COPY

Air Permit Application

AAA Paving and Sealing
Hot Mix Asphalt Plant
560 Turnpike Industrial Park Road
Princeton, WV 24739

Mercer County

Terry Parks DBA AAA Paving and Sealing
Princeton
055-00139
G20-B038
Lee Martin

DINE COMPLY INC.
ENVIRONMENTAL & SAFETY SPECIALISTS

DINE COMPLY INC.
ENVIRONMENTAL & SAFETY SPECIALISTS

Dine Comply, Inc.
424 Newmans-Cardington Road East
Marion, Ohio 43302

Phone: (740) 389-2076
Mobile (Environmental): (419) 305-3916
Mobile (Safety): (740) 751-8422
E-mail:dine@rrohio.com
Web: www.dinecomply.com

AAA Paving and Sealing

560 Turnpike Industrial Park Road
Princeton, WV 24739
Mercer County
12 November 2015

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TABLE OF CONTENTS

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12 November 2015

VIA CERTIFIED RETURN RECEIPT MAIL *(USPS #7015 0640 0005 9459 3165)*

WVDEP
Division of Air Quality, Permitting Section
601 57th Street, SE
Charleston, WV 25304

Subject: ***AAA Paving and Sealing***
DAQ Facility ID: TBD
Mercer County
Application for General Permit Registration - G20-B (Hot Mix Asphalt)

Dear Division of Air Quality:

In coordination with and on behalf of AAA Paving and Sealing (AAA), Dine Comply Inc. ("Dine Comply") prepared and submits the enclosed Application for General Permit Registration for G20-B. Specifically, AAA Paving and Sealing proposes to install and operate a batch hot mix asphalt plant at 560 Turnpike Industrial Park Road in Princeton, West Virginia. The asphalt plant was purchased used and was last operated and permitted in the state of Missouri. While the facility has moved the equipment to the proposed location and has begun initial preparations and minor installations, the anticipated final installation and start-up date is not until March 15, 2016.

If there are questions and/or concerns regarding this submittal, please contact Shara Kay Hayes of Dine Comply at (740) 389-2076 or Brandon Henkes of AAA Paving and Sealing at (304) 425-5239.

Sincerely,

Shara Kay Hayes
President, Dine Comply, Inc.

cc: Brandon Henkes, AAA Paving and Sealing (USPS 7015 0640 0005 9459 3172)
Dine Comply Client Files

DINE COMPLY INC.

4281

WVDEP - Division of Air Quality

11/12/2015

AAA Paving and Sealing Air Permit Application Fee s 1,500.00

Checking - Chase AAA Paving and Sealing Air Permit Fee 1,500.00

PRODUCT SSLT103 USE WITH 91663 ENVELOPE

WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF AIR QUALITY
601 57th Street, SE
Charleston, WV 25304
Phone: (304) 926-0475 • www.dep.wv.gov/daq

APPLICATION FOR GENERAL PERMIT REGISTRATION

CONSTRUCT, MODIFY, RELOCATE OR ADMINISTRATIVELY UPDATE A STATIONARY SOURCE OF AIR POLLUTANTS

☒ CONSTRUCTION ☐ MODIFICATION ☐ RELOCATION ☐ CLASS I ADMINISTRATIVE UPDATE ☐ CLASS II ADMINISTRATIVE UPDATE

CHECK WHICH TYPE OF GENERAL PERMIT REGISTRATION YOU ARE APPLYING FOR:

- ☐ **G10-D** – Coal Preparation and Handling
- ☒ **G20-B** – Hot Mix Asphalt
- ☐ **G30-D** – Natural Gas Compressor Stations
- ☐ **G33-A** – Spark Ignition Internal Combustion Engines
- ☐ **G35-A** – Natural Gas Compressor Stations (Flare/Glycol Dehydration Unit)
- ☐ **G40-C** – Nonmetallic Minerals Processing
- ☐ **G50-B** – Concrete Batch
- ☐ **G60-C** - Class II Emergency Generator
- ☐ **G65-C** – Class I Emergency Generator
- ☐ **G70-A** – Class II Oil and Natural Gas Production Facility

SECTION I. GENERAL INFORMATION

1. Name of applicant (as registered with the WV Secretary of State's Office):
AAA Paving and Sealing

2. Federal Employer ID No. **(FEIN):**
55-083-0084

3. Applicant's mailing address:
P.O. Box 975
Princeton, WV 24740

4. Applicant's physical address:
560 Turnpike Industrial Park Road
Princeton, WV 24739

5. If applicant is a subsidiary corporation, please provide the name of parent corporation: NA

6. **WV BUSINESS REGISTRATION.** Is the applicant a resident of the State of West Virginia? ☒ **YES** ☐ **NO**

➪ IF **YES,** provide a copy of the Certificate of **Incorporation/ Organization / Limited Partnership** (one page) including any name change amendments or other Business Registration Certificate as **Attachment A.**

➪ IF **NO,** provide a copy of the **Certificate of Authority / Authority of LLC / Registration** (one page) including any name change amendments or other Business Certificate as **Attachment A.**

SECTION II. FACILITY INFORMATION

7. Type of plant or facility (stationary source) to be constructed, modified, relocated or administratively updated (e.g., coal preparation plant, primary crusher, etc.):
Stationary Batch Hot Mix Asphalt Plant

8a. Standard Industrial Classification (SIC) code:
2951

AND

8b. North American Industry System (NAICS) code:
324121

9. DAQ Plant ID No. (for existing facilities only):

10. List all current 45CSR13 and other General Permit numbers associated with this process (for existing facilities only):

A: PRIMARY OPERATING SITE INFORMATION

11A. Facility name of primary operating site:	12A. Address of primary operating site:
AAA Paving and Sealing	Mailing: P.O. Box 975, Princeton, WV 24740 Physical: 560 Turnpike Industrial Park Road, Princeton, WV 24739

13A. Does the applicant own, lease, have an option to buy, or otherwise have control of the proposed site? ☒ **YES** ☐ **NO**

➪ IF **YES**, please explain: AAA Paving and Sealing owns the proposed site/property.

➪ IF **NO**, YOU ARE NOT ELIGIBLE FOR A PERMIT FOR THIS SOURCE.

14A. ➪ For **Modifications or Administrative Updates** at an existing facility, please provide directions to the present location of the facility from the nearest state road;

➪ For Construction or Relocation permits, please provide directions to the proposed new site location from the nearest state road. Include a **MAP** as **Attachment F.**

From State Route 20 (Main Street) in Lilly Grove, go south and turn left onto State Route 104 (Oakvale Road), then turn left onto US Route 460, after crossing the turnpike (US77) take the second road to the left, Halls Ridge Road, then take first right onto Industrial Alley, property is located approximately 0.41 miles on the right after turning onto Industrial Alley.

15A. Nearest city or town:	16A. County:	17A. UTM Coordinates:
Lilly Grove	Mercer	Northing (KM): 4135859.02 Easting (KM): 496459.43 Zone: 17 S
18A. Briefly describe the proposed new operation or change (s) to the facility:		19A. Latitude & Longitude Coordinates (NAD83, Decimal Degrees to 5 digits):
Stationary Batch Hot Mix Asphalt Plant		Latitude: 37.369573 Longitude: -81.039826

B: 1ST ALTERNATE OPERATING SITE INFORMATION (only available for G20, G40, & G50 General Permits)

11B. Name of 1st alternate operating site:	12B. Address of 1st alternate operating site:
	Mailing: Physical:

13B. Does the applicant own, lease, have an option to buy, or otherwise have control of the proposed site? ☐ **YES** ☐ **NO**

➪ IF **YES**, please explain:

➪ IF **NO**, YOU ARE NOT ELIGIBLE FOR A PERMIT FOR THIS SOURCE.

14B. ➪ For **Modifications or Administrative Updates** at an existing facility, please provide directions to the present location of the facility from the nearest state road;

➪ For Construction or Relocation permits, please provide directions to the proposed new site location from the nearest state road. Include a **MAP** as **Attachment F.**

15B. Nearest city or town:	16B. County:	17B. UTM Coordinates: Northing (KM): _____ Easting (KM): _____ Zone: _____
18B. Briefly describe the proposed new operation or change (s) to the facility:		19B. Latitude & Longitude Coordinates (NAD83, Decimal Degrees to 5 digits): Latitude: _____ Longitude: _____

C: 2ND ALTERNATE OPERATING SITE INFORMATION (only available for G20, G40, & G50 General Permits):

11C. Name of 2nd alternate operating site:	12C. Address of 2nd alternate operating site: Mailing: _____ Physical: _____

13C. Does the applicant own, lease, have an option to buy, or otherwise have control of the proposed site? ☐ **YES** ☐ **NO**

➪ IF **YES**, please explain: _____

➪ IF **NO**, YOU ARE NOT ELIGIBLE FOR A PERMIT FOR THIS SOURCE.

14C. ➪ For **Modifications or Administrative Updates** at an existing facility, please provide directions to the present location of the facility from the nearest state road;

➪ For Construction or Relocation permits, please provide directions to the proposed new site location from the nearest state road. Include a **MAP** as **Attachment F.**

15C. Nearest city or town:	16C. County:	17C. UTM Coordinates: Northing (KM): _____ Easting (KM): _____ Zone: _____
18C. Briefly describe the proposed new operation or change (s) to the facility:		19C. Latitude & Longitude Coordinates (NAD83, Decimal Degrees to 5 digits): Latitude: _____ Longitude: _____

20. Provide the date of anticipated installation or change: 11/01/2015 ☒ If this is an **After-The-Fact** permit application, provide the date upon which the proposed change did happen: : 11/01/2015	21. Date of anticipated Start-up if registration is granted: 03/15/2016

22. Provide maximum projected **Operating Schedule** of activity/activities outlined in this application if other than 8760 hours/year. (Note: anything other than 24/7/52 may result in a restriction to the facility's operation).

Hours per day 24 Days per week 7 Weeks per year 44 Percentage of operation 100

SECTION III. ATTACHMENTS AND SUPPORTING DOCUMENTS

23. Include a check payable to WVDEP – Division of Air Quality with the appropriate **application fee** (per 45CSR22 and 45CSR13).

24. Include a **Table of Contents** as the first page of your application package.

All of the required forms and additional information can be found under the Permitting Section (General Permits) of DAQ's website, or requested by phone.

25. Please check all attachments included with this permit application. Please refer to the appropriate reference document for an explanation of the attachments listed below.

- ☒ ATTACHMENT A : CURRENT BUSINESS CERTIFICATE
- ☒ ATTACHMENT B: PROCESS DESCRIPTION
- ☒ ATTACHMENT C: DESCRIPTION OF FUGITIVE EMISSIONS
- ☒ ATTACHMENT D: PROCESS FLOW DIAGRAM
- ☒ ATTACHMENT E: PLOT PLAN
- ☒ ATTACHMENT F: AREA MAP
- ☒ ATTACHMENT G: EQUIPMENT DATA SHEETS AND REGISTRATION SECTION APPLICABILITY FORM
- ☒ ATTACHMENT H: AIR POLLUTION CONTROL DEVICE SHEETS
- ☒ ATTACHMENT I: EMISSIONS CALCULATIONS
- ☒ ATTACHMENT J: CLASS I LEGAL ADVERTISEMENT
- ☐ ATTACHMENT K: ELECTRONIC SUBMITTAL
- ☒ ATTACHMENT L: GENERAL PERMIT REGISTRATION APPLICATION FEE
- ☐ ATTACHMENT M: SITING CRITERIA WAIVER
- ☐ ATTACHMENT N: MATERIAL SAFETY DATA SHEETS (MSDS)
- ☒ ATTACHMENT O: EMISSIONS SUMMARY SHEETS
- ☒ OTHER SUPPORTING DOCUMENTATION NOT DESCRIBED ABOVE (Equipment Drawings, Aggregation Discussion, etc.)

Please mail an original and two copies of the complete General Permit Registration Application with the signature(s) to the DAQ Permitting Section, at the address shown on the front page of this application. Please DO NOT fax permit applications. For questions regarding applications or West Virginia Air Pollution Rules and Regulations, please refer to the website shown on the front page of the application or call the phone number also provided on the front page of the application.

SECTION IV. CERTIFICATION OF INFORMATION

This General Permit Registration Application shall be signed below by a Responsible Official. A Responsible Official is a President, Vice President, Secretary, Treasurer, General Partner, General Manager, a member of a Board of Directors, or Owner, depending on business structure. A business may certify an Authorized Representative who shall have authority to bind the Corporation, Partnership, Limited Liability Company, Association, Joint Venture or Sole Proprietorship. Required records of daily throughput, hours of operation and maintenance, general correspondence, Emission Inventory, Certified Emission Statement, compliance certifications and all required notifications must be signed by a Responsible Official or an Authorized Representative. If a business wishes to certify an Authorized Representative, the official agreement below shall be checked off and the appropriate names and signatures entered. Any administratively incomplete or improperly signed or unsigned Registration Application will be returned to the applicant.

FOR A CORPORATION (domestic or foreign)

☐ I certify that I am a President, Vice President, Secretary, Treasurer or in charge of a principal business function of the corporation

FOR A PARTNERSHIP

☐ I certify that I am a General Partner

FOR A LIMITED LIABILITY COMPANY

☐ I certify that I am a General Partner or General Manager

FOR AN ASSOCIATION

☐ I certify that I am the President or a member of the Board of Directors

FOR A JOINT VENTURE

☐ I certify that I am the President, General Partner or General Manager

FOR A SOLE PROPRIETORSHIP

☒ I certify that I am the Owner and Proprietor

☒ *I hereby certify that* (please print or type) Brandon Henkes, Facility Manager
is an Authorized Representative and in that capacity shall represent the interest of the business (e.g., Corporation, Partnership, Limited Liability Company, Association Joint Venture or Sole Proprietorship) and may obligate and legally bind the business. If the business changes its Authorized Representative, a Responsible Official shall notify the Director of the Office of Air Quality immediately, and/or,

I hereby certify that all information contained in this General Permit Registration Application and any supporting documents appended hereto is, to the best of my knowledge, true, accurate and complete, and that all reasonable efforts have been made to provide the most comprehensive information possible.

Signature Terry Parks — OCT 31 2015
(please use blue ink) Responsible Official — Date

Name & Title Terry Parks, Owner
(please print or type)

Signature Brandon Henkes — OCT 31 2015
(please use blue ink) Authorized Representative (if applicable) — Date

Applicant's Name AAA Paving and Sealing

Phone & Fax (304) 425-5239 — (304) 425-5139
Phone — Fax

Email aaapavingandsealing@hotmail.com

DINE COMPLY INC.
ENVIRONMENTAL & SAFETY SPECIALISTS

Dine Comply, Inc.
424 Newmans-Cardington Road East
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ATTACHMENT A

CURRENT BUSINESS CERTIFICATE

AAA Paving and Sealing

560 Turnpike Industrial Park Road
Princeton, WV 24739
Mercer County

12 November 2015

Current Business Certificate

AAA Paving and Sealing

12 November 2015

This attachment is included to supplement the Application for General Permit Registration, G20-B (Hot Mix Asphalt). Included is copy of the required Business Registration Certificate.

If the registrant is a resident of the State of West Virginia the registrant should provide a copy of the registrant's current Business Registration Certificate issued to them from the West Virginia State Tax Department. If the registrant is not a resident of the State of West Virginia, the registrant should provide a copy of the Certificate of Authority/Authority of LLC/Registration.

WEST VIRGINIA
STATE TAX DEPARTMENT
BUSINESS REGISTRATION CERTIFICATE

ISSUED TO:
TERRY PARKS
DBA AAA PAVING AND SEALING
RR 2 BOX 184AA
BLUEFIELD, WV 24701-9629

BUSINESS REGISTRATION ACCOUNT NUMBER: **2229-1328**

This certificate is issued on: **08/3/2010**

This certificate is issued by
the West Virginia State Tax Commissioner
in accordance with Chapter 11, Article 12, of the West Virginia Code

The person or organization identified on this certificate is registered to conduct business in the State of West Virginia at the location above.

This certificate is not transferrable and must be displayed at the location for which issued.

This certificate shall be permanent until cessation of the business for which the certificate of registration was granted or until it is suspended, revoked or cancelled by the Tax Commissioner.

Change in name or change of location shall be considered a cessation of the business and a new certificate shall be required.

TRAVELING/STREET VENDORS: Must carry a copy of this certificate in every vehicle operated by them. CONTRACTORS, DRILLING OPERATORS, TIMBER/LOGGING OPERATIONS: Must have a copy of this certificate displayed at every job site within West Virginia.

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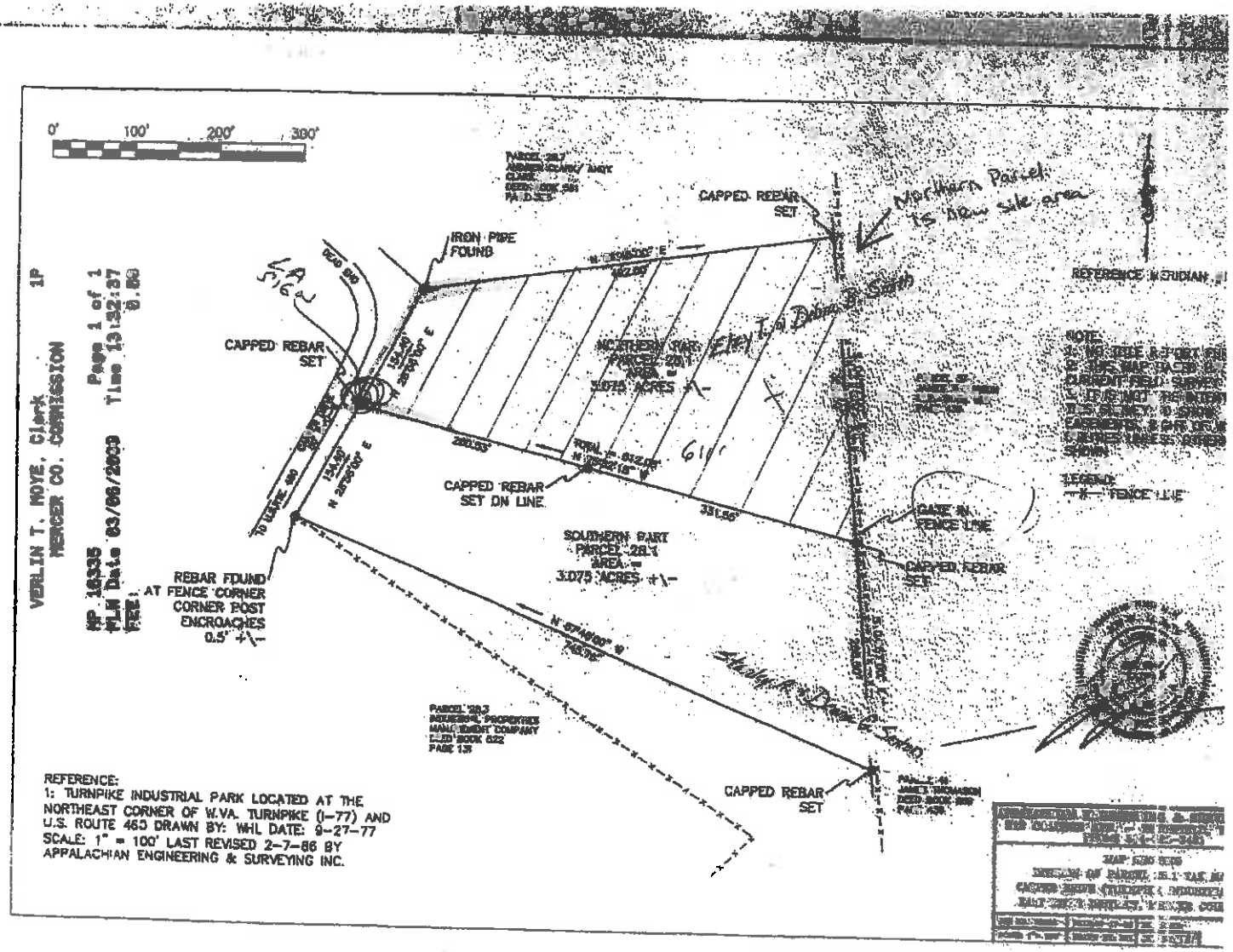
L1842595584



VERLIN T. MOYE, Clerk
MERCER CO. COMMISSION
MP 16335
FILE Date 03/06/2003 Time 13:32:37
FEE 0.00
Page 1 of 1
1P

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ATTACHMENT B

PROCESS DESCRIPTION

AAA Paving and Sealing

560 Turnpike Industrial Park Road
Princeton, WV 24739
Mercer County

12 November 2015

Process Description

AAA Paving and Sealing

12 November 2015

The following information is provided to supplement the Application for General Permit Registration, G20-B.

General Description:

The proposed operation will employ a hot mix asphalt plant (Source ID: Batch) to manufacture hot mix asphalt for road/parking lot pavements. The process consists of blending prescribed portions of cold feed materials (sand, gravel, limestone, screenings, chips, reclaimed asphalt pavement (RAP), shingles, etc.) uniformly and adding sufficient hot asphalt cement to bind the mixture together. After the hot mix asphalt is manufactured at the plant, it is transported to the location where it is to be applied.

Detailed Description:

Open storage piles (Source ID: OS-1 through 4) of raw materials (cold feed materials) will be maintained in close proximity to the Batch plant. A front-end loader (Source ID: FE) will feed the raw materials into cold feed storage bins (Source ID: E3).

From the cold feed storage bins, prescribed amounts of each raw material will drop onto a conveyor belt and fed to the rotary dryer (Source ID: BPRD-1). The rotary dryer is rated at 230 tons per hour and can be fired with propane, #2 fuel oil, used oil and or natural gas. However, the rated capacity of the plant will vary with each aggregate mix and moisture content with a 5% surface moisture removal. Liquid fuels would be fed from stationary storage tanks (Source ID: T-1 and T-2). The rotary dryer heats the material to approximately 300 degrees Fahrenheit while thoroughly mixing the cold feed.

From the rotary dryer the warm aggregate is transferred to an elevator which takes it to the top of the Batch plant consisting of hot aggregate screens, hot bins and a mixer. Liquid asphalt cement from storage tanks (Source ID: T-3 and T-4), which has been pre-heated by an asphalt cement heater (Source ID: AH-1) is fed into the mixer of the Batch plant. If RAP is required, it will be added to directly to the mixer from a separate cold feed bin/screener/conveying system. Note that the RAP addition would be a future addition to the plant.

When the materials are sufficiently mixed the hot mix asphalt is either unloaded into a waiting haul truck which will then transport the product to the paving site, or the hot mix asphalt will be transferred via elevator to the top of a storage silo (up to three silos, BS-1 through BS-3) which will then be transported at a later time.

Point source and fugitive emissions will be associated with the operation of the Batch plant. Specifically, point source emissions are associated with the rotary dryer and the hot screens, bins and mixer as the emissions are vented to a settling chamber and then a baghouse (APCD-1) which exhausts to the atmosphere. The baghouse controls the particulate emissions, however it does not control point source emissions of carbon monoxide (CO), nitrogen oxides (NO_X), sulfur dioxide (SO_2) and volatile organic compounds (VOC) which are associated with fuel combustion, fuel storage, and drying operations.

Fugitive emissions are associated with cold-side (cold and RAP feed bin loading/unloading, cold feed conveying and screening, cold feed loading into drum) and hot side (hot mix

loading into elevator, silo filling and unloading) material handling operations. Fugitive emissions are also generated from vehicular traffic on unpaved roadways/working areas and from the loading/unloading and wind erosion of storage piles (Source ID: OS-1 through 4). Fugitive emissions from storage pile operations are controlled by the inherently high moisture content of the raw materials and using low drop heights. Fugitive emissions from roadways and working areas will be controlled by a watering truck (HR-WS).

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ATTACHMENT C

DESCRIPTION OF FUGITIVE EMISSIONS

AAA Paving and Sealing

560 Turnpike Industrial Park Road
Princeton, WV 24739
Mercer County

12 November 2015

Description of Fugitive Emissions

AAA Paving and Sealing

12 November 2015

The following information is provided to supplement the Application for General Permit Registration, G20-B.

Fugitive particulate emissions (PE) are associated with cold-side (cold and RAP feed bin loading/unloading, cold feed conveying and screening, cold feed loading into drum) and hot side (hot mix loading into elevator, silo filling and unloading) material handling operations. Fugitive PE are also generated from vehicular traffic on unpaved roadways/working areas and from the loading/unloading and wind erosion of storage piles.

Potential Source	**Fugitive Dust Control**
Aggregate Storage Piles: OS1 through OS4 Fugitive PE can be generated from the load-in, load-out operations and from wind erosion.	The aggregate that will be received by the facility will have an inherently high moisture content which will be sufficient to prevent fugitive emissions from wind erosion. Watering is not a feasible option as the purpose of the asphalt plant is to dry the raw aggregates and watering would only cause excess fuel usage (and therefore excess emissions) from the additional drying that would be required. Load-in and load-out operations will employ using low drop heights to minimize/eliminate fugitive PE.
Unpaved Roadways: Fugitive PE can be generated from vehicular traffic on unpaved (dirt) portions of the facility.	Fugitive PE can be minimized by employing management practices such as speed reduction, however, the predominant method of control will be use of a water truck (WT), as necessary (i.e., when rain/snow/ice is not enough to eliminate fugitive PE).
Cold Feed Bins: E3 Fugitive PE can be generated from the transfer of material from the front-end loader into the storage bins.	Fugitive PE will be minimized by the inherent moisture content of the raw materials and by employing low drop heights (MD) into the bins.
Screening/Conveying Operations: Fugitive PE can be generated from the transfer of materials at transfer points and from screening activity.	Fugitive PE will be minimized by the inherent moisture content of the raw materials and by setting low drop heights where possible.
Hot Screens, Bins and Mixer: Batch Fugitive PE can be generated from material transfers and the mixing activity of raw materials.	Fugitive PE will be controlled by pick-up points that are routed to the cyclone and then the baghouse (APCD-1). Emissions from the mixing operation (Batch) are inherently controlled by the addition of liquid hot asphalt cement which binds the emissions into the product. Batch plant operations will also have pick-up points going to the baghouse (APCD-1)

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ATTACHMENT D

PROCESS FLOW DIAGRAM

AAA Paving and Sealing

560 Turnpike Industrial Park Road
Princeton, WV 24739
Mercer County

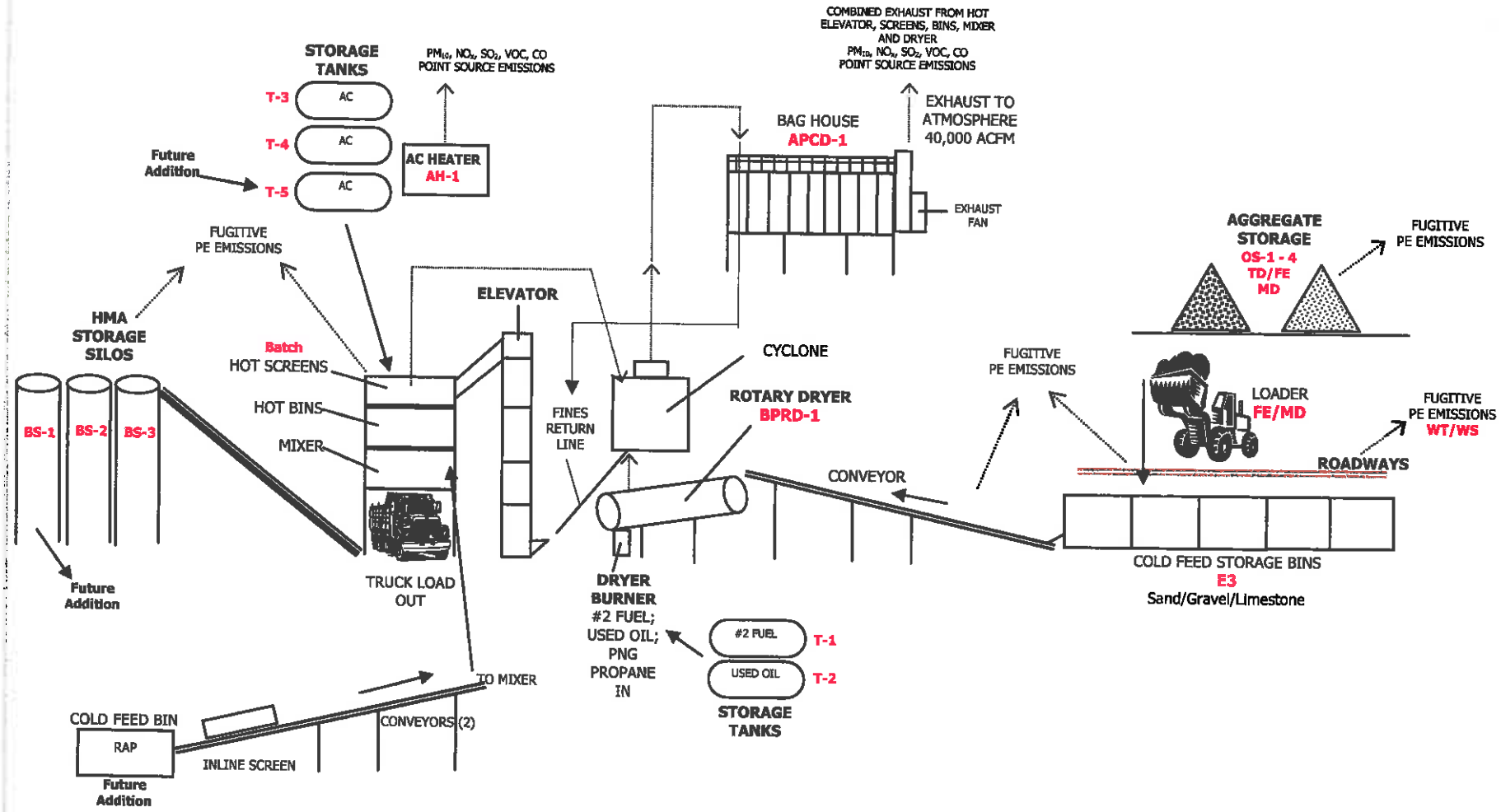
12 November 2015

Process Flow Diagram

AAA Paving and Sealing

12 November 2015

This attachment is included to supplement the Application for General Permit Registration, G20-B (Hot Mix Asphalt). See attached Process Flow Diagram.



PROPOSED

DINE COMPLY INC.
ENVIRONMENTAL & SAFETY SPECIALISTS

31 October 2015

PROCESS FLOW DIAGRAM

Source ID: Batch
HMA Batch Plant

Company

AAA Paving and Sealing
Princeton, WV

DINE COMPLY INC.
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ATTACHMENT E

PLOT PLAN

AAA Paving and Sealing

560 Turnpike Industrial Park Road
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Mercer County

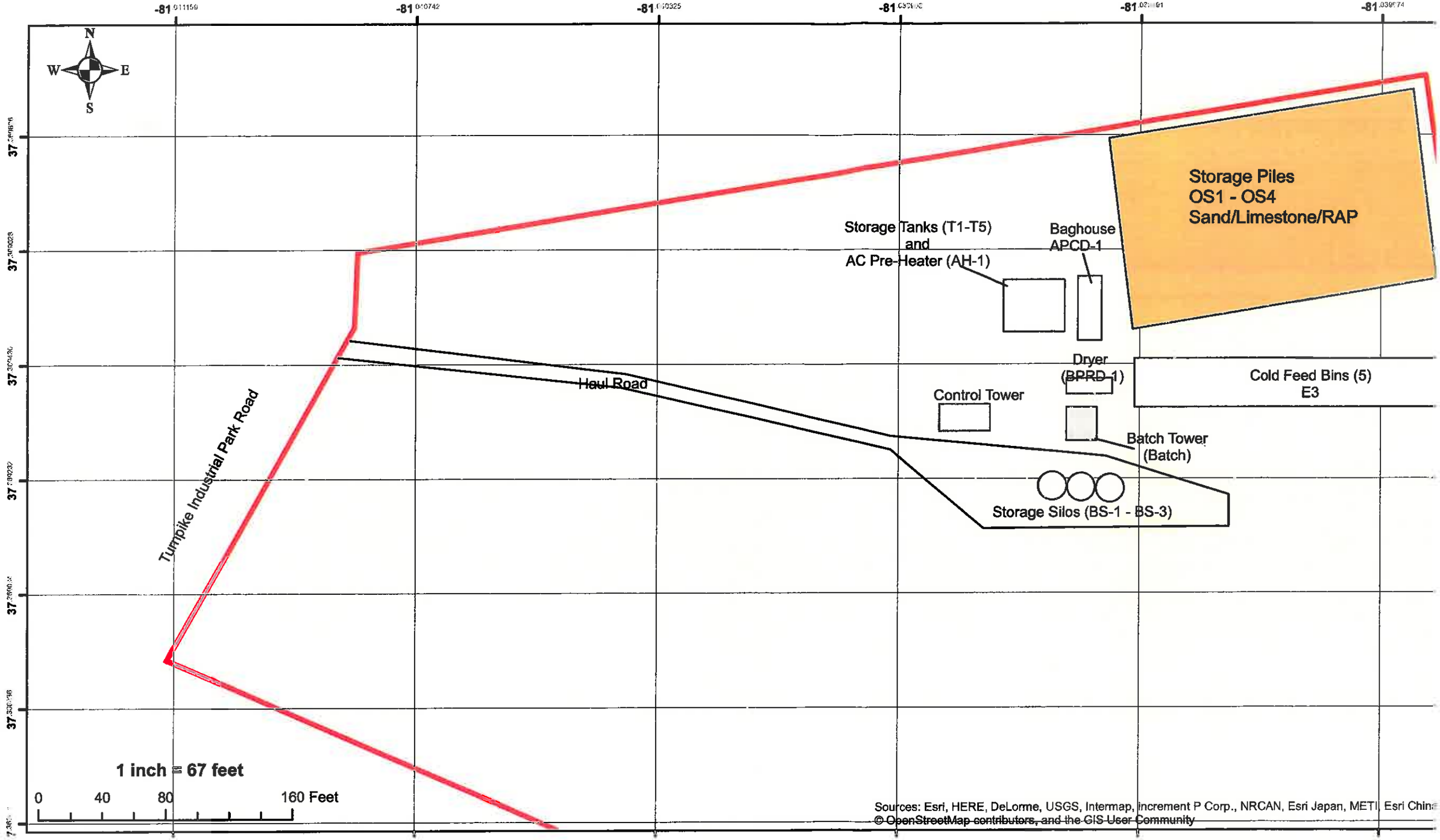
12 November 2015

Plot Plan

AAA Paving and Sealing

12 November 2015

This attachment is included to supplement the Application for General Permit Registration, G20-B (Hot Mix Asphalt). See attached Plot Plan.


N
W
E
S
Storage Piles
OS1 - OS4
Sand/Limestone/RAP
Storage Tanks (T1-T5)
and
AC Pre-Heater (AH-1)
Baghouse
APCD-1
Dryer
(BPRD-1)
Cold Feed Bins (5)
E3
Haul Road
Control Tower
Batch Tower
(Batch)
Storage Silos (BS-1 - BS-3)
Turnpike Industrial Park Road
1 inch = 67 feet
0
40
80
160 Feet
Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China
© OpenStreetMap contributors, and the GIS User Community

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ATTACHMENT F

AREA MAP

AAA Paving and Sealing

560 Turnpike Industrial Park Road
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Mercer County

12 November 2015

Area Map

AAA Paving and Sealing

12 November 2015

This attachment is included to supplement the Application for General Permit Registration, G20-B (Hot Mix Asphalt). See attached Area Map.

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ATTACHMENT G

AFFECTED SOURCE SHEETS

AAA Paving and Sealing

560 Turnpike Industrial Park Road
Princeton, WV 24739
Mercer County

12 November 2015

Affected Source Sheets (Section Applicability Form)

AAA Paving and Sealing

12 November 2015

This attachment is included to supplement the Application for General Permit Registration, G20-B (Hot Mix Asphalt). In accordance with the application requirements the following equipment data sheets and affected source sheets are included with this Attachment:

1. HMA Plant Production Equipment
2. Air Pollution Control Device
3. Particulate Matter Capture System
4. Material Storage & Handling
5. Fugitive Dust Control System
6. Asphalt Heater and Storage Tank
7. Pollutant Summary Sheets

HMA PLANT PRODUCTION AFFECTED SOURCE SHEET
Attachment G1

General HMA Plant Information	Source Identification Number[1]	BPRD-1
	Manufacturer & Model Number	H&B; 850-8832
	Date of Manufacture	1964
	Plant Type[2]	Batch
	Max Production Rate (ton/hour)	230
	Max Yearly Production (tons/year)	460,000
	Annual Operation (hours/year)	2,000
Batch Plant Information	Tons per Batch	3.0
	Batches per Hour	77
Drum Mixer Information	Drum Length (ft)	32
	Drum Diameter (ft)	88
Burner, Fuel & Combustion Data	Burner Manufacturer & Model Number	Hauck Powerstar 360
	Design Heat Input (mmBTU/hour)	75.6
	Excess Air (%)	40
	Fuel Type[3]	PNG; UO; #2FO and Propane
	Maximum Fuel Usage[4]	Oil: 5460 gallons/hour; PNG: 74,118 scf/hr; Propane: 30,240 scf/hr
	Fuel Heating Value[5]	Oil: 141,000; PNG: 1,020; Propane: 2,500
	Maximum Sulfur Content (%)	Oil: 0.5%
	Maximum Ash Content (%)	None

1. Enter the appropriate Source Identification Number for each rotary dryer or drum mixer. Batch plant rotary dryer should be designated BPRD-1, parallel flow drum mixer designated PFDM-1, and counterflow drum mixer designated CDFM-1, etc.

2. Enter the Plant Type designation using the following codes:

Batch	Batch Plant	PFDM	Parallel Flow Drum Mix Plant
CFDM	Counterflow Drum Mix Plant	CNMX	Continuous Mix Plant
COMB	Combination Batch/Drum Mix Plant		

3. Enter the Fuel Type(s) using the following code:

PNG	Pipeline Quality Natural Gas	#2FO	Number 2 Fuel Oil
UO	Used or Recycled Oil		

4. Enter the maximum fuel use in standard cubic feet per hour (natural gas) or gallons per hour (fuel oil). List appropriate units.

5. Enter the Fuel heating value in Btu per standard cubic foot (natural gas) or Btu per gallon (fuel Oil). List appropriate units.

AIR POLLUTION CONTROL DEVICE AFFECTED SOURCE SHEET
Attachment G2

HMA PLANT AIR POLLUTION CONTROL DEVICE DATA SHEET		PRIMARY COLLECTION (CYCLONE)	SECONDARY COLLECTION (BAGHOUSE)
General Information	APCD Identification Number[1]	None	APCD-1
	Manufacturer & Model Number	H&B 9-40	H&B Custom Built 540
Physical Parameters	Number of Cylinders	1	
	Number of Compartments		520
	Cylinder Diameter (ft)	9	
	Cylinder Length (ft)	24.6	
	Cone Length (ft)	14	
	Gas Inlet Area (ft)	8	16.50 sq ft
	Gas Outlet Area (ft)	8	17.17 sq ft
	Bag Cleaning Mechanism[2]		Pulse Jet
	Total Cloth (fabric) Area (ft^2)		6812
	Draft Fan HP		
	Outlet Stack Area (ft^2)		4.11
Operational Parameters	Minimum Design ΔP (in H20)	NA	2
	Maximum Design ΔP (in H20)	NA	7
	Inlet Gas Flow Rate (ACFM)	40,000	40,000
	Inlet Gas Temperature (°F)	330	300
	Inlet Gas Pressure (PSIA)	2.5	110
	Inlet Gas Velocity (ft/sec)	40,000	
	PM Inlet Rate (grains/ACF)	Varies/Unknown	Varies/Unknown
	PM Outlet Rate (grains/ACF)		0.04 gr/dscf
	Operating Air/Cloth Ratio (ft/min)		5.9 to 1.0

1. Enter the appropriate Air Pollution Control Device Identification Number for the primary and secondary collectors. The primary collector should be designated APCD-1 and the secondary collector designated APCD-2. If the secondary collector incorporates a knockdown or settling chamber and combines the functions of a primary and secondary collector, enter NONE for the primary collector APCD identification number and designate the secondary collector APCD-1.

2. Enter method used to clean bags: shaker, pulse jet, reverse jet or other.

HMA PLANT PARTICULATE MATTER CAPTURE SYSTEM AFFECTED SOURCE SHEET

Attachment G3

Pursuant to Section 2.3.5 of General Permit G-20B and 45CSR3, the registrant shall not cause, allow or permit a hot mix asphalt plant to operate that is not equipped with a particulate matter capture system. Such systems and devices shall be designed, operated and maintained in such a manner as to prevent the emission of particulate matter from any point other than a stack outlet.

A particulate matter capture system shall be used to confine, collect and transport particulate matter from dryers, hot elevators, screens, drum mixers, pugmills, weigh hoppers, hot bins and related components to air pollution control devices. Particulate matter capture systems shall include but not be limited to hoods, bins, ductwork, enclosures, air pollution control devices and fans.

Provide a written description of the hot mix asphalt plant's particulate matter capture system below:

The particulate matter capture system includes the use of an H&B baghouse which will have pick-up points at the rotary dryer and the batch plant (hot screens, bins and mixer). Air is drawn from the rotary dryer via an exhaust fan and the exhaust gas is drawn through the baghouse and discharged to the atmosphere through the baghouse stack. Captured baghouse fines are returned to the batch plant (mixer).

HMA PLANT MATERIAL STORAGE & HANDLING
AFFECTED SOURCE SHEET
Attachment G4

Source Identification Number[1]	OS-1	OS-2	OS-3	OS-4 (Future)	BS-1	BS-2	BS-3 (Future)
Material Stored[2]	Sand	Gravel	Limestone	RAP	Hot Mix Asphalt	Hot Mix Asphalt	Hot Mix Asphalt
Maximum Yearly Throughput (tons/year)[3]	259,440	172,960	172,960	216,200	230,000	230,000	230,000
Typical Moisture Content (%)[4]	5	5	5	5	100	100	100
Average % of Material Passing Through 200 Mesh Sieve[5]	1	0	0	0	0	0	0
Maximum Stockpile Base Area (ft^2)[6]	800	800	800	400	NA	NA	NA
Maximum Stockpile Height (ft)[7]	20	20	20	20	NA	NA	NA
Maximum Storage Capacity (tons)[8]	4507	4982	4745	4745	100	100	100
Dust Control Method Applied to Storage[9]	NO	NO	NO	NO	NA	NA	NA
Method of Material Load-in to Bin or Stockpile[10]	FE/TD	FE/TD	FE/TD	FE/TD	OT	OT	OT
Dust Control Method Applied During Load-in[11]	MD	MD	MD	MD	NO	NO	NO
Method of Material Load-out from Bin or Stockpile[10]	FE	FE	FE	FE	OT	OT	OT
Dust Control Method Applied During Load-out[11]	MD	MD	MD	MD	NO	NO	NO

1. Enter the appropriate Source Identification Number for each storage activity using the following codes. For example, if the facility utilizes four open stockpiles and one storage silo, the Source Identification Numbers should be OS-1, OS-2, OS-3, and OS-4; and BS-1, respectively.
   - OS Open Stockpile
   - BS Bin or Storage Silo (full enclosure)
   - SF Stockpiles with wind fences
   - E3 Enclosure (three-sided enclosure)
   - SB Storage Building (full enclosure)
   - OT Other _____ (please specify)
2. Describe the type of material stored or stockpiled.
3. Enter the maximum yearly storage throughput for each storage activity.
4. Enter the average percent moisture content of the stored material.
5. Enter the average percent of material that will pass through a 200 mesh sieve.
6. For stockpiles, enter the maximum stockpile base area.
7. For stockpiles, enter the maximum stockpile height.
8. Enter the maximum storage capacity for each storage activity in tons (e.g. silo capacity, maximum stockpile size, etc.).
9. Enter the dust control method applied to storage activity using the following codes:
   - CA Crusting Agent
   - FE Full Enclosure
   - OT Other _____ (please specify)
   - WS Water Spray
   - NO None
10. Enter the method of load-in or load-out to/from stockpiles or bins using the following codes:
   - FE Front Endloader
   - ST Stacking Tube
   - CS Clamshell
   - OT Other __elevator_____ (please specify)
   - SS Stationary Conveyor/Stacker
   - MC Mobile Conveyor/Stacker
   - TD Truck Dump
11. Enter the dust control method applied during load-in or load-out using the following codes:
   - CA Crusting Agent
   - FE Full Enclosure
   - ST Stacking Tube
   - OT Other __drop chute _____ (please specify)
   - WS Water Spray
   - MD Minimize Drop Height
   - NO None

HMA PLANT FUGITIVE DUST CONTROL SYSTEM
AFFECTED SOURCE SHEET
Attachment G5

Fugitive Dust Control System Data	Fugitive Dust Control Method [1]	WT
	Design Water Flow Rate (gpm) [2]	Unknown
	Chemical Additive [3]	None
	Water/Additive Mix Ratio [4]	Not Applicable
	Amount (gal/yd) [5]	Weather Dependent
	Frequency of Application [6]	Weather Dependent
	Haulroad Surface [7]	Dirt
	Work/Storage Area Surface [8]	Dirt
	Haulroad Length [9]	457 ft
	Number of Vehicles per day [10]	108
	Number of Wheels per Vehicle [11]	12
	Weight of Vehicle (tons) [12]	30

1.Enter the fugitive dust control method(s) using the following codes:
WT Water Truck WS Fixed Water Sprays
UW Underbody Truck Wash RS Rumble Strips
OT Other _____ (please specify)
2. Enter the design water flow rate for the water truck or fixed water sprays in gallons per minute.
3. Enter manufacturer and type, specification or grade of chemical additive.
4. Enter the water/chemical additive mix ratio.
5. Enter the amount of water or water/chemical additive mix to be applied to haulroads, storage and work areas in gallons per square yard.
6. Enter the frequency of application of water/chemical additive mix to haulroads, storage and work areas during periods of dry weather.
7. Enter the type of haulroad, work and storage area surface (asphalt pavement, concrete, dirt, coarse gravel, reddog, etc.).
8. Enter the approximate length of haulroad(s) in miles or feet. List appropriate units.
9. Enter the maximum daily vehicle traffic (trucks per day).
10. Enter the maximum number of wheels per vehicle.
11. Enter the mean vehicle weight in tons.
12. Complete a separate HMA Plant Fugitive Dust Control System Data sheet for each fugitive dust control system.

Provide a written description of the hot mix asphalt plant's particulate matter capture system below:

See attachment G3.

HMA PLANT ASPHALT HEATER AFFECTED SOURCE SHEET
Attachment G6

Source Identification Number[1]	Maximum Fuel Use[2]	Fuel Type[3]	Hours of Operation (hrs/yr)[4]
AH-1	16,667 scf/hr	PNG	1000

1. Enter the appropriate Source Identification Number for each asphaltic cement tank heater located at the hot mix asphalt plant. Asphaltic cement tank heaters should be designated AH-1, AH-2, etc.
2. Enter the maximum fuel use in standard cubic foot per hour (natural gas) or gallons per hour (fuel oil). List appropriate units.
3. Enter the Fuel Type using the following codes:
   PNG Pipeline Quality Natural Gas #2FO Number 2 Fuel Oil UO Used Oil
4. Enter the maximum hours of operation each year.

HMA PLANT STORAGE TANK AFFECTED SOURCE SHEET

Source Identification Number[1]	Content[2]	Length[3] (ft)	Dia[4] (ft)	Volume[5] (gallons)	Throughput[6] (gal/yr)	Orientation[7]	Liquid Height[8] (ft)
T-1	Used Oil	TBD	TBD	TBD	TBD	HORZ	TBD
T-2	#2 Fuel	TBD	TBD	TBD	TBD	HORZ	TBD
T-3	AC	28	10.6	15,000	9,200	HORZ	9'6"
T-4	AC	28	8.0	10,000	9,200	HORZ	7'
T-5	AC	28	10.6	15,000	9,200	HORZ	9'6"

1. Enter the appropriate Source Identification Number for each storage tank located at the hot mix asphalt plant. Storage tanks should be designated T-1, T-2, T-3, etc.
2. Enter storage tank content (#2 fuel oil, asphaltic cement, water, etc.)
3. Enter storage tank length in feet.
4. Enter storage tank diameter in feet.
5. Enter storage tank volume in gallons. Storage tank volume may be calculated using the following mathematical relationship:
   (length of tank) X (area conversion) X (tank diameter)^2 X (liquid volume conversion) or,
   (L_{tank} ft) X (3.14/4) X (d^2_{tank} ft^2) X (7.48 gallons/ft^3)
6. Enter storage tank throughput in gallons per year.
7. Enter storage tank orientation using the following codes:
   VERT Vertical Tank HORZ Horizontal Tank
8. Enter storage tank average liquid height in feet.
9. Storage tank emissions may be calculated using TANKS emission calculation program.

HMA PLANT CRITERIA POLLUTANT EMISSION SUMMARY SHEET

Attachment G7

Company Name AAA Paving and Sealing											Registration Number (Agency Use) G20-B	
Maximum Yearly Production 460,000 tons/year											Maximum Design Production Rate 230 tons/hour	
Source	PM		PM_{10}		VOC		SO_2		NO_X		CO	
	PTE tons/yr	PTE lbs/hr	PTE tons/yr	PTE lbs/hr	PTE tons/yr	PTE lbs/hr	PTE tons/yr	PTE lbs/hr	PTE tons/yr	PTE lbs/hr	PTE tons/yr	PTE lbs/hr
Haulroads[1]	1.73	NA	0.51	NA								
Materials Handling[2]	6.13	NA	2.15	NA	3.77	3.77					0.58	0.58
Dryer[3]	7.03	7.03	7.03	7.03	3.45	3.45	20.24	20.24	27.60	27.60	92.00	92.00
Asphalt Heater[4]	0.13	0.13	0.13	0.13	0.18	0.18	0.01	0.01	1.67	1.67	1.40	1.40
TOTAL	15.02	7.16	9.82	7.16	7.40	7.40	20.25	20.25	29.27	29.27	93.98	93.98

1. Enter the potential to emit of PM and PM_{10} associated with vehicular activity on haulroad(s). Use appropriate emission factors and calculations from the Criteria Pollutant Emission Factor Sheet . Attach potential emission calculations to this Emission Summary Sheet.

2. Enter the potential to emit of PM and PM_{10} associated with the transfer of aggregate from stockpiles to HMA production equipment. Use appropriate emission factors and calculations from the Criteria Pollutant Emission Factor Sheet. Attach potential emission calculations to this Emission Summary Sheet.

3. Enter the potential to emit of PM, PM_{10}, VOC, SO_2, NO_x and CO associated with the HMA production equipment (rotary dryer for batch plants or dryer/drum mixer for mix plants). Use appropriate emission factors and calculations from the Criteria Pollutant Emission Factor Sheet. Attach potential emission calculations to this Emission Summary Sheet.

4. Enter the potential to emit of PM, PM_{10}, VOC, SO_2, NO_x and CO associated with the asphalt heater(s). Use appropriate emission factors and calculations from the Criteria Pollutant Emission Factor Sheet. Attach potential emission calculations to this Emission Summary Sheet.

HMA PLANT HAZARDOUS/TOXIC POLLUTANT EMISSION SUMMARY SHEET
Attachment G7

Company Name AAA Paving and Sealing								Registration Number (Agency Use) G20-B			
Maximum Yearly Production 460,000 tons/year								Maximum Design Production Rate 230 tons/hour			
Source	Acetaldehyde		Benzene		Ethylbenzene		Toluene		Xylene		Formaldehyde	
	PTE tons/yr	PTE lbs/hr	PTE tons/yr	PTE lbs/hr	PTE tons/yr	PTE lbs/hr	PTE tons/yr	PTE lbs/hr	PTE tons/yr	PTE lbs/hr	PTE tons/yr	PTE lbs/hr
Dryer[1]	0.07	0.07	0.06	0.06	0.51	0.51	0.23	0.23	0.62	0.62	0.17	0.17
Asphalt Heater[2]	NA	NA	0.000035	0.000035	NA	NA	0.000057	0.000057	NA	NA	0.00125	0.00125
TOTAL	0.07	0.07	0.06	0.06	0.51	0.51	0.23	0.23	0.62	0.62	0.17	0.17

1. Enter the potential to emit of acetaldehyde, benzene, ethylbenzene, toluene, xylene and formaldehyde associated with the HMA production equipment (rotary dryer for batch plants or dryer/drum mixer for mix plants). Use appropriate emission factors and calculations from the Hazardous/Toxic Pollutant Emission Factor Sheet. Attach potential emission calculations to this Emission Summary Sheet.

2. Enter the potential to emit of acetaldehyde, benzene, ethylbenzene, toluene, xylene and formaldehyde associated with the asphalt heater(s). Use appropriate emission factors and calculations from the Hazardous/Toxic Pollutant Emission Factor Sheet. Attach potential emission calculations to this Emission Summary Sheet.

AAA Paving and Sealing

560 Turnpike Industrial Park Road
Princetone, WV 24739
DAQ Facility ID: To Be Determined

Emissions Calculations

230 TPH Batch Hot Mix Asphalt Plant

Including:
Point Source Emissions (PM/PM_{10}/NO_X/CO/VOC/SO_2)
Baghouse (BPRD-1; Batch; APCD-1)
Asphalt Cement Hot Oil Heater (AH-1)

Fugitive Emissions (PM/PM_{10}/VOC/CO)
RAP Screen
Loading Operations
Conveying Operations
Plant HMA Load-Out
HMA Silo Filling

12 November 2015

DINE COMPLY INC.
ENVIRONMENTAL & SAFETY SPECIALISTS

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AAA Paving and Sealing
DAQ Facility ID# TBD
230 TPH Batch HMA Plant
Emissions Calculations

Emissions Summary

Activity	Emissions Type	Pollutant (tons/year)					
		PM	PM_{10}	CO	NO_X	SO_2	VOC
Baghouse	Point	7.03	7.03	92.00	27.60	20.24	3.45
RAP Screen	Fugitive	0.25	0.09				
Loading of Bins (Aggregate/RAP)	Fugitive	2.11	0.09				
Conveying Operations	Fugitive	0.73	0.24				
Plant HMA Load-Out	Fugitive	0.12	0.24	0.30			0.96
HMA Silo Filling	Fugitive	0.13	0.13	0.28			2.81
AC Preheater	Point	0.13	0.13	1.40	1.67	0.01	0.18
Haulroads	Fugitive	1.73	0.51				
Storage Piles	Fugitive	2.78	1.37				
Total Plant		15.02	9.82	93.98	29.27	20.25	7.40

Activity	Emissions Type	Pollutant (lbs/hour)					
		PM	PM_{10}	CO	NO_X	SO_2	VOC
Baghouse	Point	7.03	7.03	92.00	27.60	20.24	3.45
AC Preheater	Point	0.13	0.13	1.40	1.67	0.01	0.18
Total Plant		7.16	7.16	93.40	29.27	20.25	3.63

Note: Hourly emissions levels are not appropriate for fugitive emissions.

AAA Paving and Sealing
DAQ Facility ID# TBD
230 TPH Batch HMA Plant
Emissions Calculations

Potential Emissions: Batch Hot Mix Asphalt Plant - Point Source Emissions (CO, NO_X, SO_2, VOC)

Maximum Hourly Production Rate: (TPH)
230

Maximum Annual Production Rate: (TPY)
460,000

Source ID: Batch; BPRD-1 and APCD-1

NO. 2 FUEL OIL/USED OIL			PTE	Requested	
Pollutant	Emissions Factor (lbs/ton)	Emissions Rate (lbs/hr)	Emissions Rate (tons/yr)	Emissions Rate (tons/yr)	Emission Factor Basis
CO	0.4000	92.00	402.96	92.00	AP-42 Emissions Factors, Chapter 11.1 (March/2004)
NO_X	0.1200	27.60	120.89	27.60	AP-42 Emissions Factors, Chapter 11.1 (March/2004)
SO_2	0.0880	20.24	88.65	20.24	AP-42 Emissions Factors, Chapter 11.1 (March/2004)
VOC	0.0150	3.45	15.11	3.45	AP-42 Emissions Factors, Chapter 11.1 (March/2004)
Acetaldehyde	0.0003	0.07	0.32	0.07	AP-42 Emissions Factors, Chapter 11.1 (March/2004)
Benzene	0.0003	0.06	0.28	0.06	AP-42 Emissions Factors, Chapter 11.1 (March/2004)
Ethylbenzene	0.0022	0.51	2.22	0.51	AP-42 Emissions Factors, Chapter 11.1 (March/2004)
Toluene	0.0010	0.23	1.01	0.23	AP-42 Emissions Factors, Chapter 11.1 (March/2004)
Xylene	0.0027	0.62	2.72	0.62	AP-42 Emissions Factors, Chapter 11.1 (March/2004)
Formaldehyde	0.0007	0.17	0.75	0.17	AP-42 Emissions Factors, Chapter 11.1 (March/2004)

Natural Gas/Propane			PTE	Requested	
Pollutant	Emissions Factor (lbs/ton)	Emissions Rate (lbs/hr)	Emissions Rate (tons/yr)	Emissions Rate (tons/yr)	Emission Factor Basis
CO	0.4000	92.00	402.96	92.00	AP-42 Emissions Factors, Chapter 11.1 (March/2004)
NO_X	0.0250	5.75	25.19	5.75	AP-42 Emissions Factors, Chapter 11.1 (March/2004)
SO_2	0.0046	1.06	4.63	1.06	AP-42 Emissions Factors, Chapter 11.1 (March/2004)
VOC	0.0150	3.45	15.11	3.45	AP-42 Emissions Factors, Chapter 11.1 (March/2004)
Acetaldehyde	0.0003	0.07	0.32	0.07	AP-42 Emissions Factors, Chapter 11.1 (March/2004)
Benzene	0.0003	0.06	0.28	0.06	AP-42 Emissions Factors, Chapter 11.1 (March/2004)
Ethylbenzene	0.0022	0.51	2.22	0.51	AP-42 Emissions Factors, Chapter 11.1 (March/2004)
Toluene	0.0010	0.23	1.01	0.23	AP-42 Emissions Factors, Chapter 11.1 (March/2004)
Xylene	0.0027	0.62	2.72	0.62	AP-42 Emissions Factors, Chapter 11.1 (March/2004)
Formaldehyde	0.0007	0.17	0.75	0.17	AP-42 Emissions Factors, Chapter 11.1 (March/2004)

AAA Paving and Sealing
DAQ Facility ID# TBD
230 TPH Batch HMA Plant
Emissions Calculations

Potential Emissions: AC Preheater - Point Source Emissions (CO, NO_X, SO_2, VOC)

Source ID: AH-1

Unit Description:	AC Preheater (AH-1)
Maximum Heat Input Capacity (mmBtu/hr):	17

Pollutant	Emission Factor ($lb/10^6$ scf)	Conversion (Btu/scf)	Hourly Emissions (lbs/hour)	Annual Emissions (tons/year)
CO	84	1,020	1.40	1.40
NO_X	100	1,020	1.67	1.67
PM	7.6	1,020	0.13	0.13
SO_2	0.6	1,020	0.010	0.01
VOC	11	1,020	0.18	0.18
CH_4	2.3	1,020	0.04	0.04
Butane	2.1	1,020	0.035000	0.035000
Ethane	3.1	1,020	0.051667	0.051667
Hexane	1.8	1,020	0.030000	0.030000
Pentane	2.6	1,020	0.043333	0.043333
Propane	1.6	1,020	0.026667	0.026667
Toluene	3.40E-03	1,020	0.000057	0.000057
Benzene	2.10E-03	1,020	0.000035	0.000035
Formaldehyde	7.50E-02	1,020	0.001250	0.001250
Beryllium	1.20E-05	1,020	0.000000	0.000000
Cadmium	1.10E-03	1,020	0.000000	0.000000
Chromium	1.40E-03	1,020	0.000018	0.000018
Cobalt	8.40E-05	1,020	0.000018	0.000018
Copper	8.50E-04	1,020	0.000001	0.000001
Manganese	3.80E-04	1,020	0.000014	0.000014
Mercury	2.60E-04	1,020	0.000006	0.000006
Moly	1.10E-03	1,020	0.000004	0.000004
Nickel	2.10E-03	1,020	0.000018	0.000018
Selenium	2.40E-05	1,020	0.000035	0.000035
Vanadium	2.30E-03	1,020	0.000000	0.000000
Zinc	2.90E-02	1,020	0.000038	0.000038

Basis:

AP-42 Emissions Factors: Chapter 1.4 Natural Gas Combustion
Table 1.4-1: Emission Factors for Nitrogen Oxides and Carbon Monoxide from Natural Gas Combustion (Small Boilers)
Table 1-4-2: Emission Factors for Criteria Pollutants and Greenhouse Gases from Natural Gas Combustion

Hourly emissions are based on the Maximum Heat Input Capacity.
Annual emissions are based on the hourly emissions rate at 2,000 operating hours per year and converted to tons.

AAA Paving and Sealing
DAQ Facility ID# TBD
230 TPH Batch HMA Plant
Emissions Calculations

Particulate Emissions

Source ID: Batch; BPRD-1 and APCD-1

Particulate emissions are based on the maximum allowable grain outlet loading concentration in conjunction with the maximum capacity exhaust air flow rate of the controls.

Maximum Allowable Grain Outlet Loading Concentration (gr/dscf): 0.04
Gas Stream Temperature (deg. F): 300
Gas Stream Moisture Content (%): 26.23
Volume Fraction Moisture Content: 0.2623

Potential Hourly Emissions:

Exhaust Air Flow (ACFM)	Exhaust Air Flow (DSCFM)[1]	Outlet Loading (gr/dscf)[2]	Conversion (60 min/hr)	Conversion (lb/7000 gr)	Hourly Emissions (lbs/hr)
40,000	20,500.29	0.04	60	7000	7.03

Potential Annual Emissions:

Hourly Emissions (lbs/hr)	Annual Emissions (tons/yr)[3]
7.03	30.79

Requested Annual Emissions:

Hourly Emissions (lbs/hr)	Maximum Capacity (tons/hr)	Emissions Factor (lbs/ton)	Annual Production (tons/yr)[4]	Annual Emissions (tons/yr)
7.03	230	0.03	460,000	7.03

[1] This is the ACFM value corrected for moisture using the following equation: (ACFM)(528/460+stack temp)(1-%moisture)

[2] Grain outlet loading concentration based on NSPS Subpart I.

[3] Annual emissions calculated by multiplying the hourly potential emissions by 8760 hours/year and converting to tons.

[4] Requested Annual Production

AAA Paving and Sealing
DAQ Facility ID# TBD
230 TPH Batch HMA Plant
Emissions Calculations

Potential Emissions: Asphalt Load Out and Silo Filling Fugitive Emissions

Source ID: Batch; BS-1 through BS-3

Maximum Hourly Production Rate: (tons/hour): 230

Maximum Annual Production Rate: (tons/year): 460,000

Activity	Pollutant	Emissions Factor (lbs/ton)	Hourly Emissions (lbs/hr)	Annual Emissions (tons/yr)
Plant Load-Out	PM	5.22E-04	0.12	0.12
	VOC	4.16E-03	0.96	0.96
	CO	1.30E-03	0.30	0.30
Silo Filling	PM	5.86E-04	0.13	0.13
	VOC	1.22E-02	2.81	2.81
	CO	1.20E-03	0.28	0.28

Total PM (tons/yr)	Total VOC (tons/yr)	Total CO (tons/yr)
0.25	3.76	0.58

Emission Factor Basis: USEPA Reference Document AP-42, Chapter 11.1; Hot Mix Asphalt Plants, Version Dated March 2004; Table 11.1-14, "Predictive Emission Factor Equations for Load-Out and Silo Filling Operations"; using default values for asphalt volatility (0.5) and HMA Mix Temperature (325 F).

AAA Paving and Sealing
DAQ Facility ID# TBD
230 TPH Batch HMA Plant
Emissions Calculations

Potential Emissions: Loading Operations

Source ID: FE and E3

Cold End Fugitive Dust Emissions

Operation	Annual Production (tons/yr)	PM_{10} Emissions Factor (lbs/ton)	PM Emissions Factor (lbs/ton)	Annual Emissions (tpy)	
				PM_{10}	PM
Hopper Loading	432,400	0.0028	0.0048	0.6054	1.0378
Aggregate Transfer (60%)	259,440	0.0033	0.0069	0.4281	0.8951
Sand Transfer (40%)	172,960	0.00099	0.0021	0.0856	0.1816
Totals:				0.09	2.11

Emissions of fugitive dust associated with the cold aggregate, sand and RAP loading, and the cold aggregate, sand and RAP transfer operations are based on AP-42 5th Edition, Table 11.12-2 (6/06).

AAA Paving and Sealing
DAQ Facility ID# TBD
230 TPH Batch HMA Plant
Emissions Calculations

Potential Emissions - RAP Screening Equipment

Source ID: Batch

Operating Parameters:

Equipment Model:	1-Deck Screen
Maximum Hourly Capacity[1] (tons/hr):	115
Maximum Annual Capacity[1] (tons/yr):	230,000

[1] Capacity based on 50% RAP maximum and subtraction of AC from mix (6%AC).

Particulate Emissions:

Uncontrolled Emissions

PM Emission Factor (lb/ton)	PM_{10} Emission Factor (lb/ton)	Hourly PM Emissions (lbs/hr)	Hourly PM_{10} Emissions (lbs/hr)	Annual PM Emissions (tons/yr)	Annual PM_{10} Emissions (tons/yr)
0.02500	0.00870	2.88	1.00	2.88	1.00

Controlled/Requested Emissions

PM Emission Factor (lb/ton)	PM_{10} Emission Factor (lb/ton)	Hourly PM Emissions (lbs/hr)	Hourly PM_{10} Emissions (lbs/hr)	Annual PM Emissions (tons/yr)	Annual PM_{10} Emissions (tons/yr)
0.00220	0.00074	0.25	0.09	0.25	0.09

Emissions Factor Basis:

USEPA Reference Document, AP-42, Fifth Edition, Volume I, Chapter 11.19.2 (8/2004), Crushed Stone Processing, Table 11.19.2-2 "Emission Factors for Crushed Stone Processing Operations"
Screening
Uncontrolled: No additional wet suppression technology (0.21 to 1.3% moisture)
Controlled: Sources with wet suppression technology; inherent moisture content and/or moisture carry-over (0.55 to 2.88% moisture)

Hourly Emissions Basis:

Hourly emissions are based on the equipments maximum rated design capacity.

Annual Emissions Basis:

Annual emissions are based on the maximum annual RAP production rate.

AAA Paving and Sealing
DAQ Facility ID# TBD
230 TPH Batch HMA Plant
Emissions Calculations

Potential Emissions - Conveying Equipment

Source ID: Batch

Operating Parameters:

Equipment Model:	Transfer Equipment
Maximum Hourly Capacity[1] (tons/hr):	216.2
Maximum Annual Capacity (tons/yr):	432,400
Total Transfer Points:	24 (Potential Transfer Points)

[1] Capacity based on maximum feed and subtraction of AC from mix (6%AC).

Particulate Emissions:

Uncontrolled Emissions

PM Emission Factor (lb/ton)	PM_{10} Emission Factor (lb/ton)	Hourly PM Emissions (lbs/hr)	Hourly PM_{10} Emissions (lbs/hr)	Annual PM Emissions (tons/yr)	Annual PM_{10} Emissions (tons/yr)
0.00300	0.00110	15.57	5.71	15.57	5.71

Controlled/Requested Emissions

PM Emission Factor (lb/ton)	PM_{10} Emission Factor (lb/ton)	Hourly PM Emissions (lbs/hr)	Hourly PM_{10} Emissions (lbs/hr)	Annual PM Emissions (tons/yr)	Annual PM_{10} Emissions (tons/yr)
0.00014	0.000046	0.73	0.24	0.73	0.24

Emissions Factor Basis:

USEPA Reference Document, AP-42, Fifth Edition, Volume I, Chapter 11.19.2 (8/2004), Crushed Stone Processing, Table 11.19.2-2 "Emission Factors for Crushed Stone Processing Operations"
Conveyor Transfer Point
Uncontrolled: No additional wet suppression technology (0.21 to 1.3% moisture)
Controlled: Sources with wet suppression technology; inherent moisture content and/or moisture carry-over (0.55 to 2.88% moisture)

Hourly Emissions Basis:

Hourly emissions are based on the equipments maximum rated design capacity.

Annual Emissions Basis:

Annual emissions are based on the maximum annual production rate.

AAA Paving and Sealing
DAQ Facility ID# TBD
230 TPH Batch HMA Plant
Emissions Calculations

Potential Emissions: Haulroads (PM/PM_{10})

Source ID: Haulroads

Unpaved Roadways

EF (lb/VMT) = k $(s/12)^a (W/3)^b$ [(365-P)/365]

Where:
EF = Annual size-specific emission factor extrapolated for natural mitigation
s = Silt content of road surface material (%)
W = Mean Vehicle Weight (tons)
K,a, b = empirical constants
P = number of days in a year with at least 0.01 inch of precipitation

Annual Production:	460.000

Empirical Constants (from Table	(for $PM_{2.5}$)	(for PM_{10})	(for PM_{30})	s[1]	W[2]	Natural Mitigation[3]	Emission Factor (lb./VMT) (for $PM_{2.5}$)	(for PM_{10})	(for PM_{30})	VMT/yr.	Emissions (tpy) (for $PM_{2.5}$)	(for PM_{10})	(for PM_{30})
k	0.23	1.5	4.9	10	30	0.62	0.34	2.22	7.54	4,600	0.78	5.12	17.33
a	0.9	0.9	0.7										
b	0.45	0.45	0.45										

Emissions Factor Basis:

USEPA Reference Document, AP-42, Fifth Edition, Volume I, Chapter 13.2.2 (12/2003), Unpaved Roads
Equations (1a) and (2), Section 13.2.2.2 "Emissions Calculation and Correction Parameters".

[1] Silt Content is based on Table 13.2.2-1 "Typical Silt Content Values of Surface Material on Industrial and Rural Unpaved Roads" Using the mean value of Silt Content indicated for Stone quarrying and processing on a plant road.
[2] Average Weight is based on estimated evaluation of vehicles traveling roads. Average weight of haul trucks 30 tons.
[3] Natural Mitigation = [(365-P)/365]; where P is the number of days >0.01 inches precipitation (Based on average estimate of Climatological Data, p = 139)
[4] Vehicle Miles Traveled per Year is based on haul route length (1 round trip = 0.17 mile) and maximum annual production. (460,000 tpy)/(17 tons/haul truck) = (27,056 trucks/yr)(0.17 mile round trip) = 4600 VMT/yr

Controlled/Requested Emissions

Controlled emissions are calculated by multiplying the uncontrolled emissions rate by a control efficiency of 90% (for use of dust suppression (water), vehicle speed reduction and good housekeeping practices, therefore:

	(for $PM_{2.5}$)	(for PM_{10})	(for PM_{30})
Uncontrolled Emissions (TPY)	0.78	5.12	17.33
Control Efficiency (%)	90%	90%	90%
Controlled Emissions (TPY)	**0.08**	**0.51**	**1.73**

AAA Paving and Sealing
DAQ Facility ID# TBD
230 TPH Batch HMA Plant
Emissions Calculations

Potential Emissions: Storage Piles (PM/PM_{10})

Source ID: TD/FE

Emissions Associated with Load-In/Load-Out Operations:

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

Where:
E = Emission Factor (lb/ton)
k = Particle Size Multiplier (dimensionless)
U = Mean Wind Speed (mph) (Based on estimated Local Climatological Data).
M = Material Moisture Content

Pile	k		U	M	E (lbs./ton)		Material	UNCONTROLLED Emissions (tpy)		Control	CONTROLLED Emissions (tpy)	
	PM_{10}	PM	(mph)	(%)	PM_{10}	PM	(tpy)	PM_{10}	PM	Efficiency	PM_{10}	PM
Aggregates	0.35	0.74	9.47	5.00	0.00071	0.00151	460.000	0.16	0.35	90%	0.1638	0.3464
Total:							460,000	0.16	0.35		0.16	0.35
							920,000	0.33	0.69		0.33	0.69

*Totals doubled to account for both load in and load out operations

Emissions Associated with Wind Erosion:

$E = (1.7)(s/1.5)[(365-p)/235](f/15)(365)(A/2000)$

Where:
E = Emission Factor (lb/day/acre)
s = Silt Content of the Stored Material, Weight Percent (based on worst-case estimated value)
p = number of days with >0.01 inch of precipitation per year (Based on estimated Local Climatological Data, p = 139)
f = percentage of time wind speed exceeds 12 mph (Based on estimated Local Climatological Data)
A = Total Surface Area of Storage Piles (based on estimated worst-case acreage associated with plant)

Pile	s	p	f	A	UNCONTROLLED PE	UNCONTROLLED PM_{10}	Control	CONTROLLED PE	CONTROLLED PM_{10}
	%		%	(acres)	(TPY)	(TPY)	Efficiency	(TPY)	(TPY)
Aggregates	10.00	139	24.4	0.64	2.09	1.04	95%	2.09	1.04
Total:					2.09	1.04		2.09	1.04

Emissions	Uncontrolled	Controlled
PM	2.78	2.78
PM_{10}	1.37	1.37

A = Total Surface Area of Storage Piles:
Equation: $A = \pi r\ (h^2 + r^2)^{0.5}$
where:
r = radius (ft) 40
h = height (ft) 20
therefore:
A = 5617.003
Conversion to Acres:
A = 0.128949
Number of Piles: 5
A = 0.644743

Emissions Factor Basis:

Load-In/Load-Out: USEPA Reference Document, AP-42, Fifth Edition, Volume I, Chapter 13.2.4 (1/1995)
Aggregate Handling and Storage Piles, Equation (1), Section 13.2.4.2 "Emissions and Correction Parameters".

Wind Erosion: USEPA Reference Document, "Fugitive Dust Background Document and Technical Information Document for Best Available Control Measures", September 1992. (EPA-450/2-92-004)

Table 11.1-5. EMISSION FACTORS FOR CO, CO_2, NO_x, AND SO_2 FROM BATCH MIX HOT MIX ASPHALT PLANTS[a]

Process	CO[b]	EMISSION FACTOR RATING	CO_2[c]	EMISSION FACTOR RATING	NO_x	EMISSION FACTOR RATING	SO_2[e]	EMISSION FACTOR RATING
Natural gas-fired dryer, hot screens, and mixer (SCC 3-05-002-45)	0.40	C	37[d]	A	0.025[e]	D	0.0046[f]	E
No. 2 fuel oil-fired dryer, hot screens, and mixer (SCC 3-05-002-46)	0.40	C	37[d]	A	0.12[g]	E	0.088[h]	E
Waste oil-fired dryer, hot screens, and mixer (SCC 3-05-002-47)	0.40	C	37[d]	A	0.12[g]	E	0.088[h]	E
Coal-fired dryer, hot screens, and mixer[j] (SCC 3-05-002-98)	ND	NA	37[d]	A	ND	NA	0.043[k]	E

[a] Emission factor units are lb per ton of HMA produced. SCC = Source Classification Code. ND = no data available. NA = not applicable. To convert from lb/ton to kg/Mg, multiply by 0.5.

[b] References 24, 34, 46-47, 49, 161, 204, 215-217, 282, 370, 378, 381. The CO emission factors represent normal plant operations without scrutiny of the burner design, operation, and maintenance. Information is available that indicates that attention to burner design, periodic evaluation of burner operation, and appropriate maintenance can reduce CO emissions. Data for dryers firing natural gas, No. 2 fuel oil, and No. 6 fuel oil were combined to develop a single emission factor because the magnitude of emissions was similar for dryers fired with these fuels.

[c] Emissions of CO_2 and SO_2 can also be estimated based on fuel usage and the fuel combustion emission factors (for the appropriate fuel) presented in AP-42 Chapter 1. The CO_2 emission factors are an average of all available data, regardless of the dryer fuel (emissions were similar from dryers firing any of the various fuels). Based on data for drum mix facilities, 50 percent of the fuel-bound sulfur, up to a maximum (as SO_2) of 0.1 lb/ton of product, is expected to be retained in the product, with the remainder emitted as SO_2.

[d] Reference 1, Table 4-20. Average of data from 115 facilities. Range: 6.9 to 160 lb/ton. Median: 32 lb/ton. Standard deviation: 22 lb/ton.

[e] References 24, 34, 46-47.

[f] References 46-47.

[g] References 49, 226.

[h] References 49, 226, 228, 385.

[j] Dryer fired with coal and supplemental natural gas or fuel oil.

[k] Reference 126.

Table 11.1-6. EMISSION FACTORS FOR TOC, METHANE, AND VOC FROM BATCH MIX HOT MIX ASPHALT PLANTS[a]

Process	TOC[b]	EMISSION FACTOR RATING	CH_4[c]	EMISSION FACTOR RATING	VOC[d]	EMISSION FACTOR RATING
Natural gas-fired dryer, hot screens, and mixer (SCC 3-05-002-45)	0.015[e]	D	0.0074	D	0.0082	D
No. 2 fuel oil-fired dryer, hot screens, and mixer (SCC 3-05-002-46)	0.015[e]	D	0.0074	D	0.0082	D
No. 6 fuel oil-fired dryer, hot screens, and mixer (SCC 3-05-002-47)	0.043[f]	E	0.0074	D	0.036	E

[a] Emission factor units are lb per ton of HMA produced. SCC = Source Classification Code. ND = no data available. NA = not applicable. To convert from lb/ton to kg/Mg, multiply by 0.5.

[b] TOC equals total hydrocarbons as propane, as measured with an EPA Method 25A or equivalent sampling train plus formaldehyde.

[c] References 24, 46-47, 49. Factor includes data from natural gas- and No. 6 fuel oil-fired dryers. Methane measured with an EPA Method 18 or equivalent sampling train.

[d] The VOC emission factors are equal to the TOC factors minus the methane emission factors; differences in values reported are due to rounding.

[e] References 24, 46-47, 155.

[f] Reference 49.

Table 11.1-1. PARTICULATE MATTER EMISSION FACTORS FOR BATCH MIX HOT MIX ASPHALT PLANTS[a]

Process	Filterable PM				Condensable PM[b]				Total PM			
	PM[c]	EMISSION FACTOR RATING	PM-10[d]	EMISSION FACTOR RATING	Inorganic	EMISSION FACTOR RATING	Organic	EMISSION FACTOR RATING	PM[e]	EMISSION FACTOR RATING	PM-10[f]	EMISSION FACTOR RATING
Dryer, hot screens, mixer[g] (SCC 3-05-002-45, -46, -47)												
Uncontrolled	32[h]	E	4.5	E	0.013[j]	E	0.0041[j]	E	32	E	4.5	E
Venturi or wet scrubber	0.12[k]	C	ND	NA	0.013[m]	B	0.0041[n]	B	0.14	C	ND	NA
Fabric filter	0.025[p]	A	0.0098	C	0.013[m]	A	0.0041[n]	A	0.042	B	0.027	C

[a] Factors are lb/ton of product. SCC = Source Classification Code. ND = no data. NA = not applicable. To convert from lb/ton to kg/Mg, multiply by 0.5.

[b] Condensable PM is that PM collected using an EPA Method 202, Method 5 (analysis of "back-half" or impingers), or equivalent sampling train.

[c] Filterable PM is that PM collected on or before the filter of an EPA Method 5 (or equivalent) sampling train.

[d] Particle size data from Reference 23 were used in conjunction with the filterable PM emission factors shown.

[e] Total PM is the sum of filterable PM, condensable inorganic PM, and condensable organic PM.

[f] Total PM-10 is the sum of filterable PM-10, condensable inorganic PM, and condensable organic PM.

[g] Batch mix dryer fired with natural gas, propane, fuel oil, waste oil, and coal. The data indicate that fuel type does not significantly effect PM emissions.

[h] Reference 5.

[j] Although no data are available for uncontrolled condensable PM, values are assumed to be equal to the controlled value measured.

[k] Reference 1, Table 4-19. Average of data from 16 facilities. Range: 0.047 to 0.40 lb/ton. Median: 0.049 lb/ton. Standard deviation: 0.11 lb/ton.

[m] Reference 1, Table 4-19. Average of data from 35 facilities. Range: 0.00073 to 0.12 lb/ton. Median: 0.0042 lb/ton. Standard deviation: 0.024 lb/ton.

[n] Reference 1, Table 4-19. Average of data from 24 facilities. Range: 0.000012 to 0.018 lb/ton. Median: 0.0026 lb/ton. Standard deviation: 0.0042 lb/ton.

[p] Reference 1, Table 4-19. Average of data from 89 facilities. Range: 0.0023 to 0.18 lb/ton. Median: 0.012 lb/ton. Standard deviation: 0.033 lb/ton.

Table 11.1-9. EMISSION FACTORS FOR ORGANIC POLLUTANT EMISSIONS FROM BATCH MIX HOT MIX ASPHALT PLANTS[a]

Process	Pollutant		Emission Factor, lb/ton	Emission Factor Rating	Ref. Nos.
	CASRN	Name			
Natural gas- or No. 2 fuel oil-fired dryer, hot screens, and mixer with fabric filter (SCC 3-05-002-45,-46)	Non-PAH Hazardous Air Pollutants[b]				
	75-07-0	Acetaldehyde	0.00032	E	24,34
	71-43-2	Benzene	0.00028	D	24,34,46, 382
	100-41-4	Ethylbenzene	0.0022	D	24,46,47,49
	50-00-0	Formaldehyde	0.00074	D	24,34,46,47,49,226,382
	106-51-4	Quinone	0.00027	E	24
	108-88-3	Toluene	0.0010	D	24,34,46,47
	1330-20-7	Xylene	0.0027	D	24,46,47,49
		Total non-PAH HAPs	0.0075		
	PAH HAPs				
	91-57-6	2-Methylnaphthalene[c]	7.1×10^{-5}	D	24,47,49
	83-32-9	Acenaphthene[c]	9.0×10^{-7}	D	34,46,226
	208-96-8	Acenaphthylene[c]	5.8×10^{-7}	D	34,46,226
	120-12-7	Anthracene[c]	2.1×10^{-7}	D	34,46,226
	56-55-3	Benzo(a)anthracene[c]	4.6×10^{-9}	E	46,226
	50-32-8	Benzo(a)pyrene[c]	3.1×10^{-10}	E	226
	205-99-2	Benzo(b)fluoranthene[c]	9.4×10^{-9}	D	34,46,226
	191-24-2	Benzo(g,h,i)perylene[c]	5.0×10^{-10}	E	226
	207-08-9	Benzo(k)fluoranthene[c]	1.3×10^{-8}	E	34,226
	218-01-9	Chrysene[c]	3.8×10^{-9}	E	46,226
	53-70-3	Dibenz(a,h)anthracene[c]	9.5×10^{-11}	E	226
	206-44-0	Fluoranthene[c]	1.6×10^{-7}	D	34,46,47,226
	86-73-7	Fluorene[c]	1.6×10^{-6}	D	34,46,47,226
	193-39-5	Indeno(1,2,3-cd)pyrene[c]	3.0×10^{-10}	E	226
	91-20-3	Naphthalene	3.6×10^{-5}	D	34,46,47,49,226
	85-01-8	Phenanthrene[c]	2.6×10^{-6}	D	34,46,47,226
	129-00-0	Pyrene[c]	6.2×10^{-8}	D	34,46,226
		Total PAH HAPs	0.00011		
	Total HAPs		0.0076		
	Non-HAP organic compounds				
	100-52-7	Benzaldehyde	0.00013	E	24
	78-84-2	Butyraldehyde/ isobutyraldehyde	3.0×10^{-5}	E	24
	4170-30-3	Crotonaldehyde	2.9×10^{-5}	E	24
	66-25-1	Hexanal	2.4×10^{-5}	E	24
		Total non-HAPs	0.00019		

Table 1.4-1. EMISSION FACTORS FOR NITROGEN OXIDES (NO_x) AND CARBON MONOXIDE (CO) FROM NATURAL GAS COMBUSTION[a]

Combustor Type (MMBtu/hr Heat Input) [SCC]	NO_x[b]		CO	
	Emission Factor ($lb/10^6$ scf)	Emission Factor Rating	Emission Factor ($lb/10^6$ scf)	Emission Factor Rating
Large Wall-Fired Boilers (>100) [1-01-006-01, 1-02-006-01, 1-03-006-01]				
Uncontrolled (Pre-NSPS)[c]	280	A	84	B
Uncontrolled (Post-NSPS)[c]	190	A	84	B
Controlled - Low NO_x burners	140	A	84	B
Controlled - Flue gas recirculation	100	D	84	B
Small Boilers (<100) [1-01-006-02, 1-02-006-02, 1-03-006-02, 1-03-006-03]				
Uncontrolled	100	B	84	B
Controlled - Low NO_x burners	50	D	84	B
Controlled - Low NO_x burners/Flue gas recirculation	32	C	84	B
Tangential-Fired Boilers (All Sizes) [1-01-006-04]				
Uncontrolled	170	A	24	C
Controlled - Flue gas recirculation	76	D	98	D
Residential Furnaces (<0.3) [No SCC]				
Uncontrolled	94	B	40	B

[a] Reference 11. Units are in pounds of pollutant per million standard cubic feet of natural gas fired. To convert from $lb/10^6$ scf to $kg/10^6$ m^3, multiply by 16. Emission factors are based on an average natural gas higher heating value of 1,020 Btu/scf. To convert from $lb/10^6$ scf to lb/MMBtu, divide by 1,020. The emission factors in this table may be converted to other natural gas heating values by multiplying the given emission factor by the ratio of the specified heating value to this average heating value. SCC = Source Classification Code. ND = no data. NA = not applicable.

[b] Expressed as NO_2. For large and small wall fired boilers with SNCR control, apply a 24 percent reduction to the appropriate NO_x emission factor. For tangential-fired boilers with SNCR control, apply a 13 percent reduction to the appropriate NO_x emission factor.

[c] NSPS=New Source Performance Standard as defined in 40 CFR 60 Subparts D and Db. Post-NSPS units are boilers with greater than 250 MMBtu/hr of heat input that commenced construction modification, or reconstruction after August 17, 1971, and units with heat input capacities between 100 and 250 MMBtu/hr that commenced construction modification, or reconstruction after June 19, 1984.

TABLE 1.4-2. EMISSION FACTORS FOR CRITERIA POLLUTANTS AND GREENHOUSE GASES FROM NATURAL GAS COMBUSTION[a]

Pollutant	Emission Factor ($lb/10^6$ scf)	Emission Factor Rating
CO_2[b]	120,000	A
Lead	0.0005	D
N_2O (Uncontrolled)	2.2	E
N_2O (Controlled-low-NO_X burner)	0.64	E
PM (Total)[c]	7.6	D
PM (Condensable)[c]	5.7	D
PM (Filterable)[c]	1.9	B
SO_2[d]	0.6	A
TOC	11	B
Methane	2.3	B
VOC	5.5	C

[a] Reference 11. Units are in pounds of pollutant per million standard cubic feet of natural gas fired. Data are for all natural gas combustion sources. To convert from $lb/10^6$ scf to $kg/10^6$ m^3, multiply by 16. To convert from $lb/10^6$ scf to lb/MMBtu, divide by 1,020. The emission factors in this table may be converted to other natural gas heating values by multiplying the given emission factor by the ratio of the specified heating value to this average heating value. TOC = Total Organic Compounds. VOC = Volatile Organic Compounds.

[b] Based on approximately 100% conversion of fuel carbon to CO_2. $CO_2[lb/10^6 scf] = (3.67)(CON)(C)(D)$, where CON = fractional conversion of fuel carbon to CO_2, C = carbon content of fuel by weight (0.76), and D = density of fuel, $4.2x10^4$ $lb/10^6$ scf.

[c] All PM (total, condensible, and filterable) is assumed to be less than 1.0 micrometer in diameter. Therefore, the PM emission factors presented here may be used to estimate PM_{10}, $PM_{2.5}$ or PM_1 emissions. Total PM is the sum of the filterable PM and condensible PM. Condensible PM is the particulate matter collected using EPA Method 202 (or equivalent). Filterable PM is the particulate matter collected on, or prior to, the filter of an EPA Method 5 (or equivalent) sampling train.

[d] Based on 100% conversion of fuel sulfur to SO_2. Assumes sulfur content is natural gas of 2,000 grains/10^6 scf. The SO_2 emission factor in this table can be converted to other natural gas sulfur contents by multiplying the SO_2 emission factor by the ratio of the site-specific sulfur content (grains/10^6 scf) to 2,000 grains/10^6 scf.

Toxics Review (NA)

- Air Monitoring
- Air Toxics
- Compliance and Enforcement Section
- Emission Trading
- Energy Efficiency
- General Information
- Hazardous Waste Management (Air)
- NSR Permits for Review
- Oil and Gas
- Permitting
- Planning
- PUBLIC NOTICE AND COMMENT
- Publications
- Regulations
- Small Business Assistance
- Summary of Rules
- DAQ-TAGIS Mapping

Table 45-13A

Table 45-13A

Pollutant	Potential Emission Rate (pounds/year)
Acrylonitrile	500
Allyl Chloride	10,000
Arsenic Compounds (Inorganic)	200
Asbestos	14
Benzene	1,000
Beryllium	0.8
1,3 Butadiene	500
Carbon Tetrachloride	1,000
Chloroform	1,000
Ethylene Dichloride	1,000
Ethylene Oxide	500
Formaldehyde	1,000
Lead or lead compounds	1,200
Mercury	200
Methylene Chloride	5,000
Propylene Oxide	5,000
Trichloroethylene	10,000
Vinyl Chloride	1,000
Vinylidene Chloride	2,000

OK Benzene 120

OK Formaldehyde 340

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ATTACHMENT H

AIR POLLUTION CONTROL DEVICE DATA SHEET

AAA Paving and Sealing

560 Turnpike Industrial Park Road
Princeton, WV 24739
Mercer County

12 November 2015

Air Pollution Control Device Data Sheet

AAA Paving and Sealing

12 November 2015

This attachment is included to supplement the Application for General Permit Registration, G20-B (Hot Mix Asphalt). The application instructions indicate to include the applicable Air Pollution Control Device Sheet for each unit, however, this information was provided in Attachment G. If additional information is necessary, certainly let us know.

DINE COMPLY INC.
ENVIRONMENTAL & SAFETY SPECIALISTS

Dine Comply, Inc.
424 Newmans-Cardington Road East
Marion, Ohio 43302

Phone: (740) 389-2076
Mobile (Environmental): (419) 305-3916
Mobile (Safety): (740) 751-8422
E-mail:dine@rrohio.com
Web: www.dinecomply.com

ATTACHMENT I

EMISSIONS CALCULATIONS

AAA Paving and Sealing

560 Turnpike Industrial Park Road
Princeton, WV 24739
Mercer County

12 November 2015

Emissions Calculations

AAA Paving and Sealing

12 November 2015

This attachment is included to supplement the Application for General Permit Registration, G20-B (Hot Mix Asphalt). As it appears this is the same information required in Attachment G7, please see Attachment G7 for the emissions calculations and supporting information.

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ATTACHMENT J

CLASS I LEGAL ADVERTISEMENT

AAA Paving and Sealing

560 Turnpike Industrial Park Road
Princeton, WV 24739
Mercer County

12 November 2015

Class I Legal Advertisement

AAA Paving and Sealing

12 November 2015

This attachment is included to supplement the Application for General Permit Registration, G20-B (Hot Mix Asphalt). See attached Legal Advertisement and supporting information. This advertisement will be published in the Princeton Times of Princeton, West Virginia upon receipt of the certified mail receipt indicating WVDEP, DAQ receipt of the application. Original advertisement will be provided to WVDEP, DAQ prior to the end of the associated comment period.

AIR QUALITY PERMIT NOTICE
Notice of Application

Notice is given that AAA Paving and Sealing has applied to the West Virginia Department of Environmental Protection, Division of Air Quality, for a General Permit Registration for a Batch Hot Mix Asphalt Plant located on 560 Turnpike Industrial Park Road, in Princeton, Mercer County, West Virginia.

The applicant estimates the potential to discharge the following Regulated Air Pollutants will be:
Particulate Matter: 15.02 tons per year
Particulate Matter <10 microns: 9.82 tons per year
Volatile Organic Compounds: 7.40 tons per year
Sulfur Dioxide: 20.25 tons per year
Nitrogen Oxides: 29.27 tons per year
Carbon Monoxide: 93.98 tons per year
Hazardous/Toxic Pollutants: 1.66 tons per year

Startup of operation is planned to begin on or about the 15th day of March, 2016. Written comments will be received by the West Virginia Department of Environmental Protection, Division of Air Quality, 601 57th Street, SE, Charleston, WV 25304, for at least 30 calendar days from the date of publication of this notice.

Any questions regarding this permit application should be directed to the DAQ at (304) 926-0499, extension 1227, during normal business hours.

Dated this the xx day of November, 2015.

By: AAA Paving and Sealing
Brandon Henkes
Facility Manager
P.O. Box 975
Princeton, WV 24740

Princeton Times Classified

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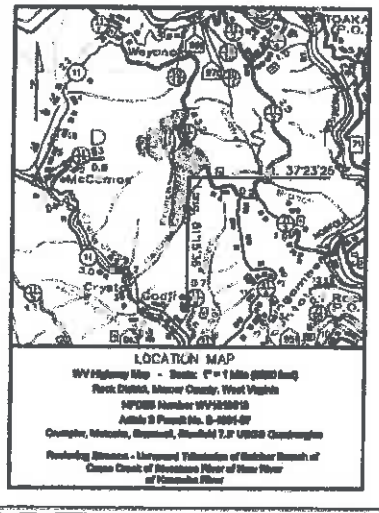

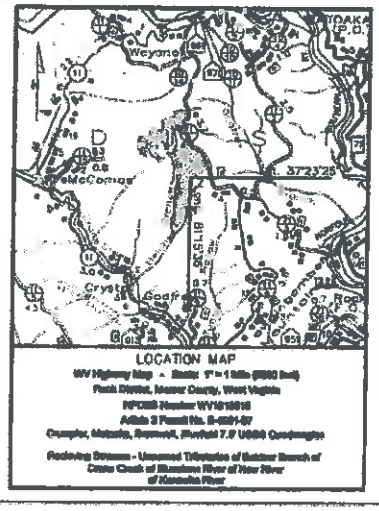

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Stories

- Website ranks Princeton most dangerous city in state
- Commission makes investment in park, future of Mercer County
- Board of Health receives report on Yummi Japan
- Princeton Police blotter - Nov. 6
- Glenn David Meadows

Photos

Videos

DINE COMPLY INC.
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ATTACHMENT K

STACK TESTING

AAA Paving and Sealing

560 Turnpike Industrial Park Road
Princeton, WV 24739
Mercer County

12 November 2015

Stack Testing

AAA Paving and Sealing

12 November 2015

This attachment is included to supplement the Application for General Permit Registration, G20-B (Hot Mix Asphalt). Specifically, during the course of gathering operating parameters regarding this facility, stack testing results from the last known stack testing was obtained and is provided for DAQ review.

P.R. MOOSE Operating Permit
Permit to Construct - (TA)
update 9/23/93

STATE OF MISSOURI

Mel Carnahan, Governor • David A. Shorr, Director

DEPARTMENT OF NATURAL RESOURCES

DIVISION OF ENVIRONMENTAL QUALITY

P.O. Box 176 Jefferson City, MO 65102-0176

September 13, 1993

Re: permit # 1192-006

DLP/DJM handles

Fred Weber, Inc.
Douglas K. Weible, Environmental Engineer
P. O. Box 2501
Maryland Heights, MO 63043-8501

9-23-93 Copy: T. Sarah Gregory (plant file)

Dear Mr. Weible:

My staff has reviewed the report of testing conducted by RAMCOM Environmental Corporation on the H & B stationary asphalt plant (TBA36-75-OX-16, # 924244R1505) located at your facility near Peveley on August 19, 1993. This test followed modifications to the fan after a test performed on June 9, 1993 indicated inadequate control of particulate emissions. Doug Elley observed the June 9 test and noted serious problems in testing procedures. Most of these problems were corrected in the August test, and my staff is in substantial agreement with the results reported by RAMCON.

Particulate emissions over three runs averaged 0.0121 grains per dry standard cubic foot (gr/DSCF) and opacity was below 5%. This emission level meets the limits of 0.04 gr/DSCF and 20% opacity established by New Source Performance Standards (NSPS), Subpart I. At the time of the test, the plant was found to be in compliance with permit # 1192-006 and Federal NSPS standards. Average production during the test was 150 tons/hour. Exceeding this level by more than ten percent (10%) will be a violation of your permit. Pressure drop across the baghouse averaged 2 inches of water. A comparable level of control device function must be maintained during operations. No more than 90,000 tons of asphalt may be produced at this facility during any calendar year.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Steven Feeler

Steven Feeler
Acting Chief of Enforcement

SF/py
cc: DNR St. Louis Regional Office

Per: MO DNR Permit to Construct / Operating Permit - Performance Test - CT)

update P.R 9/23/93

Fred Weber, Inc.

COMPLETE CONSTRUCTION SERVICES

(314) 344-0070

September 2,1993

DLP/DSM handles

Mr. Peter Yronwode
Air Pollution Control Program
Missouri Department of Natural Resources
Division of Environmental Quality
205 Jefferson
Jefferson City, Missouri 65102

9-23-93 Copy: T-Sarah Gregory (plant file)

Dear Mr. Yronwode:

Enclosed please find two copies of the report on the particulate emissions test conducted by RAMCON Environmental Corporation on August 19, 1993 at Fred Weber, Inc.'s Trautman Asphalt Plant.

If you have any questions regarding this matter please contact me at (314) 344-0070.

Sincerely,

FRED WEBER, INC.
Materials Division

Douglas K. Weible
Environmental Engineer

dkw

RAMCON
ENVIRONMENTAL CORPORATION

Source Sampling for
Particulate Emissions

H&B Batch-Mix Baghouse / Permit No. 1192-006

FRED WEBER, INC.
PEVELY, MISSOURI
August 19, 1993

Doug Weible
Fred Weber, Inc.

William Joseph Sewell, II
Vice President
RAMCON Environmental Corporation

RAMCON BUILDING, 6707 FLETCHER CREEK COVE, MEMPHIS, TENNESSEE 38133
TELEPHONE 800/458-4567 IN TENNESSEE 901/387-0500 FAX 901/387-0400

RAMCON
ENVIRONMENTAL CORPORATION

August 26, 1993

Mr. Doug Weible
Fred Weber, Inc.
2320 Creve Couer Mill Road
Maryland Heights, Missouri 63043

RE: Particulate Emissions Test: August 19, 1993

Dear Mr. Weible:

Enclosed you will find four (4) copies of our report on the particulate emissions test we conducted pursuant to permit no. 1192-006 at your asphalt plant located in Pevely, Missouri. Based on our test results, the average grain loading of the three test runs do pass both the EPA New Source Performance Standards and those set by the State of Missouri. Therefore, the plant is operating in compliance with both Federal and State standards.

You will want to sign the report covers and send two copies to:

Mr. Peter Ironwood
Air Pollution Control Program
Missouri Department of Natural Resources
Division of Environmental Quality
205 Jefferson
Jefferson City, Missouri 65102

You will need to keep one copy of the report at the plant.

We certainly have enjoyed working with you. Please let us know if we can be of further assistance.

Sincerely,

William Joseph Sewell, II
Vice President

WJSii:wpc
Enclosures

RAMCON BUILDING, 6707 FLETCHER CREEK COVE, MEMPHIS, TENNESSEE 38133
TELEPHONE 800/458-4567 IN TENNESSEE 901/387-0500 FAX 901/387-0400

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1. INTRODUCTION
2. TEST RESULTS
3. TEST PROCEDURES

SECTION A.

1. INTRODUCTION

On August 19, 1993 personnel from RAMCON Environmental Corporation conducted a source emissions test for particulate emissions compliance at Fred Weber, Inc.'s H&B batch-mix asphalt plant located in Pevely, Missouri. RAMCON personnel conducting the test were Allen Turner, Team Leader, Charles Dicks and Earl Crook. Tommy South was responsible for the laboratory analysis including taring the beakers and filters and recording final data in the laboratory record books. Custody of the samples was limited to Mr. Turner and Mr. South.

The purpose of the test was to determine if the rate of particulate emissions from this plant's baghouse is below or equal to the allowable N.S.P.S. emissions limit set by US EPA and the State of Missouri.

2. TEST RESULTS

Table I summarizes the test results. The grain loading limitation for EPA is .04 gr/dscf as specified in 39 FR 9314, March 8, 1974, 60.92 Standards for Particulate Matter (1), as amended. The allowable emissions for the State of Missouri are the same as those set by EPA.

Mr. Peter Ironwood of Missouri's Air Conservation Committee, Department of Natural Resources observed the testing conducted by RAMCON Environmental Corporation. Earl Crook of RAMCON Environmental conducted the opacity test which readings never exceeded zero (0) percent on all three (3) runs and therefore meets N.S.P.S. requirements.

SUMMARY OF TEST RESULTS

TABLE I

August 19, 1993

Test Run	Time	Actual Emissions gr/dscf	Emissions lbs/hr	Isokinetic Variation %
1	08:17 - 09:25	0.0129	2.43	98.8
2	10:38 - 11:44	0.0143	2.46	101.3
3	12:47 - 13:35	0.0091	1.62	101.2
Avg:		0.0121	2.17	

On the basis of these test results, the average grain loading of the three test runs is below the .04 gr/DSCF allowable emissions limitation set by EPA and the State of Missouri. Therefore, the plant is operating in compliance with State and Federal standards.

3. TEST PROCEDURES

(a) Method Used: Method 5 source sampling was conducted in accordance with requirements of the U.S. Environmental Protection Agency as set forth in 39 FR 9314, March 8, 1974, 60.93, as amended.

(b) Problems Encountered: No problems were encountered that affected testing.