either a 24- or 30-inch belt with a vulcanized splice. These feeders are driven by variable-speed dc motors. The dc motors are equipped with sensitive feedback tachometers to measure feeder speed. This system eliminates any significant speed drift—a common problem with less costly armature feedback units.

Collector Conveyor

The collector conveyor assembly is mounted as an integral unit on the cold-feed chassis. The feed end is hinged for portability. The collector conveyor is channel-frame construction with a lagged-head pulley, a steel-slatted tail pulley, and heavy-duty, 5-inch-diameter ball-bearing idlers. Units are standard with either a 30- or 36-inch belt with a vulcanized splice. The conveyor is driven by a 460-volt, 3-phase, 60-Hz ac motor.

The collector feed end is either curved for installation with intermediate transfer conveyors or straight for use with an integral belt scale. When the Bituma cold-feed system is used with Bituma drum mixers that do not require an intermediate transfer conveyor, the weigh scale and belt-speed sensor are mounted as an integral part of the collector conveyor.

Specifications

Cold-feed model	Use with drum mixer model*	Number of bins	Feeder belt width (in)	Feeder (hp)	Collector belt width (in)	Collector (hp)	Collector type	Belt scale on collector
CFP2-2430	100 and 200	2	24	3.0	30	5.0	Straight	Yes
CFP3-2430	100, 200, and 300	3	24	3.0	30	5.0	Straight	Yes
CFP4-2430	100, 200, and 300	4	24	3.0	30	5.0	Straight	Yes
CFP3-2430CC	400	3	24	3.0	30	5.0	Curved	No
CFP4-2430CC	400	4	24	3.0	30	5.0	Curved	No
CFP3-3036CC	400 and 600	3	30	5.0	36	7.5	Curved	No
CFP4-3036CC	400 and 600	4	30	5.0	36	7.5	Curved	No

*Based on standard layout and configuration.

System Design

Portable Chassis

The chassis is constructed from heavy-duty structural steel and is equipped with a tandem-axle walking-beam suspension for three- and four-bin units and single-axle suspension for two-bin units. All equipment required for highway travel is included: fifth-wheel towing assembly, dual wheels with 10.00x20, 12-ply tires, road-ready lighting, mudflaps, and landing jack assembly.

Stationary (Bolt-Together) Bins

Bituma also offers large, stationary, 60-ton bolt-together bin assemblies with 14- by 14-foot top openings. Contact Bituma for application and additional information.

Aggregate Alarm System

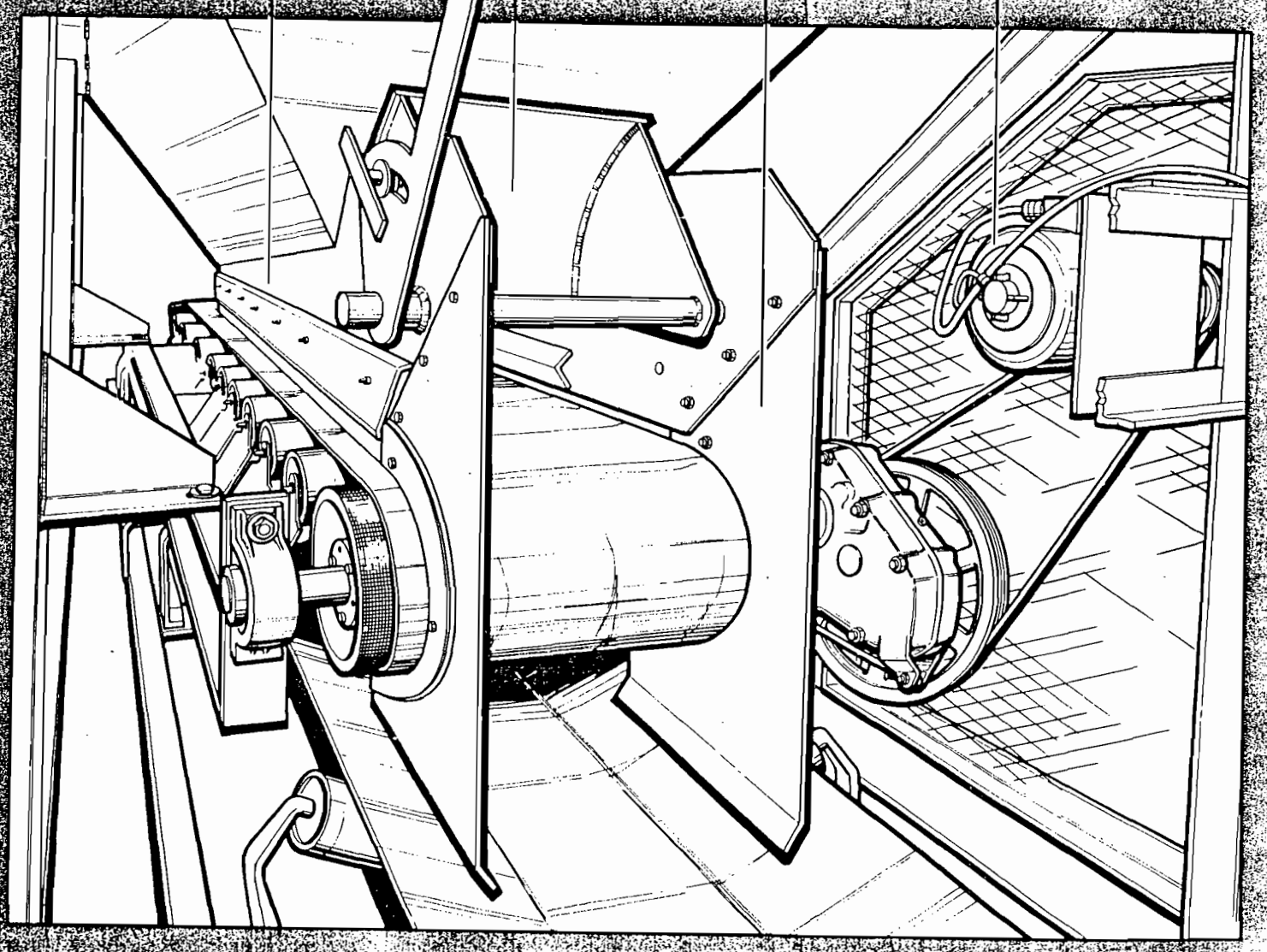
An optional alarm system indicates loss of aggregate flow in each bin either by turning on a warning light, energizing an audible alarm, or shutting down all feed bins and stopping plant operation. An adjustable time delay is built in to prevent nuisance shutdowns or alarming.

Tapered discharge openings provide even material flow and eliminates bridging.

Feeder skirting prevents aggregate spillage.

Adjustable gates allow accurate feed bin calibration.

Variable speed dc motors with sensitive feedback tachometers precisely control feeder output.

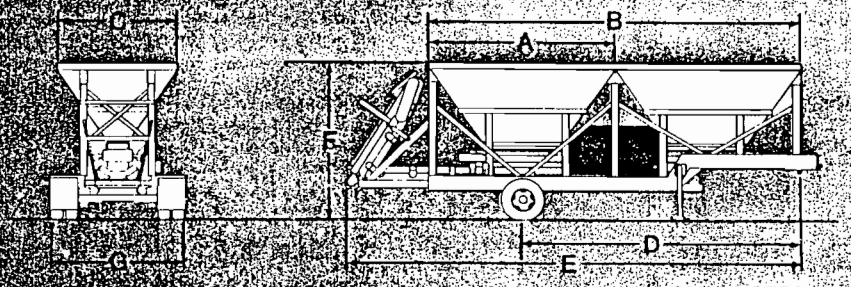


Dimensional Table and Schematics

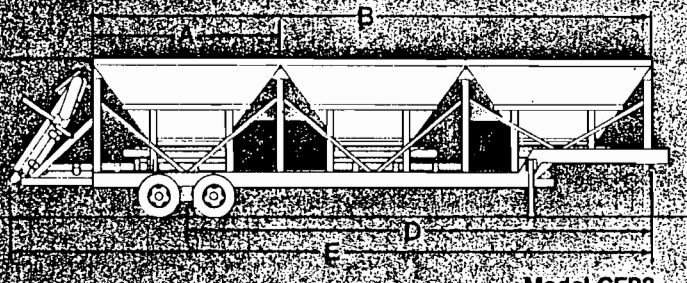
Dimensions

Cold-feed model number	CFP2-	CFP3-	CFP4-
A Single-bin width	14 ft, 0 in	14 ft, 0 in	14 ft, 0 in
B Overall bin width	28 ft, 0 in	42 ft, 0 in	56 ft, 0 in
C Bin depth	9 ft, 0 in	9 ft, 0 in	9 ft, 0 in
D Kingpin to centerline of axle	21 ft, 0 in	35 ft, 3 in	49 ft, 5 in
E Road length	34 ft, 7 in	56 ft, 0 in*	69 ft, 0 in*
F Road height	11 ft, 7 in	11 ft, 11 in	11 ft, 11 in
G Road width	10 ft, 0 in	10 ft, 0 in	10 ft, 0 in
Approximate weight	22,000 lb	29,000 lb	34,000 lb

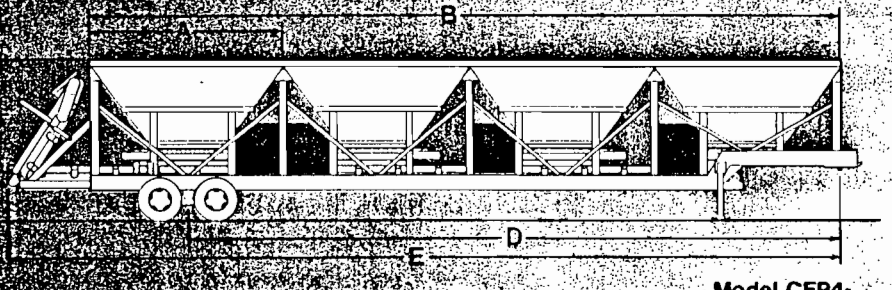
*Add 3 ft, 11 in for curved collector models.



Model CFP2-



Model CFP3-



Model CFP4-

The products pictured and described herein are subject to design changes without any further notice to the purchaser.

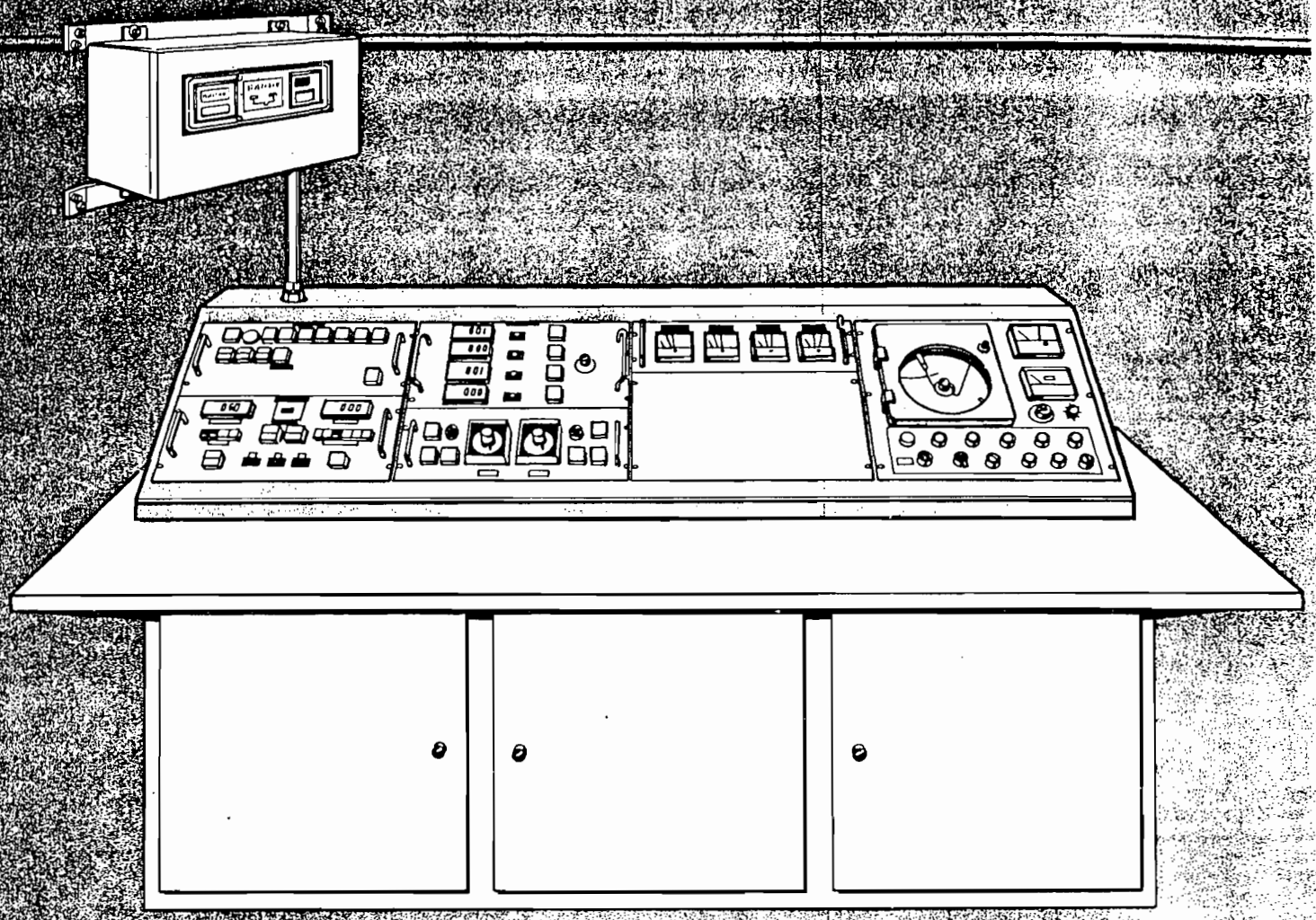
For further information write to:

Bituma Construction Equipment Company

730 Bluff Road
Marquette, Iowa 52158
Phone: 319-873-2227

Bituma Construction Equipment Company

Process Control System



The Bituma Drum Mixer Process Control System is designed and built to provide simple, accurate, and reliable plant process control.

The integrated Bituma Process Control System consists of three independent closed-loop control systems:

1. Aggregate proportioning system
2. Aggregate/asphalt blending system
3. Mix temperature control system

The ***aggregate proportioning system*** accurately feeds and proportions aggregate from individual cold feed bins by variable speed feeders. Constant proportions are automatically maintained over varying production rates.

The ***aggregate/asphalt blending system*** precisely weighs the aggregate, computes the correct amount of asphalt required, and meters the asphalt into the process.

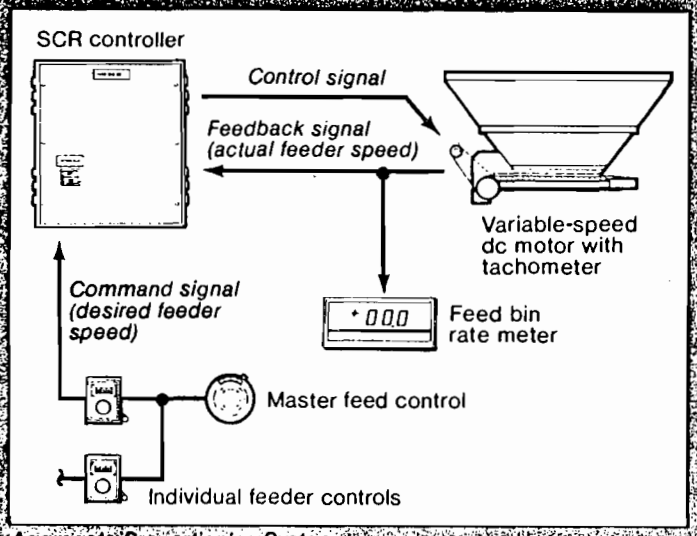
The ***mix temperature control system*** monitors the discharge temperature of mix and adjusts the burner to maintain a preset temperature.

Combined, these control systems provide simple, fully automatic drum mixer process control.

Integrated Control System

Aggregate Proportioning System

Aggregate is volumetrically proportioned by variable-speed feeder belts on the Bituma Cold Feed System. The output from each feed bin is proportional to the bin feeder belt speed (for example, a 10% belt-speed increase will cause the feeder output to increase by 10%). Actual weight is matched to the volumetric feed rate in the plant calibration process.



Aggregate Proportioning System

Feeder belt speed is controlled by a closed-loop control system consisting of an individual feeder speed control, a master feed control, a silicon-controlled rectifier (SCR) motor controller, a variable-speed dc motor, and a tachometer mounted on the dc motor shaft.

1. Desired feeder proportion is set by the operator on the individual feeder speed control potentiometers.
2. The operator adjusts the master feed control to vary the total plant production rate while maintaining the preset feeder proportions. The resulting command signal represents desired feeder speed.
3. The SCR controller processes the command signal and generates an output voltage (control signal) that controls the speed of the dc motor.
4. The dc motor is connected to an individual feeder belt assembly. When the dc motor speed is varied, the feeder belt speed is changed and the feeder output is increased or decreased.
5. The tachometer mounted on the dc motor shaft measures the actual motor speed and generates a feedback signal to the SCR controller and to a digital rate meter.
6. The SCR controller compares the command signal (desired feeder speed) to the feedback signal (actual feeder speed). If the signals are not equal (that is, actual speed does not equal desired speed), the SCR controller will modify the control signal to change the dc motor speed until the actual and desired feeder speeds are equal.

Aggregate/Asphalt Blending System

The aggregate/asphalt blending system consists of three subsystems:

1. Aggregate weighing
2. Asphalt pumping and metering
3. Aggregate/asphalt ratio control

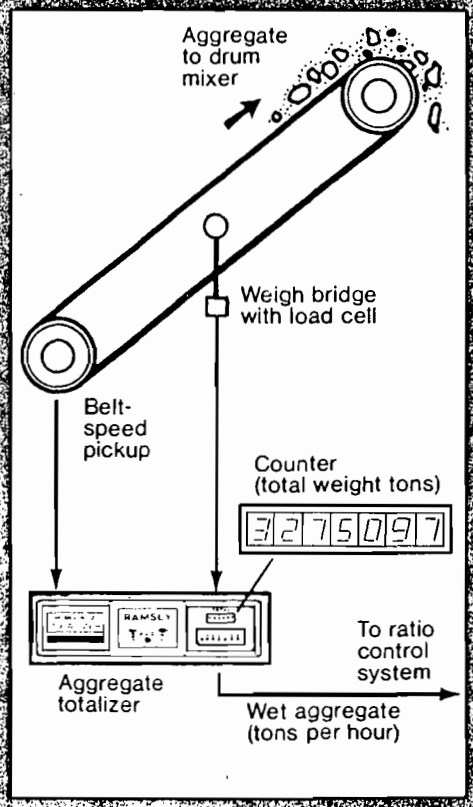
The aggregate weighing subsystem weighs the amount of aggregate fed from the cold feed into the drum mixer. The asphalt pumping and metering subsystem pumps and measures the liquid asphalt that is injected into the drum mixer. The aggregate/asphalt ratio control subsystem compares the amount of aggregate and asphalt going into the drum and automatically corrects the asphalt flow until the desired mix ratio is attained.

Aggregate Weighing

The amount of aggregate going into the drum mixer is weighed by a belt-scale system consisting of a weigh bridge, a speed pickup device, and an aggregate totalizer.

The weigh bridge, mounted on a plant feed conveyor, senses the actual weight of aggregate being fed into the drum mixer. A speed pickup device, mounted on the tail pulley shaft, measures the scale conveyor belt speed. The weight and speed signals are multiplied in the aggregate totalizer to represent wet aggregate feed rate (wet tons per hour). The wet-tons-per-hour signal serves as the command signal to the aggregate/asphalt ratio control subsystem.

The totalizer integrates the aggregate feed-rate signal with time to yield total accumulated wet aggregate tons that have passed over the belt scale. Accumulated tons are displayed on the totalizer counter.



Aggregate Weighing System

Integrated Control System

Asphalt Pumping and Metering

The asphalt pumping and metering subsystem pumps and meters liquid asphalt into the drum mixer through a positive-displacement asphalt pump. The pump is characterized by a constant volume output for each pump revolution. The exact pump output rate is determined during plant calibration.

The asphalt pump is driven by a variable-output hydrostatic system, as follows:

- A constant-speed ac motor direct-drives a variable-volume hydraulic pump.
- The hydraulic pump output volume is controlled by a servo-position motor that receives a control signal from the ratio control subsystem (to be discussed later).
- The hydraulic pump variable-output flow causes a hydraulic motor to change speed in proportion to the hydraulic pump output flow.
- The hydraulic motor varies the speed of the asphalt pump through a direct drive shaft.
- A dc tachometer, linked to the asphalt pump shaft, measures the speed of the asphalt pump. The tachometer transmits a feedback signal proportional to the asphalt feed rate to the ratio control subsystem.
- A vane switch, coupled to the asphalt pump drive shaft, totalizes asphalt added to the process by counting revolutions of the asphalt pump only when asphalt is being injected into the drum. The signal is fed to an asphalt totalizer counter.

For special requirements, Bituma offers two types of auxiliary metering devices: temperature-compensated, direct-reading asphalt meter or a flow-driven asphalt pump metering unit. For further details and application information, contact Bituma.

Ratio Control Panel

The Aggregate/Asphalt Blending System is controlled from the ratio control panel that is mounted in the main plant control console.

The digital *dry tons per hour* meter indicates the rate of dry aggregate going over the belt scale.

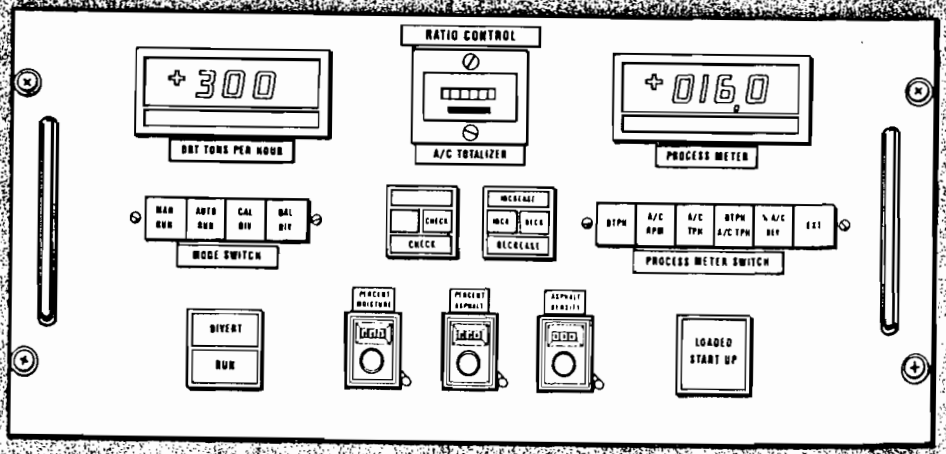
The digital *process meter* offers versatility for plant calibration, process variable checks, and control-system troubleshooting. By means of a selector switch, the *process meter* will indicate either (a) dry aggregate tons per hour (*DTPH*), (b) asphalt pump speed (*A/C RPM*), (c) asphalt tons per hour (*A/C TPH*) passing through the asphalt pump, (d) total process weight being produced by the plant (*DTPH + A/C TPH*), (e) percent asphalt deviation from set point (*% A/C DEV*), or (f) external dc voltage signal for troubleshooting (*EXT*).

The asphalt totalizer (*A/C totalizer*) indicates total asphalt pump revolutions while asphalt is being introduced into the drum mixer. When multiplied by the appropriate asphalt pump factor, the totalizer reading will represent total gallons or tons of asphalt used. For plant calibration, the *check* switch energizes the asphalt totalizer when asphalt is being diverted to the storage tank. The asphalt totalizer system can also be used to check the accuracy of the ratio control system.

The position of the *mode* switch determines if asphalt addition is to be controlled manually or automatically, or if the asphalt is to be diverted back to the storage tank. When operating in the manual mode, the *increase/decrease* switch controls the asphalt pump output. The *divert/run* indicator light indicates if asphalt is being injected into the drum mixer or diverted back to a storage tank.

The *percent moisture*, *percent asphalt*, and *asphalt density* potentiometers are preset by the plant operator. The moisture adjustment is used to convert the wet aggregate tons/hr signal, measured by belt scale system to dry aggregate tons/hr. The percent asphalt and asphalt density adjustments determine the amount of asphalt that is to be added for the appropriate aggregate feed rate.

The *loaded startup* button bypasses the asphalt start-time delay and allows asphalt to be immediately added to the mix when the feed conveyors are loaded on startup.



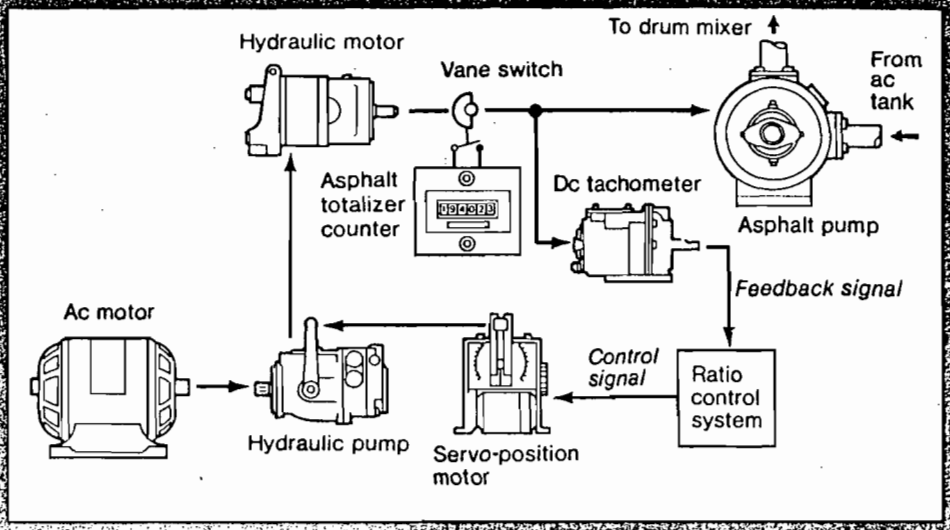
Asphalt Pumping and Metering

The asphalt pumping and metering subsystem pumps and meters liquid asphalt into the drum mixer through a positive-displacement asphalt pump. The pump is calibrated by a minimum volume output for each pump revolution. The exact pump output rate is determined during plant calibration.

The asphalt pump is driven by a variable-flow hydrostatic system, as follows:

1. A constant-speed ac motor direct-drives a variable-volume hydraulic pump.
2. The hydraulic pump output volume is controlled by a servo-position motor that receives a control signal from the ratio control subsystem (to be discussed later).
3. The hydraulic pump variable-output flow causes a hydraulic motor to change speed in proportion to the hydraulic pump output flow.
4. The hydraulic motor varies the speed of the asphalt pump through a direct drive shaft.
5. A dc tachometer, linked to the asphalt pump shaft, measures the speed of the asphalt pump. The tachometer transmits a feedback signal proportional to the asphalt feed rate to the ratio control subsystem.
6. A vane switch, coupled to the asphalt pump drive shaft, totalizes asphalt added to the process by counting revolutions of the asphalt pump only when asphalt is being injected into the drum. The signal is fed to an asphalt totalizer counter.

For special requirements, Bituma offers two types of auxiliary metering devices: temperature-compensated, direct-reading asphalt meter or a flow-driven asphalt pump metering unit. For further details and application information, contact Bituma.



Asphalt Pumping and Metering System

Aggregate/Asphalt Ratio Control

The aggregate/asphalt ratio control subsystem maintains the proper ratio between the aggregate and asphalt feed rates. The ratio control system consists of two primary components: the ratio controller and the asphalt divert circuit.

The aggregate/asphalt ratio control subsystem operates as follows:

1. The wet aggregate tons/hr command signal from the aggregate weighing subsystem is modified by a preset percent moisture compensation potentiometer to represent dry aggregate tons/hr. The dry aggregate tons/hr signal is displayed on a digital readout meter.
2. The plant operator sets the desired percent asphalt and the correct asphalt density on potentiometers in the control panel.
3. Based on the percent asphalt desired and the asphalt density input signals, the ratio control system calculates the amount of asphalt required for the amount of dry aggregate being processed. This signal is fed to the ratio controller.
4. The ratio controller controls the amount of asphalt added to the drum by generating an output voltage (control signal) to the servo-position motor in the asphalt pumping and metering subsystem.
5. The servo-position motor then changes the speed of the asphalt pump.
6. The speed of the asphalt pump, which is proportional to asphalt tons/hr, is measured by the dc tachometer. The tachometer generates a feedback signal that is transmitted to a digital display meter and to the ratio controller.
7. The ratio controller compares the command signal (desired asphalt pump speed) to the feedback signal (actual asphalt pump speed). If the signals are not equal (that is, actual speed does not equal desired speed), the ratio controller will modify the control signal to change the asphalt pump speed until the actual and desired pump speeds are equal.

Integrated Control System

...ratio control ... control the timing of ... into the drum mixer. ... belt scale in the ... weighing subsystem ... rate of aggregate ... conveyor belt. The aggregate ... signal to the ... circuit.

An adjustable timer begins timing when the weight signal is detected by the divert circuit. After the aggregate has had enough time to reach the asphalt injection point in the drum mixer, the timer generates a signal to the divert valve to feed asphalt into the drum.

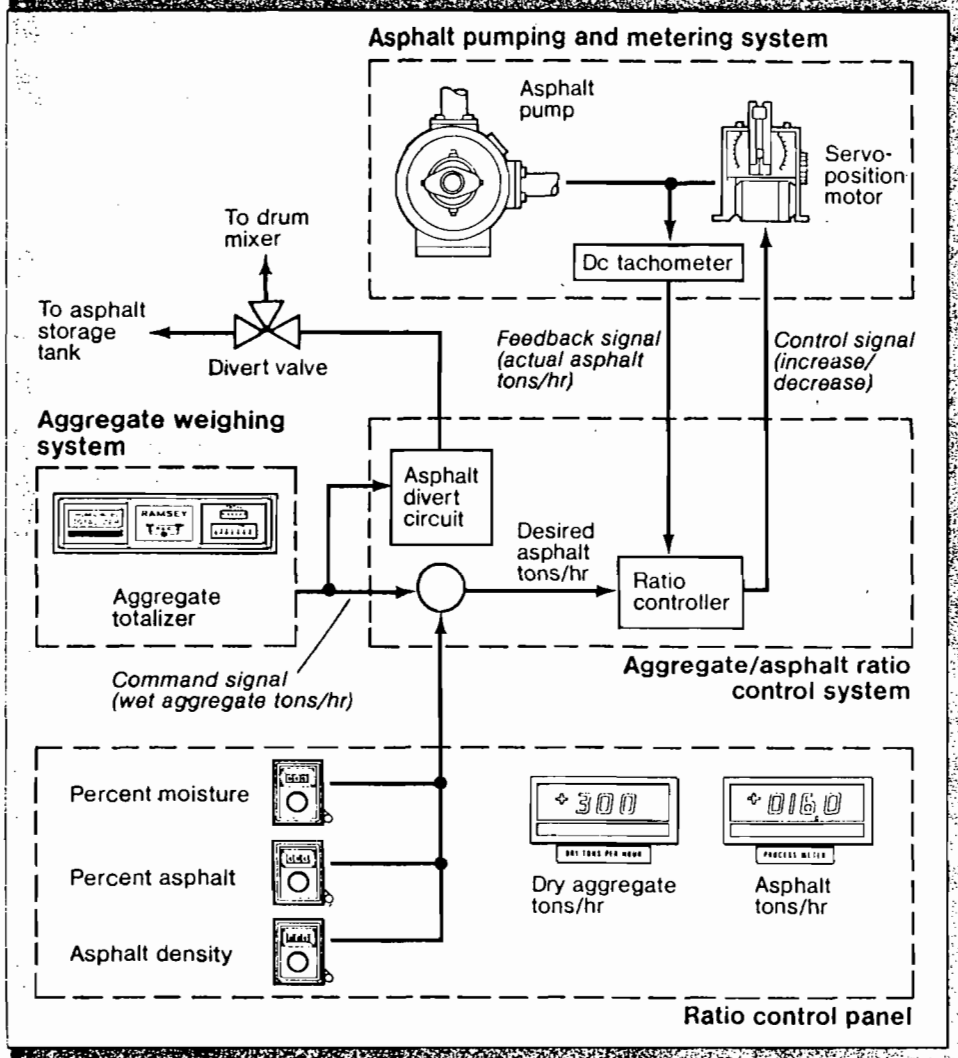
3. On plant shutdown, a second adjustable timer begins timing when the lack of a weight signal is detected by the divert circuit. After the aggregate has had enough time to reach the asphalt injection point, the second timer generates a signal to the divert valve to divert asphalt back to the asphalt storage tank.
4. If the divert valve does not operate within 5 seconds after it is commanded to divert to the storage tank, the divert circuit automatically stops the asphalt pump. This prevents unwanted asphalt from being pumped into the drum mixer.

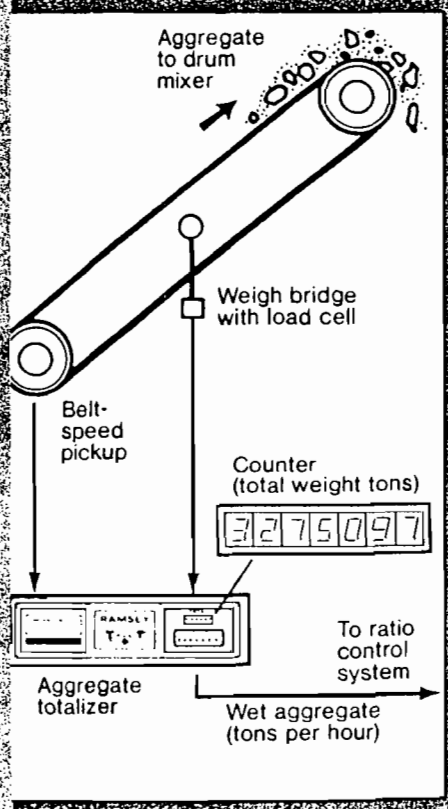
...gregate Weighing

...e amount of aggregate going into ... drum mixer is weighed by a belt scale ...stem consisting of a weigh bridge ...peed pickup device, and an aggre... ...te totalizer.

...e weigh bridge, mounted on a plast... ...d conveyor, senses the actual weight ...aggregate being fed into the drum ...xer. A speed pickup device, mounted ...the tail pulley shaft, measures the ...ale conveyor belt speed. The weight ...d speed signals are multiplied in ...e aggregate totalizer to represent wet ...gregate feed rate (wet tons per hour). ...e wet tons per hour signal serves ...the command signal to the aggregate/ ...phalt ratio control subsystem.

...e totalizer integrates the aggregate ...drate signal with time to yield total ...cumulated wet aggregate tons that ...ve passed over the belt scale. ...cumulated tons are displayed on the ...alizer counter.





...ggregate Weighing System

Integrated Control System

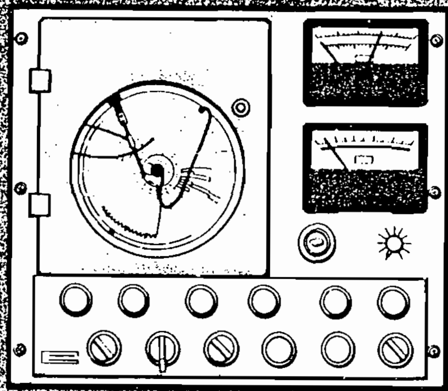
Burner Control System

[illegible] GenControl II Burner Control System [illegible] installed as standard on all [illegible] Model 200, 300, 400, and 600 Drum Mixers and as an option on [illegible] Model 100. The GenControl II is a [illegible] loop control system designed [illegible] drum mix asphalt plants. Because drum mix plants are parallel [illegible] significant timelag exists between [illegible] burner firing rate change and the resultant mix temperature change. For this reason the GenControl II features feed forward control signals proportional to the aggregate feed rate and exit gas temperature in addition to the main control signal based on mix temperature. Any change in these three variables will cause the controller to increase or decrease the burner firing rate.

The GenControl II features an automatic startup sequence. When the burner controller is switched to main fire, the burner automatically opens to a preset position. When the mix approaches the mix temperature set point, the full automatic control system takes over.

Burner secondary air is controlled using a remotely controlled exhaust damper and a drum inlet pressure gage.

Safety features on the GenControl II include a drum purge system, a flame safeguard and high mix and exhaust gas temperature limits. To allow adequate drum purge time, the GenControl II delays burner firing 30 seconds after the exhaust fan and burner blower are started. The burner control system incorporates a flame safeguard system that monitors the burner flame condition and shuts off the fuel supply in cases of flame instability or failure. In the event of a sharp rise in exit gas temperature, the control system will switch the burner to low fire to prevent the exhaust gas system from overheating. If the mix exceeds a preset temperature limit, the controller will again turn the burner to low fire.



The GenControl II Burner control panel includes the following components:

- Mix temperature recorder
- Exhaust gas temperature meter
- Burner position indicator
- Startup positioner
- Auto/manual switch
- Low/main fire switch
- Mix temperature set point
- Status indication lights
- Manual open/close switch

A Genco-Geni Burner Control System is standard on the Bituma Model 100 Drum Mixer. The Genco-Geni Control System permits pushbutton ignition and indicating proportional control of the burner. Standard features include burner position indicator, aggregate temperature indicator, dryer, exit gas temperature indicator, and flameguard.

For further information write to:

Bituma Construction Equipment Company

730 Bluff Road
Marquette, Iowa 52158
Phone: 319-873-3337

a flex stress is put on the fabric, whether it is shaken, pulsed or blown upon with high pressure air. Unnecessary cleaning results in unnecessary wear and could shorten bag life by a significant degree.

Routine Shut-Down

At the end of the working day when the process is shut down, it is good practice to keep the cleaning mechanism system in operation for a few minutes to assure good removal of collected dust.

MAINTENANCE

Inspect the inside of the baghouse frequently. Perhaps as often as every one to four weeks. A high velocity stream of air loaded with abrasive material would wear holes in bags, much like a sandblaster, in practically no time if it were allowed to strike the bags directly. A common means of preventing direct impingement by particles onto bags is the use of a baffle plate just inside the inlet duct as shown in Figure 19. The baffle plate will wear out and must be inspected regularly. The one

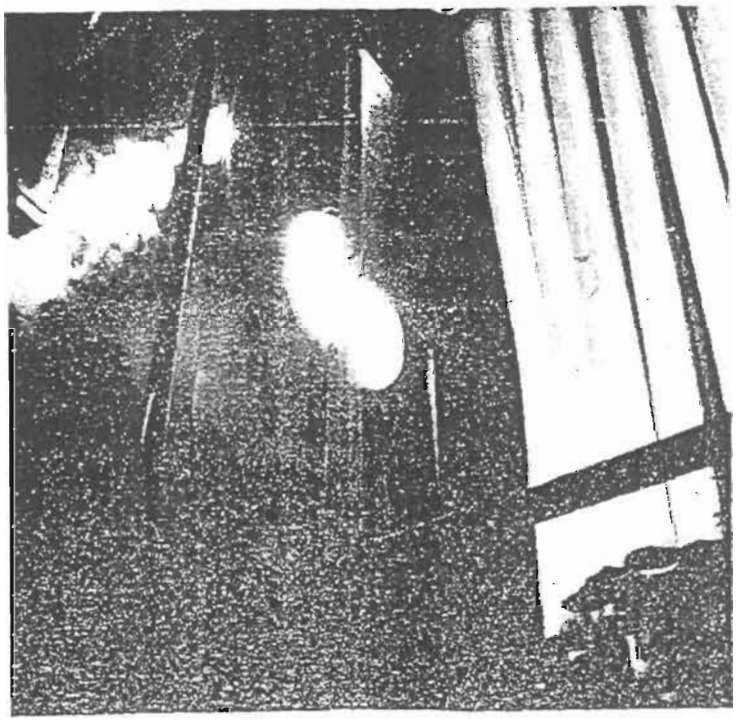


Figure 19. Baffle plate inside baghouse entrance.

shown is made of replaceable abrasion-resistant metal plates that protect the baffle itself.

It is also essential to inspect the bags regularly. If there is a visible stack emission

(other than steam), there obviously is a leak somewhere and it is more than likely a damaged bag. On most baghouses, there is no simple way to find a damaged bag. Figure 20 shows a worker inspecting bags for damage. Sometimes (in the case of shaker and reverse flow baghouses), damaged bags are found by looking for dirt on the outside surfaces of bags that has been blown there by a hole in an adjoining bag. It is essential when inside a baghouse that the worker not carry any exposed tools in his pocket that could accidentally punch holes in the bags.

Shaker and reverse flow baghouses all must be entered to change a bag because bags are secured to the cell plate on the inside of the floor of the units. Since dirt is collected on the inside of the bags, the housing is the clean air plenum; so the outside of the bags should be relatively clean.

Because air flows from the inside to the outside of the bags, a damaged bag will cause the one next to it to become dirty on the outside. So, look for a concentration of dirt on a bag which will lead to the bag that is actually damaged. This makes looking for torn bags somewhat easier, but also creates another problem. The dirt

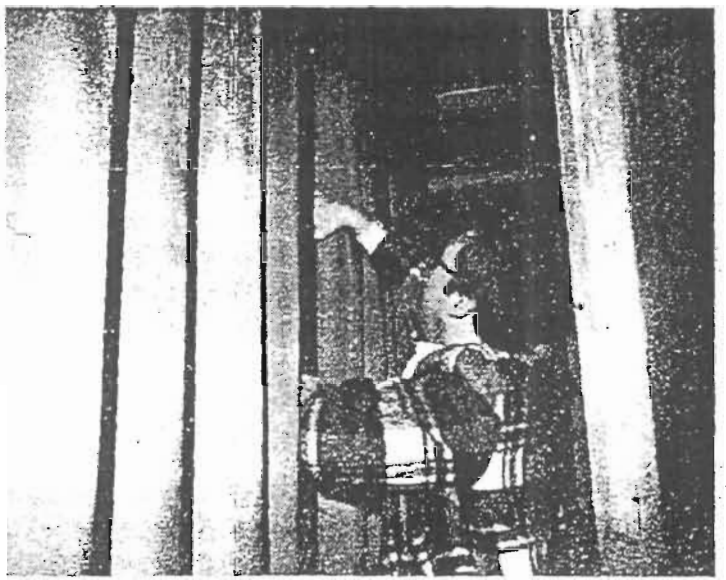


Figure 20. Inspecting shaker baghouse bags.

particles that escape through the damaged bag will eventually damage the adjoining bag they strike, and then that bag can damage another one – sort of a chain reaction. This means it is important to replace a torn bag as soon as possible.

If there are no spare bags available, it is possible to tie off the damaged bag upstream from the hole. Don't, however, neglect to replace the bag at the earliest opportunity.

Figure 21 shows how a double seal can be achieved by bringing the bag up over the lip in the tube sheet then folding it down over the middle. A clamp holds the bag in place. The venturi fits tightly on the inside of the tubesheet lip. The bag is tightly sealed between the venturi and the lip and on the outside between the outside of lip and the bag clamp. When installing a new bag, the bag should be tightly clamped into place first. Then the cage and venturi should be inserted and pressed down tightly into place.

A screw conveyor's hanger bearings will either be permanently lubricated or the type that require periodic lubrication. Eventually, the bearings probably will wear out. If manufacturer's recommendations are followed, the bearings will have a relatively long life; however, it is a fact that hanger bearings on a screw conveyor do wear out. Therefore, a program of regular inspection is of primary importance in this area.

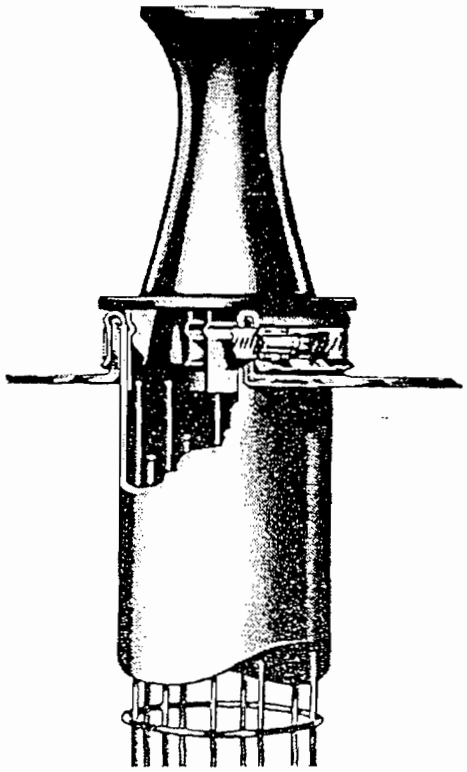


Figure 21. Double seal method of attaching bags.

If the maintenance department makes regular inspections and keeps records of wear characteristics, then it is possible to plan for maintenance – to pick a time to replace worn bearings before they break and cause a plant shutdown. This is true

for any component of the baghouse or for any piece of equipment. It is much more economical to replace a part before it breaks than to neglect it and suffer unplanned downtime.

The bags in the baghouse are the other item that will, eventually, wear out. There are a variety of types of bags with widely varied characteristics of withstanding heat, acids, etc. Bags should last from one to five years. But they can wear out quite a bit quicker or can last several more years, depending upon several factors, including the process, the type of bag, how well the baghouse cleans its bags, the type of cleaning mechanism, extremes of temperature, moisture and abrasiveness of particles in the air stream.

As already mentioned, dirty bags are better filters than clean bags – up to a point. Felted bags used in reverse pulse baghouses are not as dependent on a dust cake to achieve a high degree of efficiency. However, after a certain amount of dust buildup, their efficiency does increase. Woven bags, however, must have a dust cake to reach an acceptable efficiency level. The dust can build up only so far, though, before the bags must be cleaned.

Essentially, a baghouse is a fairly simple device that is highly efficient in filtering particulate matter from a polluted gas stream. And, baghouse design is progressing toward more efficient, more compact, simpler designs with few moving parts. Maintenance on this equipment is simple, probably easier than that on most other processing equipment, yet because it is simple, it is often neglected. As long as a baghouse is working, as long as the exhaust stack is clean, people tend to ignore it. Invariably, however, plants which have the fewest problems with their air pollution control equipment are those which have well-established, methodical maintenance schedules. If there is a problem, it usually is caught and remedied before it becomes serious. And their equipment usually functions at peak performance, operates economically and helps to keep the plant running steadily.

SAFETY

Observe all safety precautions when on top of or inside of a baghouse. Don't enter if there are noxious gases or high temperatures inside, and make sure the baghouse cannot be started accidentally when someone is inside. Be aware of atmospheres which could have insufficient oxygen. Watch out for explosive gases and/or dusts. Be sure handrails on top are secured in place and that hinged doors are properly chained.

TROUBLESHOOTING GUIDE

The following chart lists the most common problems which may be found in a baghouse air pollution control system and offers general solutions to the problems. There are a number of instances in which the solution is to consult the manufacturer. This may not be necessary in plants that have sufficient engineering know-how available.

Where the information applies to a specific type of baghouse, the following code is used:

RP..... Reverse Pulse
PP..... Plenum Pulse
S..... Shaker
RF..... Reverse Flow

Symptom	Cause	Remedy
High Baghouse Pressure Drop	Baghouse undersized	Consult manufacturer Install double bags Add more compartments or modules
	Bag cleaning mechanism not adjusted properly	Increase cleaning frequency Clean for longer duration Clean more vigorously
	Compressed air pressure too low (RP, PP)	Increase pressure Decrease duration and/or frequency Check dryer and clean if necessary Check for obstruction in piping
	Repressuring pressure too low (RF)	Speed up repressuring fan Check for leaks Check damper valve seals
	Shaking not strong enough (S)	Speed up shaker speed
	Isolation damper valves not closing (S, RF, PP)	Check linkage Check seals Check air supply of pneumatic operators

(continued)

Symptom	Cause	Remedy
	Isolation damper valves not opening (S, RF, PP)	Check linkage Check air supply on pneumatic operators
	Bag tension too loose (S)	Tighten bags
	Pulsing valves failed (RP)	Check diaphragm Check pilot valves
	Cleaning timer failure	Check to see if timer is indexing to all contacts Check output on all terminals
	Not capable of removing dust from bags	Condensation on bags (see below) Send sample of dust to manufacturer Send bag to lab for analysis for blinding Dry clean or replace bags Reduce air flow
	Excessive re-entrainment of dust	Continuously empty hopper Clean rows of bags randomly, instead of sequentially (PP, RP)
	Incorrect pressure reading	Clean out pressure taps Check hoses for leaks Check for proper fluid in manometer Check diaphragm in guage
Low Fan Motor Amperage/Low Air Volume	High baghouse pressure drop	See above
	Fan and motor sheaves reverse	Check drawings and reverse sheaves
	Ducts plugged with dust	Clean out ducts and check duct velocities
	Fan damper closed	Open damper and lock in position
	System static pressure too high	Measure static on both sides of fan and review with design Duct velocity too high Duct design not proper
	Fan not operating per design	Check fan inlet configuration and be sure even air flow exists

(continued)

Symptom	Cause	Remedy
	Belts slipping	Check tension and adjust
Dust Escaping At Source	Low air volume	See above
	Ducts leaking	Patch leaks so air does not by-pass source
	Improper duct balancing	Adjust blast gates in branch ducts
	Improper hood design	Close open areas around dust source Check for cross drafts that overcome suction Check for dust being thrown away from hood by belt, etc.
Dirty Discharge At Stack	Bags leaking	Replace bags Tie off bags and replace at later date Isolate leaking compartment if allowable without upsetting system
	Bag clamps not sealing	Check and tighten clamps Smooth out cloth under clamp and re-clamp
	Failure of seals in joints at clean/dirty air connection	Caulk or weld seams
	Insufficient filter cake	Allow more dust to build up on bags by cleaning less frequently Use a pre-coating of dust on bags (S, RF)
	Bags too porous	Send bag in for permeability test and review with manufacturer
Excessive Fan Wear	Fan handling too much dust	See above
	Improper fan	Check with fan manufacturer to see if fan is correct for application
	Fan speed too high	Check with manufacturer
Excessive Fan Vibration	Build-up of dust on blades	Clean off and check to see if fan is handling too much dust (see above) Do not allow any water in fan (check cap, look for condensation, etc.)

(continued)

Symptom	Cause	Remedy
	Wrong fan wheel for application	Check with manufacturer
	Sheaves not balanced	Have sheaves dynamically balanced
	Bearings worn	Replace bearings
High Compressed Air Consumption (RP, PP)	Cleaning cycle too frequent	Reduce cleaning cycle if possible
	Pulse too long	Reduce duration (after initial shock all other compressed air is wasted)
	Pressure too high	Reduce supply pressure if possible
	Damper valves not sealing (PP)	Check linkage Check seals
	Diaphragm valve failure	Check diaphragms and springs Check pilot valve
Reduced Compressed Air Pressure (RP, PP)	Compressed air consumption too high	See above
	Restrictions in piping	Check piping
	Dryer plugged	Replace dessicant or by-pass dryer if allowed
	Supply line too small	Consult design
	Compressor worn	Replace rings
Premature Bag Failure – Decomposition	Bag material improper for chemical composition of gas or dust	Analyze gas and dust and check with manufacturer Treat with neutralizer before baghouse
	Operating below acid dew point	Increase gas temperature By-pass at start-up
Moisture in Baghouse	Insufficient pre-heating	Run system with hot air only before starting process gas flow
	System not purged after shut-down	Keep fan running for 5-10 minutes after process is shut down
	Wall temperature below dew point	Raise gas temperature Insulate unit Lower dew point by keeping moisture out of system

(continued)

Symptom	Cause	Remedy
	Cold spots through insulation	Eliminate direct metal line through insulation
	Compressed air introducing water (RP, PP)	Check automatic drains Install aftercooler Install dryer
	Repressuring air causing condensation (RF, PP)	Pre-heat repressuring air Use process gas as source of repressuring air
High Screw Conveyor Wear	Screw conveyor undersized	Measure hourly collection of dust and consult manufacturer
	Conveyor speed too high	Slow down speed
High Air Lock Wear	Air lock undersized	Measure hourly collection of dust and consult manufacturer
	Thermal expansion	Consult manufacturer to see if design allowed for thermal expansion
	Speed too high	Slow down
Material Bridging in Hopper	Moisture in baghouse	See above
	Dust being stored in hopper	Remove dust continuously
	Hopper slope insufficient	Re-work or replace hoppers
	Conveyor opening too small	Use a wide flared trough
Frequent Screw Conveyor/Air Lock Failure	Equipment undersized	Consult manufacturer
	Screw conveyor misaligned	Align conveyor
	Overloading components	Check sizing to see that each component is capable of handling a 100% delivery from the previous item
High Pneumatic Conveyor Wear	Pneumatic blower too fast	Slow down blower
	Piping undersized	Review design and slow blower or increase pipe size
	Elbows too short radius	Replace with long radius elbows
Pneumatic Conveyor Pipes Plugging	Overloading pneumatic conveyor	Review design

(continued)

Symptom	Cause	Remedy
	Slug loading of dust	Meter dust in gradually
	Moisture in dust	See above
Fan Motor Overloading	Air volume too high	See below
	Motor not sized for cold start	Damper fan at start-up Reduce fan speed Provide heat faster Replace motor
Air Volume Too High	Ducts leaking	Patch leaks
	Insufficient static pressure	Close damper valve Slow down fan
Reduced Compressed Air Consumption (RP, PP)	Pulsing valves not working	Check diaphragms Check springs Check pilot valves
	Timer failed	Check terminal outputs
High Bag Failure – Wearing Out	Baffle plate worn out	Replace baffle plate
	Too much dust	Install primary collector
	Cleaning cycle too frequent	Slow down cleaning
	Inlet air not properly baffled from bags	Consult manufacturer
	Shaking too violent (S)	Slow down shaking mechanism
	Repressuring pressure too high (RF)	Reduce pressure
	Pulsing pressure too high (RP, PP)	Reduce pressure
	Cages have barbs (RP, PP)	Remove and smooth out barbs
High Bag Failure – Burning	Stratification of hot and cold gasses	Force turbulence in duct with baffles
	Sparks entering baghouse	Install spark arrester
	Thermocouple failed	Replace and determine cause of failure
	Failure of cooling device	Review design and work with manufacturer

SUGGESTED SPARE PARTS

Following is a list of spare parts that should be kept on hand. Quantities of parts will vary as to manufacturer's suggestion and the type of process.

- Bags
- Bag support cages (reverse pulse and plenum pulse)
- Bag clamps
- Seals and caulking material
- Solenoids
- Diaphragms
- Timer components
- Baffle plates or wear plate sections for baffle
- Bag connecting rods (shaker and reverse flow)
- Tensioning springs (reverse flow)
- Belts for shaker mechanism (shaker)
- Motor for shaker mechanism (shaker)
- Fan belts
- Spare bearings and gasketing for all mechanical components

ROUTINE MAINTENANCE CHECKLIST

It is essential to an air pollution control system that a regular program of routine maintenance be established and followed. A record should be kept of all inspections and what maintenance was performed. Inspection intervals will depend on the type of baghouse, the manufacturer's recommendations, and the process on which the unit is installed. The important thing is to be sure checks are regular and as frequent as necessary, and that no components are neglected.

The following chart lists the items requiring regular inspection and, in general, what to look for when performing the inspection. Where items refer to a specific type of baghouse, they are designated:

RP..... Reverse Pulse
PP..... Plenum Pulse
S..... Shaker
RF..... Reverse Flow

Component	Check for:
Shaker mechanism (S)	Proper operation without binding; loose, or worn bearings, mountings, drive components; proper lubrication
Bags	Worn, abraided, damaged bags; condensation on bags; improper bag tension (S) (RF); loose, damaged or improper bag connections
Magnehelic guage or manometer	Steadiness of pressure drop (should be read daily)

(continued)

Component	Check for:
Dust removal system	Worn bearings, loose mountings, deformed parts, worn or loose drive mechanism, proper lubrication
Baghouse structure (housing, hopper)	Loose bolts, cracks in welds; cracked, chipped or worn paint; corrosion
Ductwork	Corrosion, holes, external damage, loose bolts, cracked welds, dust buildup
Solenoids, pulsing valves (RP)	Proper operation (audible compressed air blast)
Compressed air system (RP, PP)	See above; proper lubrication of compressor; leaks in headers, piping
Fans	Proper mounting, proper lubrication of compressor; leaks in headers, piping
Damper valves (S, PP, RF)	Proper operation and synchronization, leaking cylinders, bad air connections, proper lubrication, damaged seals
Doors	Worn, loose, damaged or missing seals; proper tight closing
Baffle plate	Abrasion, excessive wear