



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

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(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Eric J. Holcomb
Governor

Bruno L. Pigott
Commissioner

NOTICE OF 30-DAY PERIOD FOR PUBLIC COMMENT

Preliminary Findings Regarding a
Significant Revision to a
Federally Enforceable State Operating Permit (FESOP)
for E & B Paving LLC in Allen County

Significant Permit Revision No.: 003-43035-03281

The Indiana Department of Environmental Management (IDEM) has received an application from E & B Paving, LLC, located at 7320 Lower Huntington Road, Ft. Wayne, IN 46809, for a significant revision of its FESOP issued on September 26, 2011. If approved by IDEM's Office of Air Quality (OAQ), this proposed revision would allow E & B Paving, LLC to make certain changes at its existing source. E & B Paving, LLC has applied to add new units to the permit including one (1) cold feed bins, one (1) recycled asphalt product bin, one (1) filler silo, as well as updating maximum drum dryer throughput capacity.

The applicant intends to construct and operate new equipment that will emit air pollutants; therefore, the permit contains new or different permit conditions. In addition, some conditions from previously issued permits/approvals have been corrected, changed, or removed. These corrections, changes, and removals may include Title I changes (e.g., changes that add or modify synthetic minor emission limits). The potential to emit regulated air pollutants will continue to be limited to less than the Title V and PSD major threshold levels. IDEM has reviewed this application and has developed preliminary findings, consisting of a draft permit and several supporting documents, which would allow the applicant to make this change.

A copy of the permit application and IDEM's preliminary findings have been sent to:

Allen County Public Library – Aboite Branch
5630 Coventry Lane
Ft. Wayne, IN 46804

A copy of the preliminary findings is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>.

A copy of the application and preliminary findings is also available via IDEM's Virtual File Cabinet (VFC). To access VFC, please go to: <http://www.in.gov/idem/> and enter VFC in the search box. You will then have the option to search for permit documents using a variety of criteria.

How can you participate in this process?

The date that this notice is posted on IDEM's website (<https://www.in.gov/idem/5474.htm>) marks the beginning of a 30-day public comment period. If the 30th day of the comment period falls on a day when IDEM offices are closed for business, all comments must be postmarked or delivered in person on the next business day that IDEM is open.

You may request that IDEM hold a public hearing about this draft permit. If adverse comments concerning the **air pollution impact** of this draft permit are received, with a request for a public hearing, IDEM will decide whether or not to hold a public hearing. IDEM could also decide to hold a public meeting instead of, or in addition to, a public hearing. If a public hearing or meeting is held, IDEM will make a separate announcement of the date, time, and location of that hearing or meeting. At a hearing, you would have an opportunity to submit written comments and make verbal comments. At a meeting,

you would have an opportunity to submit written comments, ask questions, and discuss any air pollution concerns with IDEM staff.

Comments and supporting documentation, or a request for a public hearing should be sent in writing to IDEM at the address below. If you comment via e-mail, please include your full U.S. mailing address so that you can be added to IDEM's mailing list to receive notice of future action related to this permit. If you do not want to comment at this time, but would like to receive notice of future action related to this permit application, please contact IDEM at the address below. Please refer to permit number SPR 003-43035-03281 in all correspondence.

Comments should be sent to:

William Altman
IDEM, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
(800) 451-6027, ask for William Altman or (317) 233-9664
Or dial directly: (317) 233-9664
Fax: (317) 232-6749 attn: William Altman
E-mail: WAltman@idem.IN.gov

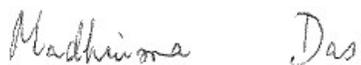
All comments will be considered by IDEM when we make a decision to issue or deny the permit. Comments that are most likely to affect final permit decisions are those based on the rules and laws governing this permitting process (326 IAC 2), air quality issues, and technical issues. IDEM does not have legal authority to regulate zoning, odor, or noise. For such issues, please contact your local officials.

For additional information about air permits and how the public and interested parties can participate, refer to the IDEM Air Permits page on the Internet at: <http://www.in.gov/idem/airquality/2356.htm>; and the Citizens' Guide to IDEM on the Internet at: <http://www.in.gov/idem/6900.htm>.

What will happen after IDEM makes a decision?

Following the end of the public comment period, IDEM will issue a Notice of Decision stating whether the permit has been issued or denied. If the permit is issued, it may be different than the draft permit because of comments that were received during the public comment period. If comments are received during the public notice period, the final decision will include a document that summarizes the comments and IDEM's response to those comments. If you have submitted comments or have asked to be added to the mailing list, you will receive a Notice of the Decision. The notice will provide details on how you may appeal IDEM's decision, if you disagree with that decision. The final decision will also be available on the Internet at the address indicated above and will also be sent to the local library indicated above, and the IDEM public file room on the 12th floor of the Indiana Government Center North, 100 N. Senate Avenue, Indianapolis, Indiana 46204-2251.

If you have any questions, please contact William Altman or my staff at the above address.



Madhurima D. Moulik, Ph.D., Section Chief
Permits Branch
Office of Air Quality



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Bruno L. Pigott
Commissioner

Adam Watts
E & B Paving, LLC
8032 North State Road 9
Greenfield, IN 46140

Re: 003-43035-03281
Significant Revision to
F003-30070-03281

Dear Adam Watts:

E & B Paving, LLC was issued a Federally Enforceable State Operating Permit (FESOP) Renewal No. F003-30070-03281, on September 26, 2011, for a stationary drum hot-mix asphalt plant, and cold-mix asphalt production operation located at 7320 Lower Huntington Road, Ft. Wayne, IN 46809. On June 29, 2020, the Office of Air Quality (OAQ) received an application from the source requesting the addition of new units to the permit including one (1) cold feed bins, one (1) recycled asphalt product bin, one (1) filler silo, as well as updating maximum drum dryer throughput capacity. Pursuant to the provisions of 326 IAC 2-8-11.1, these changes to the permit are required to be reviewed in accordance with the Significant Permit Revision (MPR) procedures of 326 IAC 2-8-11.1(e). Pursuant to the provisions of 326 IAC 2-8-11.1, a Significant Permit Revision to this permit is hereby approved as described in the attached Technical Support Document (TSD).

Pursuant to 326 IAC 2-8-11.1, the following emission units are approved for construction and modification at the source:

- (a) One (1) cold feed bin, identified as CFbin-1, with a maximum capacity of 30 tons per hour, uncontrolled, and exhausting indoors.
- (b) One (1) Mineral Filler Silo, identified as Silo-1, with a maximum capacity of 665,000 tons per year, uncontrolled, and exhausting indoors
- (c) One (1) recycled asphalt product bin, identified as RAP bin-1, with a maximum capacity of 30 tons per hour, uncontrolled, and exhausting indoors.
- (d) One (1) hot-mix asphalt drum dryer/mixer, identified as EU-01, constructed in 2004, approved in 2020 for modification, with a maximum throughput capacity of 400 tons of raw material per hour, processing blast furnace slag, steel slag, and asbestos-free recycled asphalt shingles in the aggregate mix, equipped with one (1) 100 million British thermal units (MMBtu) per hour natural gas fired dryer burner, using #2 distillate fuel oil, refinery blend fuel oil, residual fuel oil, and waste oil as backup fuels, equipped with one (1) baghouse for particulate control and exhausting through one (1) stack, identified as stack SV-1. This source produces cold mix asphalt. No grinding of shingles occurs at this source.

Pursuant to 326 IAC 2-8-11.1, this permit shall be revised by incorporating the Minor Permit Revision into the permit.

All other conditions of the permit shall remain unchanged and in effect. Please find attached the entire FESOP as revised. The permit references the below-listed attachment(s). Since these

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attachments have been provided in previously issued approvals for this source, IDEM OAQ has not included a copy of these attachments with this revision:

- Attachment A: Fugitive Dust Control Plan
- Attachment B: 40 CFR 60, Subpart I, Hot-mix Asphalt Facilities
- Attachment C: 40 CFR 60, Subpart OOO, Nonmetallic mineral processing plants
- Attachment D: 40 CFR 63, Subpart CCCCC, Gasoline Dispensing Facilities

Previously issued approvals for this source containing these attachments are available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>.

Previously issued approvals for this source are also available via IDEM's Virtual File Cabinet (VFC). To access VFC, please go to: <http://www.in.gov/idem/> and enter VFC in the search box. You will then have the option to search for permit documents using a variety of criteria.

Federal rules under Title 40 of United States Code of Federal Regulations may also be found on the U.S. Government Printing Office's Electronic Code of Federal Regulations (eCFR) website, located on the Internet at: http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title40/40tab_02.tpl.

A copy of the permit is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>. A copy of the application and permit is also available via IDEM's Virtual File Cabinet (VFC). To access VFC, please go to: <http://www.in.gov/idem/> and enter VFC in the search box. You will then have the option to search for permit documents using a variety of criteria. For additional information about air permits and how the public and interested parties can participate, refer to the IDEM Air Permits page on the Internet at: <http://www.in.gov/idem/airquality/2356.htm>; and the Citizens' Guide to IDEM on the Internet at: <http://www.in.gov/idem/6900.htm>.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5.

If you have any questions regarding this matter, please contact William Altman, Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251, or by telephone at (317) 233-9664 or (800) 451-6027, and ask for William Altman or (317) 233-9664.

Sincerely,

Madhurima D. Moulik, Ph.D., Section Chief
Permits Branch
Office of Air Quality

Attachments: Revised permit and Technical Support Document.

cc: File - Allen County
Allen County Health Department
U.S. EPA, Region 5
Compliance and Enforcement Branch



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Commissioner

Federally Enforceable State Operating Permit
Renewal
OFFICE OF AIR QUALITY
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E & B Paving, LLC
7320 Lower Huntington Road,
Ft. Wayne, Indiana 46809

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit is grounds for enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. An emergency does constitute an affirmative defense in an enforcement action provided the Permittee complies with the applicable requirements set forth in Section B, Emergency Provisions.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-8 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17. This permit also addresses certain new source review requirements for existing equipment and is intended to fulfill the new source review procedures pursuant to 326 IAC 2-8-11.1, applicable to those conditions

Indiana statutes from IC 13 and rules from 326 IAC, quoted in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation, or standard, except for the requirement to obtain a FESOP under 326 IAC 2-8.

Table with permit details: Operation Permit No.: F003-30070-03281, Master Agency Interest ID.: 15241, Issued by: Iryn Calilung, Section Chief, Permits Branch, Office of Air Quality, Issuance Date: September 26, 2011, Expiration Date: September 26, 2021.

Table with permit revision details: Significant Permit Revision No.: 003-43035-03281, Issued by: Madhurima D. Moulik, Ph.D., Section Chief, Permits Branch, Office of Air Quality, Issuance Date: (blank), Expiration Date: September 26, 2021.

DRAFT

TABLE OF CONTENTS

A. SOURCE SUMMARY 5

- A.1 General Information [326 IAC 2-8-3(b)]
- A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]
- A.3 Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-8-3(c)(3)(I)]
- A.4 FESOP Applicability [326 IAC 2-8-2]

B. GENERAL CONDITIONS 8

- B.1 Definitions [326 IAC 2-8-1]
- B.2 Permit Term [326 IAC 2-8-4(2)][326 IAC 2-1.1-9.5][IC 13-15-3-6(a)]
- B.3 Term of Conditions [326 IAC 2-1.1-9.5]
- B.4 Enforceability [326 IAC 2-8-6] [IC 13-17-12]
- B.5 Severability [326 IAC 2-8-4(4)]
- B.6 Property Rights or Exclusive Privilege [326 IAC 2-8-4(5)(D)]
- B.7 Duty to Provide Information [326 IAC 2-8-4(5)(E)]
- B.8 Certification [326 IAC 2-8-3(d)][326 IAC 2-8-4(3)(C)(i)][326 IAC 2-8-5(1)]
- B.9 Annual Compliance Certification [326 IAC 2-8-5(a)(1)]
- B.10 Compliance Order Issuance [326 IAC 2-8-5(b)]
- B.11 Preventive Maintenance Plan [326 IAC 1-6-3][326 IAC 2-8-4(9)
[326 IAC 2-8-5(a)(1)]
- B.12 Emergency Provisions [326 IAC 2-8-12]
- B.13 Prior Permits Superseded [326 IAC 2-1.1-9.5]
- B.14 Termination of Right to Operate [326 IAC 2-8-9][326 IAC 2-8-3(h)]
- B.15 Permit Modification, Reopening, Revocation and Reissuance, or Termination
[326 IAC 2-8-4(5)(C)][326 IAC 2-8-7(a)][326 IAC 2-8-8]
- B.16 Permit Renewal [326 IAC 2-8-3(h)]
- B.17 Permit Amendment or Revision [326 IAC 2-8-10][326 IAC 2-8-11.1]
- B.18 Operational Flexibility [326 IAC 2-8-15][326 IAC 2-8-11.1]
- B.19 Source Modification Requirement [326 IAC 2-8-11.1]
- B.20 Inspection and Entry [326 IAC 2-8-5(a)(2)][IC 13-14-2-2][IC 13-17-3-2
[IC 13-30-3-1]
- B.21 Transfer of Ownership or Operational Control [326 IAC 2-8-10]
- B.22 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-8-4(6)] [326 IAC 2-8-16]
[326 IAC 2-1.1-7]
- B.23 Credible Evidence [326 IAC 2-8-4(3)][326 IAC 2-8-5][62 FR 8314] [326 IAC 1-1-6]

C. SOURCE OPERATION CONDITIONS 17

Emission Limitations and Standards [326 IAC 2-8-4(1)]

- C.1 Particulate Emission Limitations For Processes with Process Weight Rates
Less Than One Hundred (100) Pounds per Hour [326 IAC 6-3-2]
- C.2 Overall Source Limit [326 IAC 2-8]
- C.3 Opacity [326 IAC 5-1]
- C.4 Open Burning [326 IAC 4-1] [IC 13-17-9]
- C.5 Incineration [326 IAC 4-2] [326 IAC 9-1-2]
- C.6 Fugitive Dust Emissions [326 IAC 6-4]
- C.7 Fugitive Particulate Matter Emission Limitations [326 IAC 6-5]
- C.8 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

Testing Requirements [326 IAC 2-8-4(3)]

- C.9 Performance Testing [326 IAC 3-6]

Compliance Requirements [326 IAC 2-1.1-11]

- C.10 Compliance Requirements [326 IAC 2-1.1-11]

DRAFT

Compliance Monitoring Requirements [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]

- C.11 Compliance Monitoring [326 IAC 2-8-4(3)][326 IAC 2-8-5(a)(1)]
- C.12 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-8-4(3)]
[326 IAC 2-8-5(1)]

Corrective Actions and Response Steps [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]

- C.13 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]
- C.14 Risk Management Plan [326 IAC 2-8-4] [40 CFR 68]
- C.15 Response to Excursions or Exceedances [326 IAC 2-8-4] [326 IAC 2-8-5]
- C.16 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-8-4]
[326 IAC 2-8-5]

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]

- C.17 General Record Keeping Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-5]
- C.18 General Reporting Requirements [326 IAC 2-8-4(3)(C)] [326 IAC 2-1.1-11]

Stratospheric Ozone Protection

- C.19 Compliance with 40 CFR 82 and 326 IAC 22-1

D.1. EMISSIONS UNIT OPERATION CONDITIONS - Hot-mix Asphalt Plant & RAP Crusher 24

Emission Limitations and Standards [326 IAC 2-8-4(1)]

- D.1.1 PSD Minor Limit [326 IAC 2-2]]
- D.1.2 FESOP Limits: PM10, PM2.5, VOC, NOx, and CO [326 IAC 2-8-4][326 IAC 2-2]
[326 IAC 8-1-6]
- D.1.3 FESOP Limits: SO2, GHGs as CO2e, and HAPs [326 IAC 2-8-4][326 IAC 2-2]
[326 IAC 2-4.1]
- D.1.4 Particulate Emission Limits [326 IAC 6-2]
- D.1.5 Particulate Emission Limits [326 IAC 6-3]
- D.1.6 Sulfur Dioxide (SO2) [326 IAC 7-1.1-1] [326 IAC 7-2-1]
- D.1.7 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

Compliance Determination Requirements

- D.1.8 Particulate Control
- D.1.9 Testing Requirements [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11]
- D.1.10 Sulfur Dioxide (SO2) Emissions and Sulfur Content
- D.1.11 Hydrogen Chloride (HCl) Emissions and Ash, Chlorine, and Lead Content
- D.1.12 Multiple Fuel and Slag Usage Limitations
- D.1.13 Shingle Asbestos Content

Compliance Monitoring Requirements [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]

- D.1.14 Visible Emissions Notations
- D.1.15 Parametric Monitoring
- D.1.16 Broken or Failed Bag Detection

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]

- D.1.17 Record Keeping Requirements
- D.1.18 Reporting Requirements

D.2. EMISSIONS UNIT OPERATION CONDITIONS: Cold-mix Asphalt Production & Storage..... 36

Emission Limitations and Standards [326 IAC 2-8-4(1)]

- D.2.1 Volatile Organic Compounds (VOC) [326 IAC 8-5-2]
- D.2.2 Volatile Organic Compounds (VOC) [326 IAC 2-8-4] [326 IAC 2-2]

DRAFT

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]

- D.2.3 Record Keeping Requirements
- D.2.4 Reporting Requirements

E.1. NSPS REQUIREMENTS - Hot-Mix Asphalt Plant 39

New Source Performance Standards (NSPS) Requirements [326 IAC 2-8-4(1)]

- E.1.1 General Provisions Relating to the New Source Performance Standards (NSPS) for Hot-mix Asphalt Facilities (40 CFR 60, Subpart I), [326 IAC 12] [40 CFR Part 60, Subpart A]
- E.1.2 NSPS Subpart I Requirements - Standards of Performance for Hot-mix Asphalt Facilities [40 CFR Part 60, Subpart I] [326 IAC 12-1]
- E.1.3 Testing Requirements [40 CFR Part 60, Subpart I] [326 IAC 12-1] [326 IAC 2-8-5(a)(1),(4)] [326 IAC 2-1.1-11]

E.2. NSPS REQUIREMENTS - Recycled Asphalt Pavement (RAP) Crusher 41

New Source Performance Standards (NSPS) Requirements [326 IAC 2-8-4(1)]

- E.2.1 General Provisions Relating to the New Source Performance Standards (NSPS) for Nonmetallic Mineral Processing Plants (40 CFR 60, Subpart OOO), [326 IAC 12] [40 CFR Part 60, Subpart A]
- E.2.2 NSPS Subpart OOO Requirements - Standards of Performance for Nonmetallic Mineral Processing Plants [40 CFR Part 60, Subpart OOO] [326 IAC 12-1]
- E.2.3 Testing Requirements [40 CFR Part 60, Subpart OOO] [326 IAC 12-1] [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11]

E.3. NESHAPs REQUIREMENTS - Gasoline Dispensing Facilities 43

National Emission Standards for Hazardous Air Pollutants (NESHAP) Requirements [326 IAC 2-8-4(1)]

- E.3.1 General Provisions Relating to the National Emission Standards for Hazardous Air Pollutants (NESHAPs): Area Source Standards for Source Category: Gasoline Dispensing Facilities (40 CFR 63, Subpart CCCCC), [326 IAC 20-1] [40 CFR Part 63, Subpart A]
- E.3.2 National Emission Standards for Hazardous Air Pollutants (NESHAPs): Area Source Standards for Source Category: Gasoline Dispensing Facilities [40 CFR 63, Subpart CCCCC] [326 IAC 20]

Certification Form 44
Emergency Occurrence Form 45
FESOP Quarterly Report Forms 47
Quarterly Deviation and Compliance Monitoring Report Form 51

- Attachment A: Fugitive Dust Control Plan
- Attachment B: NSPS Subpart I - Standards of Performance for Hot-mix Asphalt Facilities [40 CFR Part 60, Subpart I] [326 IAC 12-1]
- Attachment C: NSPS Subpart OOO - Standards of Performance for Nonmetallic Mineral Processing Plants [40 CFR Part 60, Subpart OOO] [326 IAC 12-1]
- Attachment D: NESHAP Subpart CCCCC - Area Source Standards for Source Category: Gasoline Dispensing Facilities [40 CFR 63, Subpart 6C] [326 IAC 20]

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SECTION A

SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-8-3(b)]

The Permittee owns and operates a stationary drum hot-mix asphalt plant, and cold-mix asphalt production operation. Recycled asphalt pavement (RAP) is crushed on-site, and blast furnace slag, electric arc furnace steel mill slag, and/or asbestos-free recycled shingles are processed in the aggregate mix. This source does not grind any shingles on-site.

Source Address:	7320 Lower Huntington Road, Ft. Wayne, Indiana 46809
General Source Phone Number:	(765) 643-5358
SIC Code:	2951 (Asphalt Paving Mixtures and Blocks)
County Location:	Allen
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Federally Enforceable State Operating Permit Program Minor Source, under PSD and Emission Offset Rules Minor Source, Section 112 of the Clean Air Act Not 1 of 28 Source Categories

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

This stationary source consists of the following emission units and pollution control devices:

- (a) One (1) hot-mix asphalt drum dryer/mixer, identified as EU-01, constructed in 2004, approved in 2020 for modification, with a maximum throughput capacity of 400 tons of raw material per hour, processing blast furnace slag, steel slag, and asbestos-free recycled asphalt shingles in the aggregate mix, equipped with one (1) 100 million British thermal units (MMBtu) per hour natural gas fired dryer burner, using #2 distillate fuel oil, refinery blend fuel oil, residual fuel oil, and waste oil as backup fuels, equipped with one (1) baghouse for particulate control and exhausting through one (1) stack, identified as stack SV-1. This source produces cold mix asphalt. No grinding of shingles occurs at this source.
- (b) Material feeding, conveying, and loading operations consisting of the following:
 - (1) Four (4) storage silos, including:
 - (i) Three (3) asphalt mix storage silos; and
 - (ii) One (1) mineral filler silo.
 - (2) Raw material storage piles, including:
 - (i) Aggregate storage pile(s), total capacity 50,000 tons;
 - (ii) Reclaimed asphalt pavement (RAP) storage pile(s), total capacity 20,000 tons;
 - (iii) Blast Furnace and/or Steel Slag storage pile(s), total capacity 10,000 tons; and

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- (iv) Recycled asphalt shingles pile(s), total capacity 3,000 tons.
- (3) Nine (9) feed bins, including:
 - (i) Seven (7) cold feed bins for coarse to fine aggregate; and
 - (ii) Two (2) feed bin for recycled asphalt pavement and recycled shingles.
- (4) Five (5) conveyors, including:
 - (i) Three (3) conveyors for transporting coarse to fine aggregates to the drum mixer;
 - (ii) One (1) conveyor for transporting recycled asphalt pavement and recycled shingles to the drum mixer; and
 - (iii) One (1) drag slat conveyor transporting hot-mixed asphalt to the asphalt storage silos.

Under 40 CFR 60.90, Subpart I - New Source Performance Standards for Hot-mix Asphalt Facilities, this drum hot-mix asphalt operation is considered an affected facility.

- (c) One (1) #2 diesel fuel-fired portable crusher for processing reclaimed asphalt pavement (RAP), identified as SV-3, constructed in 2010, with a maximum throughput capacity of 300 tons of RAP per hour.

Under 40 CFR 60, Subpart OOO, New Source Performance Standards for Nonmetallic Mineral Processing Plants, this is considered an affected facility.

- (d) Cold-mix (stockpile mix) asphalt manufacturing operations and storage piles.

A.3 Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-8-3(c)(3)(I)]

This stationary source also includes the following insignificant activities:

- (a) One (1) 1.3 million British Thermal Units per hour (MMBtu/hr) natural gas-fired hot oil heater, identified as SV-2, constructed in 1996, and exhausting to stack SV-2; [326 IAC 6-2]
- (b) A gasoline fuel transfer and dispensing operation handling less than or equal to one thousand three hundred (1,300) gallons per day, such as filling of tanks, locomotives, automobiles, having storage capacity less than or equal to ten thousand five hundred (10,500) gallons;

Under 40 CFR 60, Subpart CCCCC, the units comprising this operation are considered affected facilities.

- (c) Five (5) storage tanks, exhausting at stacks SV-3, SV-4, SV-5, SV-6, and SV-7, including:
 - (1) Three (3) liquid asphalt cement storage tanks, identified as Tank-01, Tank-02, and Tank-03, constructed in 2004, each with a maximum storage capacity of 30,000 gallons;
 - (2) One (1) fuel oil storage tank, identified as Tank-04, constructed in 2004, with a maximum storage capacity of 20,000 gallons; and

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- (3) One (1) emulsion tack storage tank, identified as Tank-05, constructed in 2004, with a maximum storage capacity of 12,000 gallons.
- (d) Combustion source flame safety purging on startup;
- (e) Propane or liquefied petroleum gas, or butane-fired combustion sources with heat input equal to or less than six million (6,000,000) Btu/hr;
- (f) A petroleum fuel, other than gasoline, dispensing facility, having a storage capacity of less than or equal to ten thousand five hundred (10,500) gallons, and dispensing less than or equal to two hundred thousand (230,000) gallons per month;
- (g) Vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids;
- (h) Application of oils, greases, lubricants or other nonvolatile materials applied as temporary protective coatings;
- (i) Cleaners and solvents characterized as follows:
 - (1) having a vapor pressure equal to or less than 2 kPa; 15 mm Hg; or 0.3 psi measured at 38 °C (100 °F) or;
 - (2) having a vapor pressure equal to or less than 0.7 kPa; 5 mm Hg; or 0.1 psi measured at 20 °C (68 °F); the use of which for all cleaners and solvents combined does not exceed one hundred forty-five (145) gallons per twelve (12) months;
- (j) Closed loop heating and cooling systems;
- (k) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment;
- (l) A materials laboratory as defined in 326 IAC 2-7-1(21)(D); and
- (m) Paved and unpaved roads and parking lots with public access. [326 IAC 6-5]

A.4 FESOP Applicability [326 IAC 2-8-2]

This stationary source, otherwise required to have a Part 70 permit as described in 326 IAC 2-7-2(a), has applied to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) to renew a Federally Enforceable State Operating Permit (FESOP).

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SECTION B GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-8-1]

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-7) shall prevail.

B.2 Permit Term [326 IAC 2-8-4(2)][326 IAC 2-1.1-9.5][IC 13-15-3-6(a)]

- (a) This permit, F003-30070-03281, is issued for a fixed term of ten (10) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.
- (b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, until the renewal permit has been issued or denied.

B.3 Term of Conditions [326 IAC 2-1.1-9.5]

Notwithstanding the permit term of a permit to construct, a permit to operate, or a permit modification, any condition established in a permit issued pursuant to a permitting program approved in the state implementation plan shall remain in effect until:

- (a) the condition is modified in a subsequent permit action pursuant to Title I of the Clean Air Act; or
- (b) the emission unit to which the condition pertains permanently ceases operation.

B.4 Enforceability [326 IAC 2-8-6] [IC 13-17-12]

Unless otherwise stated, all terms and conditions in this permit, including any provisions designed to limit the source's potential to emit, are enforceable by IDEM, the United States Environmental Protection Agency (U.S. EPA) and by citizens in accordance with the Clean Air Act.

B.5 Severability [326 IAC 2-8-4(4)]

The provisions of this permit are severable; a determination that any portion of this permit is invalid shall not affect the validity of the remainder of the permit.

B.6 Property Rights or Exclusive Privilege [326 IAC 2-8-4(5)(D)]

This permit does not convey any property rights of any sort or any exclusive privilege.

B.7 Duty to Provide Information [326 IAC 2-8-4(5)(E)]

- (a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.
- (b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1. When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

B.8 Certification [326 IAC 2-8-3(d)][326 IAC 2-8-4(3)(C)(i)][326 IAC 2-8-5(1)]

-
- (a) A certification required by this permit meets the requirements of 326 IAC 2-8-5(a)(1) if:

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- (1) it contains a certification by an "authorized individual", as defined by 326 IAC 2-1.1-1(1), and
 - (2) the certification states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- (b) The Permittee may use the attached Certification Form, or its equivalent with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.
 - (c) An "authorized individual" is defined at 326 IAC 2-1.1-1(1).

B.9 Annual Compliance Certification [326 IAC 2-8-5(a)(1)]

- (a) The Permittee shall annually submit a compliance certification report which addresses the status of the source's compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. All certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted no later than July 1 of each year to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

- (b) The annual compliance certification report required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (c) The annual compliance certification report shall include the following:
 - (1) The appropriate identification of each term or condition of this permit that is the basis of the certification;
 - (2) The compliance status;
 - (3) Whether compliance was continuous or intermittent;
 - (4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-8-4(3); and
 - (5) Such other facts, as specified in Sections D of this permit, as IDEM, OAQ may require to determine the compliance status of the source.

The submittal by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

B.10 Compliance Order Issuance [326 IAC 2-8-5(b)]

IDEM, OAQ, may issue a compliance order to this Permittee upon discovery that this permit is in nonconformance with an applicable requirement. The order may require immediate compliance or contain a schedule for expeditious compliance with the applicable requirement.

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B.11 Preventive Maintenance Plan [326 IAC 1-6-3][326 IAC 2-8-4(9)][326 IAC 2-8-5(a)(1)]

- (a) A Preventive Maintenance Plan meets the requirements of 326 IAC 1-6-3 if it includes, at a minimum:
- (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
 - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
 - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

The Permittee shall implement the PMPs.

- (b) If required by specific condition(s) in Section D of this permit where no PMP was previously required, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) no later than ninety (90) days after issuance of this permit or ninety (90) days after initial start-up, whichever is later, including the following information on each facility:
- (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
 - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
 - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If, due to circumstances beyond the Permittee's control, the PMPs cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The PMP extension notification does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

The Permittee shall implement the PMPs.

- (c) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions. The PMPs and their submittal do not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (d) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

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B.12 Emergency Provisions [326 IAC 2-8-12]

- (a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation except as provided in 326 IAC 2-8-12.

- (b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a health-based or technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:
 - (1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;
 - (2) The permitted facility was at the time being properly operated;
 - (3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;
 - (4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance and Enforcement Branch), or
Telephone Number: 317-233-0178 (ask for Office of Air Quality, Compliance and Enforcement Branch)
Facsimile Number: 317-233-6865

- (5) For each emergency lasting one (1) hour or more, the Permittee submitted the attached Emergency Occurrence Report Form or its equivalent, either by mail or facsimile to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

within two (2) working days of the time when emission limitations were exceeded due to the emergency.

The notice fulfills the requirement of 326 IAC 2-8-4(3)(C)(ii) and must contain the following:

- (A) A description of the emergency;
- (B) Any steps taken to mitigate the emissions; and
- (C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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- (6) The Permittee immediately took all reasonable steps to correct the emergency.
- (c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
- (d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.
- (e) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ may require that the Preventive Maintenance Plans required under 326 IAC 2-8-3(c)(6) be revised in response to an emergency.
- (f) Failure to notify IDEM, OAQ by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-8 and any other applicable rules.
- (g) Operations may continue during an emergency only if the following conditions are met:
- (1) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.
- (2) If an emergency situation causes a deviation from a health-based limit, the Permittee may not continue to operate the affected emissions facilities unless:
- (A) The Permittee immediately takes all reasonable steps to correct the emergency situation and to minimize emissions; and
- (B) Continued operation of the facilities is necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw material of substantial economic value.

Any operations shall continue no longer than the minimum time required to prevent the situations identified in (g)(2)(B) of this condition.

B.13 Prior Permits Superseded [326 IAC 2-1.1-9.5]

- (a) All terms and conditions of permits established prior to F003-30070-03281 and issued pursuant to permitting programs approved into the state implementation plan have been either:
- (1) incorporated as originally stated,
- (2) revised, or
- (3) deleted.
- (b) All previous registrations and permits are superseded by this permit.

B.14 Termination of Right to Operate [326 IAC 2-8-9][326 IAC 2-8-3(h)]

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-8-3(h) and 326 IAC 2-8-9.

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B.15 Permit Modification, Reopening, Revocation and Reissuance, or Termination

[326 IAC 2-8-4(5)(C)][326 IAC 2-8-7(a)][326 IAC 2-8-8]

- (a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Federally Enforceable State Operating Permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-8-4(5)(C)] The notification by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ determines any of the following:
- (1) That this permit contains a material mistake.
 - (2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.
 - (3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-8-8(a)]
- (c) Proceedings by IDEM, OAQ to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-8-8(b)]
- (d) The reopening and revision of this permit, under 326 IAC 2-8-8(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ may provide a shorter time period in the case of an emergency. [326 IAC 2-8-8(c)]

B.16 Permit Renewal [326 IAC 2-8-3(h)]

- (a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-8-3. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(40). The renewal application does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

- (b) A timely renewal application is one that is:
- (1) Submitted at least nine (9) months prior to the date of the expiration of this permit; and
 - (2) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the

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document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

- (c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-8 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified, pursuant to 326 IAC 2-8-3(g), in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.17 Permit Amendment or Revision [326 IAC 2-8-10][326 IAC 2-8-11.1]

- (a) Permit amendments and revisions are governed by the requirements of 326 IAC 2-8-10 or 326 IAC 2-8-11.1 whenever the Permittee seeks to amend or modify this permit.

- (b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Any such application does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

B.18 Operational Flexibility [326 IAC 2-8-15][326 IAC 2-8-11.1]

- (a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-8-15(b) through (d) without a prior permit revision, if each of the following conditions is met:

- (1) The changes are not modifications under any provision of Title I of the Clean Air Act;
- (2) Any approval required by 326 IAC 2-8-11.1 has been obtained;
- (3) The changes do not result in emissions which exceed the limitations provided in this permit (whether expressed herein as a rate of emissions or in terms of total emissions);
- (4) The Permittee notifies the:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

and

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United States Environmental Protection Agency, Region V
Air and Radiation Division, Regulation Development Branch - Indiana (AR-18J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

in advance of the change by written notification at least ten (10) days in advance of the proposed change. The Permittee shall attach every such notice to the Permittee's copy of this permit; and

- (5) The Permittee maintains records on-site, on a rolling five (5) year basis, which document all such changes and emission trades that are subject to 326 IAC 2-8-15(b) through (d). The Permittee shall make such records available, upon reasonable request, for public review.

Such records shall consist of all information required to be submitted to IDEM, OAQ in the notices specified in 326 IAC 2-8-15(b)(2), (c)(1), and (d).

- (b) **Emission Trades [326 IAC 2-8-15(c)]**
The Permittee may trade emissions increases and decreases at the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-8-15(c).
- (c) **Alternative Operating Scenarios [326 IAC 2-8-15(d)]**
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-8-4(7). No prior notification of IDEM, OAQ, or U.S. EPA is required.
- (d) Backup fuel switches specifically addressed in, and limited under, Section D of this permit shall not be considered alternative operating scenarios. Therefore, the notification requirements of part (a) of this condition do not apply.

B.19 Source Modification Requirement [326 IAC 2-8-11.1]

A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2.

B.20 Inspection and Entry [326 IAC 2-8-5(a)(2)][IC 13-14-2-2][IC 13-17-3-2][IC 13-30-3-1]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

- (a) Enter upon the Permittee's premises where a FESOP source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- (b) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- (c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;

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- (d) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

B.21 Transfer of Ownership or Operational Control [326 IAC 2-8-10]

- (a) The Permittee must comply with the requirements of 326 IAC 2-8-10 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.
- (b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new Permittee. The application shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Any such application does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

B.22 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-8-4(6)] [326 IAC 2-8-16][326 IAC 2-1.1-7]

- (a) The Permittee shall pay annual fees to IDEM, OAQ no later than thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ the applicable fee is due April 1 of each year.
- (b) Failure to pay may result in administrative enforcement action or revocation of this permit.
- (c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

B.23 Credible Evidence [326 IAC 2-8-4(3)][326 IAC 2-8-5][62 FR 8314] [326 IAC 1-1-6]

For the purpose of submitting compliance certifications or establishing whether or not the Permittee has violated or is in violation of any condition of this permit, nothing in this permit shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether the Permittee would have been in compliance with the condition of this permit if the appropriate performance or compliance test or procedure had been performed.

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SECTION C

SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards [326 IAC 2-8-4(1)]

C.1 Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) Pounds per Hour [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than one hundred (100) pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed five hundred fifty-one thousandths (0.551) pounds per hour.

C.2 Overall Source Limit [326 IAC 2-8]

The purpose of this permit is to limit this source's potential to emit to less than major source levels for the purpose of Section 502(a) of the Clean Air Act.

(a) Pursuant to 326 IAC 2-8:

- (1) The potential to emit any regulated pollutant, except particulate matter (PM) and greenhouse gases (GHGs), from the entire source shall be limited to less than one hundred (100) tons per twelve (12) consecutive month period.
- (2) The potential to emit any individual hazardous air pollutant (HAP) from the entire source shall be limited to less than ten (10) tons per twelve (12) consecutive month period; and
- (3) The potential to emit any combination of HAPs from the entire source shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period.
- (4) The potential to emit greenhouse gases (GHGs) from the entire source shall be limited to less than one hundred thousand (100,000) tons of CO₂ equivalent emissions (CO₂e) per twelve (12) consecutive month period.

(b) Pursuant to 326 IAC 2-2 (PSD), potential to emit particulate matter (PM) from the entire source shall be limited to less than two hundred fifty (250) tons per twelve (12) consecutive month period.

(c) This condition shall include all emission points at this source including those that are insignificant as defined in 326 IAC 2-7-1(21). The source shall be allowed to add insignificant activities not already listed in this permit, provided that the source's potential to emit does not exceed the above specified limits.

(d) Section D of this permit contains independently enforceable provisions to satisfy this requirement.

C.3 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-1 (Applicability) and 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

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- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.4 Open Burning [326 IAC 4-1] [IC 13-17-9]

The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4, or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1.

C.5 Incineration [326 IAC 4-2] [326 IAC 9-1-2]

The Permittee shall not operate an incinerator except as provided in 326 IAC 4-2 or in this permit. The Permittee shall not operate a refuse incinerator or refuse burning equipment except as provided in 326 IAC 9-1-2 or in this permit.

C.6 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

C.7 Fugitive Particulate Matter Emission Limitations [326 IAC 6-5]

Pursuant to 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations), fugitive particulate matter emissions shall be controlled according to the attached plan as in Attachment A.

C.8 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

- (a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.
- (b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:
 - (1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or
 - (2) If there is a change in the following:
 - (A) Asbestos removal or demolitions start date;
 - (B) Removal or demolition contractor; or
 - (C) Waste disposal site.
- (c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).
- (d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

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All required notifications shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (e) **Procedures for Asbestos Emission Control**
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.
- (f) **Demolition and Renovation**
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).
- (g) **Indiana Licensed Asbestos Inspector**
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Licensed Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos.

Testing Requirements [326 IAC 2-8-4(3)]

C.9 Performance Testing [326 IAC 3-6]

- (a) For performance testing required by this permit, a test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ if the Permittee submits to IDEM, OAQ a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

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Compliance Requirements [326 IAC 2-1.1-11]

C.10 Compliance Requirements [326 IAC 2-1.1-11]

The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements by issuing an order under 326 IAC 2-1.1-11. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U. S. EPA.

Compliance Monitoring Requirements [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]

C.11 Compliance Monitoring [326 IAC 2-8-4(3)][326 IAC 2-8-5(a)(1)]

Unless otherwise specified in this permit, for all monitoring requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance or of initial start-up, whichever is later, to begin such monitoring. If due to circumstances beyond the Permittee's control, any monitoring equipment required by this permit cannot be installed and operated no later than ninety (90) days after permit issuance or the date of initial startup, whichever is later, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for the inability to meet this date.

The notification which shall be submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units or emission units added through a permit revision shall be implemented when operation begins.

C.12 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-8-4(3)][326 IAC 2-8-5(1)]

- (a) When required by any condition of this permit, an analog instrument used to measure a parameter related to the operation of an air pollution control device shall have a scale such that the expected maximum reading for the normal range shall be no less than twenty percent (20%) of full scale.
- (b) The Permittee may request that the IDEM, OAQ approve the use of an instrument that does not meet the above specifications provided the Permittee can demonstrate that an alternative instrument specification will adequately ensure compliance with permit conditions requiring the measurement of the parameters.

Corrective Actions and Response Steps [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]

C.13 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]

Pursuant to 326 IAC 1-5-2 (Emergency Reduction Plans; Submission):

- (a) The Permittee shall maintain the most recently submitted written emergency reduction plans (ERPs) consistent with safe operating procedures.

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- (b) Upon direct notification by IDEM, OAQ that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate episode level. [326 IAC 1-5-3]

C.14 Risk Management Plan [326 IAC 2-8-4] [40 CFR 68]

If a regulated substance, as defined in 40 CFR 68, is present at a source in more than a threshold quantity, the Permittee must comply with the applicable requirements of 40 CFR 68.

C.15 Response to Excursions or Exceedances [326 IAC 2-8-4] [326 IAC 2-8-5]

Upon detecting an excursion where a response step is required by the D Section or an exceedance of a limitation in this permit:

- (a) The Permittee shall take reasonable response steps to restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing excess emissions.
- (b) The response shall include minimizing the period of any startup, shutdown or malfunction. The response may include, but is not limited to, the following:
 - (1) initial inspection and evaluation;
 - (2) recording that operations returned or are returning to normal without operator action (such as through response by a computerized distribution control system); or
 - (3) any necessary follow-up actions to return operation to normal or usual manner of operation.
- (c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:
 - (1) monitoring results;
 - (2) review of operation and maintenance procedures and records; and/or
 - (3) inspection of the control device, associated capture system, and the process.
- (d) Failure to take reasonable response steps shall be considered a deviation from the permit.
- (e) The Permittee shall record the reasonable response steps taken.

C.16 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-8-4][326 IAC 2-8-5]

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall submit a description of its response actions to IDEM, OAQ, no later than seventy-five (75) days after the date of the test.
- (b) A retest to demonstrate compliance shall be performed no later than one hundred eighty (180) days after the date of the test. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred eighty (180) days is not practicable, IDEM, OAQ may extend the retesting deadline

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- (c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The response action documents submitted pursuant to this condition do require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]

C.17 General Record Keeping Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-5]

- (a) Records of all required monitoring data, reports, and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Unless otherwise specified in this permit, for all record keeping requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance or the date of initial start-up, whichever is later, to begin such record keeping.

C.18 General Reporting Requirements [326 IAC 2-8-4(3)(C)] [326 IAC 2-1.1-11]

- (a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported except that a deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. This report shall be submitted not later than thirty (30) days after the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1). A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.
- (b) The address for report submittal is:
- Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (d) Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit, "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.

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Stratospheric Ozone Protection

C.19 Compliance with 40 CFR 82 and 326 IAC 22-1

Pursuant to 40 CFR 82 (Protection of Stratospheric Ozone), Subpart F, except as provided for motor vehicle air conditioners in Subpart B, the Permittee shall comply with applicable standards for recycling and emissions reduction.

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SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (a) One (1) hot-mix asphalt drum dryer/mixer, identified as EU-01, constructed in 2004, approved in 2020 for modification, with a maximum throughput capacity of 400 tons of raw material per hour, processing blast furnace slag, steel slag, and asbestos-free recycled asphalt shingles in the aggregate mix, equipped with one (1) 100 million British thermal units (MMBtu) per hour natural gas fired dryer burner, using #2 distillate fuel oil, refinery blend fuel oil, residual fuel oil, and waste oil as backup fuels, equipped with one (1) baghouse for particulate control and exhausting through one (1) stack, identified as stack SV-1. This source produces cold mix asphalt. No grinding of shingles occurs at this source.
- (b) Material feeding, conveying, and loading operations consisting of the following:
 - (1) Four (4) storage silos, including:
 - (i) Three (3) asphalt mix storage silos; and
 - (ii) One (1) mineral filler silo.
 - (2) Raw material storage piles, including:
 - (i) Aggregate storage pile(s), total capacity 50,000 tons;
 - (ii) Reclaimed asphalt pavement (RAP) storage pile(s), total capacity 20,000 tons;
 - (iii) Blast Furnace and/or Steel Slag storage pile(s), total capacity 10,000 tons; and
 - (iv) Recycled asphalt shingles pile(s), total capacity 3,000 tons.
 - (3) Nine (9) feed bins, including:
 - (i) Seven (7) cold feed bins for coarse to fine aggregate; and
 - (ii) Two (2) feed bin for recycled asphalt pavement and recycled shingles.
 - (4) Five (5) conveyors, including:
 - (i) Three (3) conveyors for transporting coarse to fine aggregates to the drum mixer;
 - (ii) One (1) conveyor for transporting recycled asphalt pavement and recycled shingles to the drum mixer; and
 - (iii) One (1) drag slat conveyor transporting hot-mixed asphalt to the asphalt storage silos.
- (c) One (1) #2 diesel fuel-fired portable crusher for processing reclaimed asphalt pavement (RAP), identified as SV-3, constructed in 2010, with a maximum throughput capacity of 300 tons of RAP per hour.

Under 40 CFR 60.90, Subpart I - New Source Performance Standards for Hot-mix Asphalt Facilities, this drum hot-mix asphalt operation is considered an affected facility.

Under 40 CFR 60, Subpart OOO, New Source Performance Standards for Nonmetallic Mineral

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Processing Plants, this is considered an affected facility.

Insignificant Activities: Boilers

- (a) One (1) 1.3 million British Thermal Units per hour (MMBtu/hr) natural gas-fired hot oil heater, identified as SV-2, constructed in 1996, and exhausting to stack SV-2; [326 IAC 6-2]

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.1.1 PSD Minor Limit [326 IAC 2-2]]

In order to render 326 IAC 2-2 not applicable;

- (a) The amount of hot-mix asphalt processed shall not exceed 700,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) PM emissions from the dryer/mixer shall not exceed 0.246 pounds per ton of asphalt processed.

Compliance with these limits, combined with the potential to emit PM from all other emission units at this source, shall limit the source-wide total potential to emit of PM to less than 250 tons per 12 consecutive month period and shall render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

Note: The source has opted to limit source-wide potential to emit PM to less than 125 tons per twelve (12) consecutive month period. This would allow for the co-location of an additional asphalt plant to the same location, as long as the co-located plant has a limited potential to emit from all of its emission units equal to or less than those that are issued within this permit.

D.1.2 FESOP Limits: PM10, PM2.5, VOC, NOx, and CO [326 IAC 2-8-4][326 IAC 2-2][326 IAC 8-1-6]

Pursuant to 326 IAC 2-8-4, the Permittee shall comply with the following:

- (a) The amount of hot-mix asphalt processed shall not exceed 700,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) The PM10 emissions from the dryer/mixer shall not exceed 0.105 pounds per ton of asphalt processed.
- (c) The PM2.5 emissions from the dryer/mixer shall not exceed 0.120 pounds per ton of asphalt processed.
- (d) The VOC emissions from the dryer/mixer shall not exceed 0.032 pounds per ton of asphalt processed.
- (e) The CO emissions from the dryer/mixer shall not exceed 0.130 pounds per ton of asphalt processed.

Compliance with these limits, combined with the potential to emit PM10, PM2.5, VOC and CO from all other emission units at this source, shall limit the source-wide total potential to emit of PM10, PM2.5, VOC and CO to less than 100 tons per 12 consecutive month period, each, and shall render 326 IAC 2-7 (Part 70 Permits), and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), not applicable.

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Note: The source has opted to limit source-wide potential to emit PM10, PM2.5, SO2, VOC, and CO, to less than 50 tons per twelve (12) consecutive month period. This would allow for the co-location of an additional asphalt plant to the same location, as long as the co-located plant has a limited potential to emit from all of its emission units equal to or less than those that are issued within this permit.

Additionally, compliance with the limit in condition D.1.2(d) shall limit the VOC emissions from the dryer/mixer to less than twenty-five (25) tons per twelve (12) consecutive month period and shall render 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities) not applicable.

D.1.3 FESOP Limits: SO2, GHGs as CO2e, and HAPs [326 IAC 2-8-4][326 IAC 2-2][326 IAC 2-4.1]

Pursuant to 326 IAC 2-8-4, and in order to render 326 IAC 2-2 and 326 IAC 2-4.1 not applicable, the Permittee shall comply with the following:

(a) Fuel and Slag Specifications

- (1) The sulfur content of the No. 2 fuel oil shall not exceed 0.50% by weight.
- (2) The sulfur content of the refinery blend / residual (No. 4, No. 5, or No. 6) fuel oil shall not exceed 0.75% by weight.
- (3) The sulfur content of the waste fuel oil shall not exceed 1.00% percent by weight.
- (4) The waste oil combusted shall not contain more than 1.00% ash, 0.20% chlorine, and 0.01% lead.
- (5) The HCl emissions shall not exceed 13.2 pounds of HCl per 1,000 gallons of waste oil burned.
- (6) The sulfur content of the #2 diesel fuel oil shall not exceed 0.50% by weight.
- (7) The sulfur content of the Blast Furnace slag shall not exceed 1.10% by weight.
- (8) The SO2 emissions from the dryer/mixer shall not exceed 0.540 pounds per ton of Blast Furnace slag processed in the aggregate mix.
- (9) The sulfur content of the Steel slag shall not exceed 0.66% by weight.
- (10) The SO2 emissions from the dryer/mixer shall not exceed 0.0014 pounds per ton of Steel slag processed in the aggregate mix.

(b) Single Fuel and Slag Usage Limitations:

- (1) When combusting only one type of fuel per twelve (12) consecutive month period in the dryer/mixer burner, the usage of fuel shall be limited as follows:
 - (A) Natural gas usage shall not exceed 494 million cubic feet per twelve (12) consecutive month period, with compliance determined at the end of each month;
 - (B) No. 2 fuel oil usage shall not exceed 864,007 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month;

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- (C) Refinery blend / Residual (No. 4, No. 5, and No. 6) fuel oil usage shall not exceed 520,973 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month;
 - (D) Waste oil usage shall not exceed 417,310 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month; and
 - (E) The Blast Furnace slag usage shall not exceed 67,500 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (2) When combusting only one type of fuel per twelve (12) consecutive month period in the #2 diesel fuel-fired crusher, the usage of fuel shall be limited as follows:
 - (A) Diesel fuel oil usage shall not exceed 5,000 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month;

Note: The source is only permitted to burn the above-mentioned fuels in the associated emission units.

(c) Multiple Fuel and Slag Usage Limitation:

When combusting more than one fuel per twelve (12) consecutive month period in the dryer/mixer burner and #2 diesel fuel-fired crusher, in conjunction with the use of slag in the aggregate mix, emissions from the dryer/mixer and #2 diesel fuel-fired crusher shall be limited as follows:

- (1) SO₂ emissions from the dryer/mixer shall not exceed 48.90 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (2) NO_x emissions from the dryer/mixer and #2 diesel fuel-fired crusher, combined, shall not exceed 48.43 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (3) CO₂ equivalent emissions (CO₂e) from the dryer/mixer shall not exceed 29,855.11 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(d) Asphalt Shingle Usage Limitation

Pursuant to 326 IAC 2-8-4 (FESOP), and in order to render the requirements of 326 IAC 2-2 (PSD) and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAPs)) not applicable, the Permittee shall not grind recycled asphalt shingles on-site and shall only use certified asbestos-free recycled shingles, post consumer waste and/or factory seconds, as an additive in its aggregate mix.

Compliance with these limits, combined with the potential to emit SO₂, NO_x, greenhouse gases (GHGs as CO₂e), and HAPs from all other emission units at this source, shall limit the source-wide total potential to emit of SO₂ and NO_x to less than 100 tons per twelve (12) consecutive month period, each, greenhouse gases to less than 100,000 tons CO₂ equivalent (CO₂e) emissions per twelve (12) consecutive month period, any single HAP to less than ten (10) tons per twelve (12) consecutive month period, and total HAPs to less than twenty-five (25) tons per twelve (12) consecutive month period and shall render the requirements of 326 IAC 2-7 (Part 70 Permits), 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP)) not applicable.

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Note: The source has opted to limit source-wide potential to emit SO₂ and NO_x to less than 50 tons per twelve (12) consecutive month period, greenhouse gases to less than 50,000 tons CO₂ equivalent emissions (CO₂e) per twelve (12) consecutive month period, any single HAP to less than five (5) tons per twelve (12) consecutive month period, and total HAPs to less than twelve and five tenths (12.5) tons per twelve (12) consecutive month period. This would allow for the co-location of an additional asphalt plant to the same location, as long as the co-located plant has a limited potential to emit from all of its emission units equal to or less than those that are issued within this permit.

D.1.4 Particulate Emission Limits [326 IAC 6-2]

Pursuant to 326 IAC 6-2-3, the particulate emissions from the hot oil heater, identified as SV-2, shall not exceed six tenths (0.6) pounds of particulate matter per MMBtu heat input.

D.1.5 Particulate Emission Limits [326 IAC 6-3]

(a) Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the existing portable recycled asphalt pavement (RAP) system shall not exceed 63.00 pounds per hour when operating at a process weight rate of 300 tons (or 600,000 pounds) per hour.

The pound per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 55.0 P^{0.11} - 40 \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

(b) Pursuant to 326 IAC 6-3-2(e)(3), when the process weight exceeds 200 tons per hour, the maximum allowable emission may exceed the emission limit listed above, provided the concentration of particulate matter in the gas discharged to the atmosphere is less than 0.10 pounds per 1,000 pounds of gases.

D.1.6 Sulfur Dioxide (SO₂) [326 IAC 7-1.1-1] [326 IAC 7-2-1]

(a) Pursuant to 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations), the Permittee shall comply with the following:

(1) The sulfur dioxide (SO₂) emissions from the dryer/mixer burner shall not exceed five tenths (0.5) pounds per MMBtu when using distillate oil.

(2) The sulfur dioxide (SO₂) emissions from the dryer/mixer burner shall not exceed one and six tenths (1.6) pounds per MMBtu heat input when using residual oil.

Note: No. 2 fuel oil is considered distillate oil, and refinery blend / residual (No. 4, No. 5, and No. 6) fuel oil, and waste oil are considered residual oils.

(b) Pursuant to 326 IAC 7-2-1, compliance shall be demonstrated on a calendar month average.

D.1.7 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan is required for these facilities and any corresponding control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements

D.1.8 Particulate Control

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- (a) In order to comply with Conditions D.1.1(b), D.1.2(b), and D.1.2(c), the baghouse for particulate control shall be in operation and control emissions from the dryer/mixer at all times when the dryer/mixer is in operation.
- (b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

D.1.9 Testing Requirements [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11]

- (a) In order to demonstrate compliance with Conditions D.1.1(b), D.1.2(b), and D.1.2(c), the Permittee shall perform PM, PM10, and PM2.5 testing of the dryer/mixer not later than five (5) years from the most recent valid compliance demonstration, utilizing methods approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition. PM10 and PM2.5 includes filterable and condensable particulate matter.
- (b) In order to demonstrate compliance with Condition D.1.3(a)(8), when using Blast Furnace slag, the Permittee shall perform SO₂ testing for the aggregate dryer within one hundred eighty (180) days of initial use of Blast Furnace slag in the aggregate mix, utilizing methods as approved by the Commissioner. Testing shall only be performed if the company has not previously performed SO₂ testing while using Blast Furnace slag in the aggregate mix at one of their other Indiana facilities. Testing shall be conducted in accordance with Section C- Performance Testing.

D.1.10 Sulfur Dioxide (SO₂) Emissions and Sulfur Content

Fuel Oil

- (a) Compliance with the fuel limitations established in Conditions D.1.3(a)(1) through D.1.3(a)(3) and D.1.6 shall be determined utilizing one of the following options. Pursuant to 326 IAC 7-2-1 (Sulfur Dioxide Reporting Requirements), compliance shall be demonstrated on a thirty (30) day calendar-month average.
 - (1) Providing vendor analysis of fuel delivered, if accompanied by a vendor certification; or
 - (2) Analyzing the oil sample to determine the sulfur content of the oil via the procedures in 40 CFR 60, Appendix A, Method 19.
 - (i) Oil samples may be collected from the fuel tank immediately after the fuel tank is filled and before any oil is combusted; and
 - (ii) If a partially empty fuel tank is refilled, a new sample and analysis would be required upon filling.
 - (3) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the 100 MMBtu/hr burner, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6.

A determination of noncompliance pursuant to any of the methods specified in (1) or (2) above shall not be refuted by evidence of compliance pursuant to the other method.

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Blast Furnace Slag

- (b) Compliance with the Blast Furnace slag limitation established in Condition D.1.3(a)(7) shall be determined utilizing one of the following options. Pursuant to 326 IAC 7-2-1 (Sulfur Dioxide Reporting Requirements), compliance shall be demonstrated on a thirty (30) day calendar-month average.
- (1) Maintaining all records of vendor analyses or certifications of Blast Furnace slag delivered; or
 - (2) Analyzing a sample of each Blast Furnace slag delivery, if no vendor analyses or certifications are available, to determine the sulfur content of the Blast Furnace slag, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the 100 MMBtu/hr burner, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6, or other procedures approved by IDEM, OAQ.

A determination of noncompliance pursuant to any of the methods specified in (1) or (2) above shall not be refuted by evidence of compliance pursuant to the other method.

Steel Slag

- (c) Compliance with the Steel slag limitations established in Condition D.1.3(a)(9) shall be determined utilizing one of the following options. Pursuant to 326 IAC 7-2-1 (Sulfur Dioxide Reporting Requirements), compliance shall be demonstrated on a thirty (30) day calendar-month average.
- (1) Maintaining all records of vendor analyses or certifications of slag delivered; or
 - (2) Analyzing a sample of the Steel slag delivery if no vendor analyses or certifications are available, at least once per quarter, to determine the sulfur content of the Steel slag, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the 100 MMBtu/hr burner, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6, or other procedures approved by IDEM, OAQ.

A determination of noncompliance pursuant to any of the methods specified in (1) or (2) above shall not be refuted by evidence of compliance pursuant to the other method.

D.1.11 Hydrogen Chloride (HCl) Emissions and Ash, Chlorine, and Lead Content

The Permittee shall demonstrate compliance with the waste oil ash, chlorine, and lead content limits established in Condition D.1.3(a)(4), by providing a vendor analysis of each fuel delivery accompanied by a vendor certification.

D.1.12 Multiple Fuel and Slag Usage Limitations

In order to comply with the Condition D.1.3(c) when combusting more than one fuel per twelve (12) consecutive month period in the dryer/mixer burner and #2 diesel fuel-fired crusher, in conjunction with the use of slag in the aggregate mix, the Permittee shall limit fuel usage according to the following formulas:

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(a) Sulfur Dioxide (SO₂) Emission Calculation

$$S = \frac{G(E_G) + O(E_O) + R(E_R) + W(E_W) + B(E_B) + T(E_T)}{2,000 \text{ lbs/ton}}$$

where:

S = tons of sulfur dioxide emissions for a 12-month consecutive period

G = million cubic feet of natural gas used in the last 12 months

O = gallons of No. 2 fuel oil used in the last 12 months

R = gallons of Refinery Blend / Residual (No. 4, No. 5 or No. 6) fuel oil used in the last 12 months

W = gallons of Waste oil used in the last 12 months

B = tons of Blast Furnace slag used in the last 12 months

T = tons of Steel slag used in the last 12 months

Emission Factors

E_G = 0.60 lb/million cubic feet of natural gas

E_O = 71.0 lb/1000 gallons of No. 2 fuel oil

E_R = 78.5 lb/1000 gallons of Refinery Blend / Residual (No. 4, No. 5 or No. 6) fuel oil

E_W = 147 lb/1000 gallons of Waste oil

E_B = 0.54 lb/ton of Blast Furnace slag used

E_T = 0.0014 lb/ton of Steel slag used

(b) Nitrogen Oxides (NO_x) Emission Calculation

$$N = \frac{G(E_G) + O(E_O) + R(E_R) + W(E_W) + D(E_D)}{2,000 \text{ lbs/ton}}$$

where:

N = tons of nitrogen oxide emissions for a 12-month consecutive period

G = million cubic feet of natural gas used in the last 12 months

O = gallons of No. 2 fuel oil used in the last 12 months

R = gallons of Refinery Blend / Residual (No. 4, No. 5 or No. 6) fuel oil used in the last 12 months

W = gallons of Waste oil used in the last 12 months

D = gallons of #2 diesel fuel oil used in the last 12 months

Emission Factors

E_G = 190 lb/million cubic feet of natural gas

E_O = 24.0 lb/1000 gallons of No. 2 fuel oil

E_R = 47.0 lb/1000 gallons of Refinery Blend / Residual (No. 4, No. 5 or No. 6) fuel oil

E_W = 19.0 lb/1000 gallons of Waste oil

E_D = 604.17 lb/1000 gallons of #2 diesel fuel oil

(c) CO₂ Equivalent (CO₂e) Emission Calculations

$$CO_2 = \frac{[G(X_G) + O(X_O) + R(X_R) + W(X_W)]}{2,000}$$

$$CH_4 = \frac{[G(X_G) + O(X_O) + R(X_R) + W(X_W)]}{2,000}$$

$$N_2O = \frac{[G(X_G) + O(X_O) + R(X_R) + W(X_W)]}{2,000}$$

$$CO_{2e} = \sum [(CO_2 \times CO_2 \text{ GWP}) + (CH_4 \times CH_4 \text{ GWP}) + (N_2O \times N_2O \text{ GWP})]$$

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Where:

CO₂ = tons of CO₂ emissions for previous 12 consecutive month period;
CH₄ = tons of CH₄ emissions for previous 12 consecutive month period;
N₂O = tons of N₂O emissions for previous 12 consecutive month period;
CO₂e = tons of CO₂e equivalent emissions for previous 12 consecutive month period;
G = million cubic feet of natural gas used in previous 12 months;
O = gallons of No. 2 fuel oil used in previous 12 months;
R = gallons of Refinery Blend / Residual (No. 4, No. 5 or No. 6) fuel oil used in previous 12 months
W = gallons of waste oil used in dryer/mixer in previous 12 months.

Emission Factors - CO₂:

X_G = 120,161.84 pounds per million cubic feet of natural gas;
X_O = 22,501.41 x 10⁻³ pounds per gallon of No. 2 fuel oil;
X_R = 24,835.04 x 10⁻³ pounds per gallon of Refinery Blend / Residual (No. 4, No. 5 or No. 6) fuel oil; and
X_W = 22,024.15 x 10⁻³ pounds per gallon of waste oil;

Emission Factors - CH₄:

X_G = 2.49 pounds per million cubic feet of natural gas;
X_O = 0.00091 pounds per gallon of No. 2 fuel oil;
X_R = 0.00100 pounds per gallon of Refinery Blend / Residual (No. 4, No. 5 or No. 6) fuel oil; and
X_W = 0.00089 pounds per gallon of waste oil;

Emission Factors - N₂O:

X_G = 2.20 pounds per million cubic feet of natural gas;
X_O = 0.00026 pounds per gallon of No. 2 fuel oil;
X_R = 0.00053 pounds per gallon of Refinery Blend / Residual (No. 4, No. 5 or No. 6) fuel oil; and
X_W = 0.00018 pounds per gallon of waste oil;

Greenhouse Warming Potentials (GWP)

Carbon dioxide (CO₂) = 1
Methane (CH₄) = 21
Nitrous oxide (N₂O) = 310

D.1.13 Shingle Asbestos Content

Pursuant to 326 IAC 2-8-4, compliance with Condition D.1.3(d) shall be determined utilizing one of the following options:

- (1) Providing shingle supplier certification that the factory second shingles do not contain asbestos; or
- (2) Analyzing a sample of the factory second shingles delivery to determine the asbestos content of the factory second shingles, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A determination of noncompliance pursuant to any of the methods specified above shall not be refuted by evidence of compliance pursuant to the other method.

Compliance Monitoring Requirements [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]

D.1.14 Visible Emissions Notations

- (a) Visible emission notations from the conveyors, screens, material transfer points, crusher, and dryer/mixer stack (SV-1) exhaust shall be performed once per day during normal

DRAFT

daylight operations. A trained employee shall record whether emissions are normal or abnormal.

- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. An abnormal visible emission notation is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

D.1.15 Parametric Monitoring

The Permittee shall record the pressure drop across the baghouse used in conjunction with the dryer/mixer, at least once per day when the dryer/mixer is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of two (2.0) and eight (8.0) inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above-mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once every six (6) months.

D.1.16 Broken or Failed Bag Detection

In the event that bag failure has been observed:

- (a) For a single compartment baghouses controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).
- (b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces, or triboflows.

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Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]

D.1.17 Record Keeping Requirements

- (a) To document the compliance status with Conditions D.1.1(a), and D.1.2(a), the Permittee shall keep monthly records of the amount of asphalt processed through the dryer/mixer.

- (b) To document the compliance status with Conditions D.1.3 and D.1.6, the Permittee shall maintain records in accordance with (1) through (10) below. Records maintained for (1) through (10) below shall be taken monthly and shall be complete and sufficient to establish compliance with the limits established in Conditions D.1.3 and D.1.6.
 - (1) Calendar dates covered in the compliance determination period;
 - (2) Actual fuel usage, sulfur content, heat content, and equivalent sulfur dioxide, nitrogen oxide, and CO₂ equivalent (CO₂e) emission rates for each fuel used at the source since the last compliance determination period;
 - (3) Actual waste oil usage, ash, chlorine, and lead content, and equivalent hydrogen chloride emission rate for waste oil used at the source since the last compliance determination period;
 - (4) A certification, signed by the owner or operator, that the records of the fuel supplier certifications represent all of the fuel combusted during the period; and
 - (5) If the fuel supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:
 - (i) Fuel supplier certifications;
 - (ii) The name of the fuel supplier; and
 - (iii) A statement from the fuel supplier that certifies the sulfur content of the No. 2 and waste oil, and the chlorine content of waste oil.
 - (6) Actual blast furnace and steel slag usage, sulfur content and equivalent sulfur dioxide emission rates for all blast furnace and steel slag used at the source since the last compliance determination period;
 - (7) A certification, signed by the owner or operator, that the records of the blast furnace and steel slag supplier certifications represent all of the blast furnace and steel slag used during the period; and
 - (8) If the slag supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:
 - (i) Blast furnace and steel slag supplier certifications;
 - (ii) The name of the blast furnace and steel slag supplier; and
 - (iii) A statement from the blast furnace and steel slag supplier that certifies the sulfur content of the blast furnace and steel slag.
 - (9) A certification, signed by the owner or operator, that the records of the shingle supplier certifications represent all of the shingles used during the period; and

DRAFT

- (10) If the shingle supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:
- (A) Shingle supplier certifications;
 - (B) The name of the shingle supplier(s); and
 - (C) A statement from the shingle supplier(s) that certifies the asbestos content of the shingles from their company.
- (d) To document the compliance status with Condition D.1.14, the Permittee shall maintain records of visible emission notations of the dryer/mixer stack (SV-1) exhaust once per day. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g., the process did not operate that day).
- (e) To document the compliance status with Condition D.1.15, the Permittee shall maintain records once per day of the pressure drop during normal operation. The Permittee shall include in its daily record when the pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g., the process did not operate that day).
- (f) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

D.1.18 Reporting Requirements

A quarterly summary of the information to document compliance status with Conditions D.1.1(a), D.1.2(a), and D.1.3, shall be submitted using the reporting forms located at the end of this permit, or their equivalent, not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(d) Cold-mix (stockpile mix) asphalt manufacturing operations and storage piles.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.2.1 Volatile Organic Compounds (VOC) [326 IAC 8-5-2]

Pursuant to 326 IAC 8-5-2 (Miscellaneous Operations: Asphalt Paving), the use of cutback asphalt or asphalt emulsion shall not contain more than seven percent (7%) oil distillate by volume of emulsion for any paving application except the following purposes:

- (a) Penetrating prime coating
- (b) Stockpile storage
- (c) Application during the months of November, December, January, February, and March.

D.2.2 Volatile Organic Compounds (VOC) [326 IAC 2-8-4] [326 IAC 2-2]

(a) Pursuant to 326 IAC 2-8-4, the VOC emissions from the sum of the binders shall not exceed 31.11 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

(b) Liquid binders used in the production of cold mix asphalt shall be defined as follows:

- (1) Cut back asphalt rapid cure, containing a maximum of 25.3% of the liquid binder by weight of VOC solvent and 95.0% by weight of VOC solvent evaporating.
- (2) Cut back asphalt medium cure, containing a maximum of 28.6% of the liquid binder by weight of VOC solvent and 70.0% by weight of VOC solvent evaporating.
- (3) Cut back asphalt slow cure, containing a maximum of 20.0% of the liquid binder by weight of VOC solvent and 25.0% by weight of VOC solvent evaporating.
- (4) Emulsified asphalt with solvent, containing a maximum of 15.0% of liquid binder by weight of VOC solvent and 46.4% by weight of the VOC solvent in the liquid blend evaporating. The percent oil distillate in emulsified asphalt with solvent liquid, as determined by ASTM, must be seven percent (7%) or less of the total emulsion by volume.
- (5) Other asphalt with solvent binder, containing a maximum 25.9% of the liquid binder of VOC solvent and 2.5% by weight of the VOC solvent evaporating.

(c) When using only one type of liquid binder per twelve (12) consecutive month period, the usage of liquid binder shall be limited as follows:

- (1) The amount of VOC solvent used in rapid cure cutback asphalt shall not exceed 32.75 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

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- (2) The amount of VOC solvent used in medium cure cutback asphalt shall not exceed 44.45 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
 - (3) The amount of VOC solvent used in slow cure cutback asphalt shall not exceed 124.45 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
 - (4) The amount of VOC solvent used in emulsified asphalt shall not exceed 67.05 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
 - (5) The amount of VOC solvent used in all other asphalt shall not exceed 1,244.47 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (d) When using more than one liquid binder per twelve (12) consecutive month period, VOC emissions shall be limited as follows:
- (1) The VOC solvent allotments in (1) through (5) above shall be adjusted when more than one type of binder is used per twelve (12) consecutive month period with compliance determined at the end of each month. In order to determine the tons of VOC emitted per each type of binder, use the following formula and divide the tons of VOC solvent used for each type of binder by the corresponding adjustment factor listed in the table that follows.

$$\text{VOC emitted (tons/yr)} = \frac{\text{VOC solvent used for each binder (tons/yr)}}{\text{Adjustment factor}}$$

Type of binder	adjustment factor
cutback asphalt rapid cure	1.053
cutback asphalt medium cure	1.429
cutback asphalt slow cure	4.000
emulsified asphalt	2.155
other asphalt	40.0

Compliance with these limits, combined with the VOC emissions from all other emission units at this source, will limit source-wide VOC emissions to less than one hundred (100) tons per twelve (12) consecutive month period, and render 326 IAC 2-7 (Part 70 Permit Program) and 326 IAC 2-2 (PSD)) not applicable.

Note: The source has opted to limit source-wide potential to emit VOCs to less than 50 tons per twelve (12) consecutive month period. This would allow for the co-location of an additional asphalt plant to the same location, as long as the co-located plant has a limited potential to emit from all of its emission units equal to or less than those that are issued within this permit.

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]

D.2.3 Record Keeping Requirements

- (a) To document the compliance status with Condition D.2.2(c)(1) through (5), the Permittee shall maintain records in accordance with (1) through (4) below. Records maintained

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shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC emission limits established in Condition D.2.2(c)(1) through (5).

- (1) Calendar dates covered in the compliance determination period;
- (2) Cutback asphalt binder usage in the production of cold mix asphalt since the last compliance determination period;
- (3) VOC solvent content by weight of the cutback asphalt binder used in the production of cold mix asphalt since the last compliance determination period; and
- (4) Amount of VOC solvent used in the production of cold mix asphalt, and the amount of VOC emitted since the last compliance determination period.

Records may include: delivery tickets, manufacturer's data, material safety data sheets (MSDS), and other documents necessary to verify the type and amount used. Test results of ASTM tests for asphalt cutback and asphalt emulsion may be used to document volatilization.

- (b) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

D.2.4 Reporting Requirements

A quarterly summary of the information to document the compliance status with Condition D.2.2 shall be submitted no later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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SECTION E.1

NSPS REQUIREMENTS

Emissions Unit Description: Hot-mix Asphalt Plant

- (a) One (1) hot-mix asphalt drum dryer/mixer, identified as EU-01, constructed in 2004, approved in 2020 for modification, with a maximum throughput capacity of 400 tons of raw material per hour, processing blast furnace slag, steel slag, and asbestos-free recycled asphalt shingles in the aggregate mix, equipped with one (1) 100 million British thermal units (MMBtu) per hour natural gas fired dryer burner, using #2 distillate fuel oil, refinery blend fuel oil, residual fuel oil, and waste oil as backup fuels, equipped with one (1) baghouse for particulate control and exhausting through one (1) stack, identified as stack SV-1. This source produces cold mix asphalt. No grinding of shingles occurs at this source.
- (b) Material feeding, conveying, and loading operations consisting of the following:
 - (1) Four (4) storage silos, including:
 - (i) Three (3) asphalt mix storage silos; and
 - (ii) One (1) mineral filler silo.
 - (2) Raw material storage piles, including:
 - (i) Aggregate storage pile(s), total capacity 50,000 tons;
 - (ii) Reclaimed asphalt pavement (RAP) storage pile(s), total capacity 20,000 tons;
 - (iii) Blast Furnace and/or Steel Slag storage pile(s), total capacity 10,000 tons; and
 - (iv) Recycled asphalt shingles pile(s), total capacity 3,000 tons.
 - (3) Nine (9) feed bins, including:
 - (i) Seven (7) cold feed bins for coarse to fine aggregate; and
 - (ii) Two (2) feed bin for recycled asphalt pavement and recycled shingles.
 - (4) Five (5) conveyors, including:
 - (i) Three (3) conveyors for transporting coarse to fine aggregates to the drum mixer;
 - (ii) One (1) conveyor for transporting recycled asphalt pavement and recycled shingles to the drum mixer; and
 - (iii) One (1) drag slat conveyor transporting hot-mixed asphalt to the asphalt storage silos.

Under 40 CFR 60.90, Subpart I - New Source Performance Standards for Hot-mix Asphalt Facilities, this drum hot-mix asphalt operation is considered an affected facility.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

New Source Performance Standards (NSPS) Requirements [326 IAC 2-8-4(1)]

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E.1.1 General Provisions Relating to NSPS [326 IAC 12-1] [40 CFR 60, Subpart A]

- (a) Pursuant to 40 CFR 60.1, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference as 326 IAC 12-1, except as otherwise specified in 40 CFR 60, Subpart I.
- (b) Pursuant to 40 CFR 60.10, the Permittee shall submit all required notifications and reports to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

E.1.2 New Source Performance Standards (NSPS) for Hot-mix Asphalt Facilities [40 CFR Part 60, Subpart I] [326 IAC 12]

The Permittee shall comply with the following provisions of 40 CFR Part 60, Subpart I (included as Attachment B of this permit), which are incorporated by reference as 326 IAC 12, except as otherwise specified in 40 CFR Part 60, Subpart I:

- (a) 40 CFR 60.90
- (b) 40 CFR 60.91
- (c) 40 CFR 60.92
- (d) 40 CFR 60.93

E.1.3 Testing Requirements [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11]

The Permittee shall perform the stack testing required under NSPS 40 CFR 60, Subpart I, utilizing methods as approved by the Commissioner to document compliance with Condition E.1.2. These tests shall be repeated at least once every five (5) years from the date of the last valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing.

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SECTION E.2

NSPS REQUIREMENTS

Emissions Unit Description: Recycled Asphalt Pavement (RAP) Crushing Operation

- (c) One (1) #2 diesel fuel-fired portable crusher for processing reclaimed asphalt pavement (RAP), identified as SV-3, constructed in 2010, with a maximum throughput capacity of 300 tons of RAP per hour.

Under 40 CFR 60, Subpart OOO, New Source Performance Standards for Nonmetallic Mineral Processing Plants, this is considered an affected facility.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

New Source Performance Standards (NSPS) Requirements [326 IAC 2-8-4(1)]

E.2.1 General Provisions Relating to NSPS [326 IAC 12-1] [40 CFR 60, Subpart A]

- (a) Pursuant to 40 CFR 60.1, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference as 326 IAC 12-1, except as otherwise specified in 40 CFR 60, Subpart OOO.
- (b) Pursuant to 40 CFR 60.10, the Permittee shall submit all required notifications and reports to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

E.2.2 NSPS Subpart OOO Requirements - Standards of Performance for Nonmetallic Mineral Processing Plants [40 CFR Part 60, Subpart OOO] [326 IAC 12-1]

The Permittee shall comply with the following provisions of 40 CFR Part 60, Subpart OOO (included as Attachment C of this permit), which are incorporated by reference as 326 IAC 12, except as otherwise specified in 40 CFR Part 60, Subpart OOO:

- | | |
|---|--|
| (1) 40 CFR 60.670(a), (d), (e), and (f) | (6) 40 CFR 60.675(a), (c)(1)(i), (ii), (iii), (c)(3), (d), (e), (g), and (i) |
| (2) 40 CFR 60.671 | (7) 40 CFR 60.676(a), (b)(1), (f), (h), (i), (j), and (k) |
| (3) 40 CFR 60.672(b), (d), and (e) | (8) Table 1 and Table 3 |
| (4) 40 CFR 60.673 | |
| (5) 40 CFR 60.674(b) | |

E.2.3 Testing Requirements [40 CFR Part 60, Subpart OOO] [326 IAC 12-1] [326 IAC 2-8-5(a)(1),(4)] [326 IAC 2-1.1-11]

In order to demonstrate compliance with Condition E.2.2, the Permittee shall perform testing for fugitive emissions from affected facilities without water sprays, as required under NSPS 40 CFR 60, Subpart OOO, not later than five (5) years from the most recent valid compliance demonstration, utilizing methods approved by the Commissioner. Testing shall only be performed if the company has not previously performed testing for the same crusher at one of their other Indiana facilities. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Section C – Performance Testing contains the Permittee’s obligation with regard to the performance testing required by this condition.

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Note: Pursuant to §60.674(b)(1), affected facilities controlled by water carryover from upstream water sprays that are inspected according to the requirements in §60.674(b) and §60.676(b) are exempt from this 5-year repeat testing requirement.

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SECTION E.3

NESHAPs REQUIREMENTS

Emissions Unit Description: Gasoline Dispensing Facility

- (b) A gasoline fuel transfer and dispensing operation handling less than or equal to one thousand three hundred (1,300) gallons per day, such as filling of tanks, locomotives, automobiles, having storage capacity less than or equal to ten thousand five hundred (10,500) gallons;

Under 40 CFR 60, Subpart CCCCCC, the units comprising this operation are considered affected facilities.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

**National Emission Standards for Hazardous Air Pollutants (NESHAPs) Requirements
[326 IAC 2-7-5(1)]**

E.3.1 General Provisions Relating to National Emission Standards for Hazardous Air Pollutants under 40 CFR Part 63 [326 IAC 20-1] [40 CFR Part 63, Subpart A]

- (a) Pursuant to 40 CFR 63.11130, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions, as specified in Table 3 of 40 CFR Part 63, Subpart CCCCCC in accordance with schedule in 40 CFR 63 Subpart CCCCCC
- (b) Pursuant to 40 CFR 63.10, the Permittee shall submit all required notifications and reports to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

E.3.2 National Emissions Standards for Hazardous Air Pollutants for Source Category Gasoline Dispensing Facilities [40 CFR Part 63, Subpart CCCCCC]

The Permittee shall comply with the following provisions of 40 CFR Part 63, Subpart CCCCCC (included as Attachment D), beginning on January 10, 2011, as follows:

- (1) 40 CFR 63. 11110;
- (2) 40 CFR 63. 11111(a), (b), (e), (f);
- (3) 40 CFR 63. 11112(a), (d);
- (4) 40 CFR 63. 11113(b), (c);
- (5) 40 CFR 63. 11116;
- (6) 40 CFR 63. 11130;
- (7) 40 CFR 63. 11131;
- (8) 40 CFR 63. 11132; and
- (9) Table 3

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**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH**

**FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
CERTIFICATION**

Source Name: E & B Paving, LLC
Source Address: 7320 Lower Huntington Road,, Ft. Wayne, Indiana 46809
FESOP Permit No.: F003-30070-03281

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.

Please check what document is being certified:

- Annual Compliance Certification Letter
- Test Result (specify)_____
- Report (specify)_____
- Notification (specify)_____
- Affidavit (specify)_____
- Other (specify)_____

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Date:

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**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
Phone: (317) 233-0178
Fax: (317) 233-6865**

**FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
EMERGENCY OCCURRENCE REPORT**

Source Name: E & B Paving, LLC
Source Address: 7320 Lower Huntington Road,, Ft. Wayne, Indiana 46809
FESOP Permit No.: F003-30070-03281

This form consists of 2 pages

Page 1 of 2

<input type="checkbox"/> This is an emergency as defined in 326 IAC 2-7-1(12) <ul style="list-style-type: none">• The Permittee must notify the Office of Air Quality (OAQ), within four (4) business hours (1-800-451-6027 or 317-233-0178, ask for Compliance Section); and• The Permittee must submit notice in writing or by facsimile within two (2) working days (Facsimile Number: 317-233-6865), and follow the other requirements of 326 IAC 2-7-16

If any of the following are not applicable, mark N/A

Facility/Equipment/Operation:
Control Equipment:
Permit Condition or Operation Limitation in Permit:
Description of the Emergency:
Describe the cause of the Emergency:

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If any of the following are not applicable, mark N/A

Page 2 of 2

Date/Time Emergency started:
Date/Time Emergency was corrected:
Was the facility being properly operated at the time of the emergency? Y N Describe:
Type of Pollutants Emitted: TSP, PM-10, SO ₂ , VOC, NO _x , CO, Pb, other:
Estimated amount of pollutant(s) emitted during emergency:
Describe the steps taken to mitigate the problem:
Describe the corrective actions/response steps taken:
Describe the measures taken to minimize emissions:
If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

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**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH**

FESOP Quarterly Report

Source Name: E & B Paving, LLC
Source Address: 7320 Lower Huntington Road,, Ft. Wayne, Indiana 46809
FESOP Permit No.: F003-30070-03281
Facility: Dryer/Mixer Burner (SV-1)
Parameter: **Hot-mix Asphalt Production**
Limit: The amount of hot-mix asphalt produced in the dryer/burner shall not exceed 700,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

QUARTER: _____ YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	Hot-mix Asphalt Produced This Month (tons)	Hot-mix Asphalt Produced Previous 11 Months (tons)	12 Month Total Hot-mix Asphalt Produced (tons)
Month 1			
Month 2			
Month 3			

- No deviation occurred in this quarter.
- Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

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**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF AIR QUALITY
 COMPLIANCE AND ENFORCEMENT BRANCH**

FESOP Quarterly Report

Page 1 of 3

Source Name: E & B Paving, LLC
 Source Address: 7320 Lower Huntington Road,, Ft. Wayne, Indiana 46809
 FESOP Permit No.: F003-30070-03281
 Facility: Dryer/Mixer (SV-1) and #2 Diesel Fuel-Fired Crusher
 Parameter: **Fuel & Slag Usage / SO₂, NO_x, and CO_{2e} emissions**
 Emission Limits: Sulfur dioxide (SO₂) emissions shall not exceed 48.90 tons per twelve (12) consecutive month period, with compliance determined at the end of each month, using the equation found in Condition D.1.12(a).
Nitrogen oxides (NO_x) emissions shall not exceed 48.43 tons per twelve (12) consecutive month period, with compliance determined at the end of each month, using the equation found in Condition D.1.12(b).
CO₂ equivalent emissions (CO_{2e}) shall not exceed 29,855.11 tons per twelve (12) consecutive month period, with compliance determined at the end of each month, using the equation found in Condition D.1.12(c).

Fuel & Slag Limits: When combusting only one type of fuel per twelve (12) consecutive month period in the dryer/mixer burner and #2 diesel fuel-fired crusher, in conjunction with the use of slag in the aggregate mix, fuel and slag usage shall not exceed the following:

Fuel Type (Units)	Fuel Usage Limit (per 12 consecutive month period)
Dryer/Mixer Burner	
Natural Gas (million cubic feet)	494
No. 2 Distillate Fuel Oil (gallons)	864,007
Refinery blend / Residual (No. 4, No. 5, and No. 6) Fuel Oil (gallons)	520,973
Waste Oil (gallons)	417,310
Blast Furnace Slag (tons)	67,500
#2 Diesel Fuel-Fired Crusher	
#2 Diesel Fuel Oil (gallons)	5,000

Facility: Cold-mix Asphalt Production
 Parameter: **Binder Usage / VOC Emissions**
 Emission Limits: VOC emissions from the sum of the binders shall not exceed 31.11 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

Type of Binder	Binder Usage Limit (per 12 consecutive month period)
Cutback Asphalt Rapid Cure	32.75
Cutback Asphalt Medium Cure	44.45
Cutback Asphalt Slow Cure	124.45
Emulsified Asphalt	67.05
Other Asphalt	1,244.47

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FESOP Quarterly Report - Fuel & Slag Usage / SO2, NOx, and CO2e emissions

QUARTER: _____ YEAR: _____

Month	Fuel Types / Slag (units)	Column 1	Column 2	Column 1 + Column 2	Equation Results		
		Usage This Month	Usage Previous 11 Months	Usage 12 Month Total	Sulfur Dioxide (SO2) Emissions (tons per 12 months)	Nitrogen Oxides (NOx) Emissions (tons per 12 months)	CO2 equivalent (CO2e) Emissions (tons per 12 months)
Month 1	Natural Gas (million cubic feet)						
	No. 2 Fuel Oil (gallons)						
	Refinery Blend Fuel Oil (gallons)						
	Waste Fuel Oil (gallons)						
	Blast Furnace Slag (tons)						
	Steel Slag Usage (tons)						
	#2 Diesel Fuel Oil (gallons)						
Month 2	Natural Gas (million cubic feet)						
	No. 2 Fuel Oil (gallons)						
	Refinery Blend Fuel Oil (gallons)						
	Waste Fuel Oil (gallons)						
	Blast Furnace Slag (tons)						
	Steel Slag Usage (tons)						
	#2 Diesel Fuel Oil (gallons)						
Month 3	Natural Gas (million cubic feet)						
	No. 2 Fuel Oil (gallons)						
	Refinery Blend Fuel Oil (gallons)						
	Waste Fuel Oil (gallons)						
	Blast Furnace Slag (tons)						
	Steel Slag Usage (tons)						
	#2 Diesel Fuel Oil (gallons)						

- No deviation occurred in this reporting period. Submitted by: _____ Date: _____
- Deviation/s occurred in this reporting period. Title / Position: _____ Phone: _____
- Deviation has been reported on: _____ Signature: _____

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FESOP Quarterly Report - Binder Usage / VOC Emissions

QUARTER: _____ YEAR: _____

Month	Fuel Types (units)	Column 1	Column 2	Column 1 + Column 2	Equation Results
		Usage This Month	Usage Previous 11 Months	Usage 12 Month Total	VOC Emissions (tons per 12 months)
Month 1	Cutback asphalt rapid cure liquid binder (million cubic feet)				
	Cutback asphalt medium cure liquid binder (gallons)				
	Cutback asphalt slow cure liquid binder (gallons)				
	Emulsified asphalt with solvent liquid binder				
	Other asphalt with solvent liquid binder				
Month 2	Cutback asphalt rapid cure liquid binder (million cubic feet)				
	Cutback asphalt medium cure liquid binder (gallons)				
	Cutback asphalt slow cure liquid binder (gallons)				
	Emulsified asphalt with solvent liquid binder				
	Other asphalt with solvent liquid binder				
Month 3	Cutback asphalt rapid cure liquid binder (million cubic feet)				
	Cutback asphalt medium cure liquid binder (gallons)				
	Cutback asphalt slow cure liquid binder (gallons)				
	Emulsified asphalt with solvent liquid binder				
	Other asphalt with solvent liquid binder				

- No deviation occurred in this reporting period.
- Deviation/s occurred in this reporting period.
 Deviation has been reported on: _____

Submitted by: _____ Date: _____
 Title / Position: _____ Phone: _____
 Signature: _____

$$\text{VOC Emitted (tons/day)} = \frac{\text{VOC solvent used for each binder (tons/day)}}{\text{Adjustment factor}}$$

Type of Binder	Adjustment Factor
Cutback Asphalt Rapid Cure	1.053
Cutback Asphalt Medium Cure	1.429
Cutback Asphalt Slow Cure	4.0
Emulsified Asphalt	2.155
Other Asphalt	40.0

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**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT**

Source Name: E & B Paving, LLC
Source Address: 7320 Lower Huntington Road,, Ft. Wayne, Indiana 46809
FESOP Permit No.: F003-30070-03281

Months: _____ to _____ Year: _____

Page 1 of 2

This report shall be submitted quarterly based on a calendar year. Any deviation from the requirements of this permit, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".

NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.

THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD

Permit Requirement (specify permit condition #)

Date of Deviation:

Duration of Deviation:

Number of Deviations:

Probable Cause of Deviation:

Response Steps Taken:

Permit Requirement (specify permit condition #)

Date of Deviation:

Duration of Deviation:

Number of Deviations:

Probable Cause of Deviation:

Response Steps Taken:

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Page 2 of 2

Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

**Indiana Department of Environmental Management
Office of Air Quality**

Technical Support Document (TSD) for a Significant Permit Revision to a
Federally Enforceable State Operating Permit (FESOP) Renewal

Source Description and Location
--

Source Name:	E & B Paving, LLC
Source Location:	7320 Lower Huntington Road, Fort Wayne, IN 46809
County:	Allen
SIC Code:	2951 (Asphalt Paving Mixtures and Blocks)
Operation Permit No.:	F003-30070-03281
Operation Permit Issuance Date:	September 26, 2011
Significant Permit Revision No.:	003-43035-03281
Permit Reviewer:	William Altman

Existing Approvals

The source was issued FESOP Renewal No. F003-30070-03281 on September 26, 2011. There have been no subsequent approvals issued.

County Attainment Status

The source is located in Allen County.

Pollutant	Designation
SO ₂	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O ₃	Unclassifiable or attainment effective January 16, 2018, for the 2015 8-hour ozone standard.
PM _{2.5}	Unclassifiable or attainment effective April 15, 2015, for the 2012 annual PM _{2.5} standard.
PM _{2.5}	Unclassifiable or attainment effective December 13, 2009, for the 2006 24-hour PM _{2.5} standard.
PM ₁₀	Unclassifiable effective November 15, 1990.
NO ₂	Unclassifiable or attainment effective January 29, 2012, for the 2010 NO ₂ standard.
Pb	Unclassifiable or attainment effective December 31, 2011, for the 2008 lead standard.

- (a) **Ozone Standards**
Volatile organic compounds (VOC) and Nitrogen Oxides (NO_x) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to ozone. Allen County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

- (b) **PM_{2.5}**
Allen County has been classified as attainment for PM_{2.5}. Therefore, direct PM_{2.5}, SO₂, and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

- (e) **Other Criteria Pollutants**
Allen County has been classified as attainment or unclassifiable in Indiana for all the other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

This type of operation is not one (1) of the twenty-eight (28) listed source categories under 326 IAC 2-2-1(ff)(1), 326 IAC 2-3-2(g), or 326 IAC 2-7-1(22)(B). However, there is an applicable New Source Performance Standard or National Emission Standard for Hazardous Air Pollutants that was in effect on August 7, 1980 (NSPS Subpart I (Hot-mix Asphalt Facilities)); therefore, fugitive emissions are counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability.

The fugitive emissions of hazardous air pollutants (HAP) are counted toward the determination of Part 70 Permit applicability and source status under Section 112 of the Clean Air Act (CAA).

Greenhouse Gas (GHG) Emissions

On June 23, 2014, in the case of *Utility Air Regulatory Group v. EPA*, cause no. 12-1146, (available at http://www.supremecourt.gov/opinions/13pdf/12-1146_4g18.pdf) the United States Supreme Court ruled that the U.S. EPA does not have the authority to treat greenhouse gases (GHGs) as an air pollutant for the purpose of determining operating permit applicability or PSD Major source status. On July 24, 2014, the U.S. EPA issued a memorandum to the Regional Administrators outlining next steps in permitting decisions in light of the Supreme Court's decision. U.S. EPA's guidance states that U.S. EPA will no longer require PSD or Title V permits for sources "previously classified as 'Major' based solely on greenhouse gas emissions."

The Indiana Environmental Rules Board adopted the GHG regulations required by U.S. EPA at 326 IAC 2-2-1(zz), pursuant to Ind. Code § 13-14-9-8(h) (Section 8 rulemaking). A rule, or part of a rule, adopted under Section 8 is automatically invalidated when the corresponding federal rule, or part of the rule, is invalidated. Due to the United States Supreme Court Ruling, IDEM, OAQ cannot consider GHG emissions to determine operating permit applicability or PSD applicability to a source or modification.

Source Status - Existing Source

The table below summarizes the potential to emit of the entire source, prior to the proposed revision, after consideration of all enforceable limits established in the effective permits. If the control equipment has been determined to be integral, the table reflects the potential to emit (PTE) after consideration of the integral control device.

	Source-Wide Emissions Prior to Revision (ton/year)								
	PM ¹	PM ₁₀ ¹	PM _{2.5} ^{1, 2}	SO ₂	NO _x	VOC	CO	Single HAP ³	Total HAPs
Total PTE of Entire Source Excluding Fugitives*	86.24	36.77	42.00	49.00	49.00	11.35	46.30	2.75	3.74
Fugitives from NSPS/NESHAP Source Category (source wide)*	38.37	12.34	7.11	0.00	0.00	37.84	1.01	2.87	8.41
Total PTE of Entire Source	124.61	49.11	49.11	49.00	49.00	49.20	47.31	2.87	12.12
Title V Major Source Thresholds	NA	100	100	100	100	100	100	10	25
PSD Major Source Thresholds	250	250	250	250	250	250	250	--	--
¹ Under the Part 70 Permit program (40 CFR 70), PM ₁₀ and PM _{2.5} , not particulate matter (PM), are each considered as a "regulated air pollutant." ² PM _{2.5} listed is direct PM _{2.5} . ³ Single highest source-wide HAP *Fugitive HAP emissions are always included in the source-wide emissions.									

- (a) This existing source is not a major stationary source, under PSD (326 IAC 2-2), because no PSD regulated pollutant is emitted at a rate of two hundred fifty (250) tons per year or more and it is not one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(ff)(1).
- (b) This existing source is not a major source of HAP, as defined in 40 CFR 63.2, because HAP emissions are less than ten (10) tons per year for any single HAP and less than twenty-five (25) tons per year of a combination of HAPs.
- (c) These emissions are based on the TSD of FESOP Renewal No. 003-30070-03281, issued on September 26, 2011.

Description of Proposed Revision

The Office of Air Quality (OAQ) has reviewed an application, submitted by E & B Paving, LLC on July 2, 2020, relating to the addition of one (1) cold feed bin, one (1) recycled asphalt product bin, one (1) mineral filler silo, and to update the drum dryer max throughput capacity.

The following is a list of the new emission units and pollution control device(s):

- (a) One (1) cold feed bin, identified as CFbin-7 with a maximum capacity of 30 tons per hour, uncontrolled, and exhausting indoors.
- (b) One (1) Mineral Filler Silo, identified as Silo-4, with a maximum capacity of 665,000 tons per year, using a baghouse as control, and exhausting indoors.

- (c) One (1) recycled asphalt product bin, identified as RAP bin-2, with a maximum capacity of 30 tons per hour, uncontrolled, and exhausting indoors.

In addition, the maximum asphalt production capacity of the drum-mixer has been revised as follows (bold to show addition and strikethrough to show deletion):

- (a) One (1) hot-mix asphalt drum dryer/mixer, identified as EU-01, constructed in 2004, approved in 2020 for modification, with a maximum throughput capacity of ~~350~~ **400** tons of raw material per hour, processing blast furnace slag, steel slag, and asbestos-free recycled asphalt shingles in the aggregate mix, equipped with one (1) 100 million British thermal units (MMBtu) per hour natural gas fired dryer burner, using #2 distillate fuel oil, refinery blend fuel oil, residual fuel oil, and waste oil as backup fuels, equipped with one (1) baghouse for particulate control and exhausting through one (1) stack, identified as stack SV-1. This source produces cold mix asphalt. No grinding of shingles occurs at this source.

Enforcement Issues

IDEM is aware that equipment has been constructed and operate prior to receipt of the proper permit. IDEM is reviewing this matter and will take the appropriate action. This proposed approval is intended to satisfy the requirements of the construction permit and operate rules.

Emission Calculations

See Appendix A of this Technical Support Document for detailed emission calculations.

[Appendix A.3 includes the PTE calculations of the insignificant activities]

Permit Level Determination – FESOP Significant Permit Revision

Pursuant to 326 IAC 2-1.1-1(12), Potential to Emit is defined as “the maximum capacity of a stationary source or emission unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, IDEM, or the appropriate local air pollution control agency.”

The following table is used to determine the appropriate permit level under 326 IAC 2-8-11.1 (Permit Revisions). This table reflects the PTE before controls of the proposed revision. If the control equipment has been determined to be integral, the table reflects the potential to emit (PTE) after consideration of the integral control device.

	PTE Increases Due to the Revision (ton/year)								
	PM	PM ₁₀	PM _{2.5} ¹	SO ₂	NO _x	VOC	CO	Single HAP ²	Total HAPs
Total PTE Before Controls of the New Emission Units	0.93	0.39	0.39	0.00	0.00	0.00	0.00	0.00	0.00
Total PTE Increase of the Modified Emission Unit(s)/Process	6,132	1,423.50	328.20	49.67	0.00	7.01	0.00	0.00	0.00
Total PTE of the Revision	6,132.93	1,423.89	328.59	49.67	0.00	7.01	0.00	0.00	0.00

¹PM_{2.5} listed is direct PM_{2.5}.

²Single highest HAP.

Appendix A of this TSD reflects the detailed potential emissions of the proposed revision.

Pursuant to 326 IAC 2-8-11.1(f)(1)(E), this FESOP is being revised through a FESOP Significant Permit Revision because the proposed revision is not an Administrative Amendment or Minor Permit revision and the proposed revision involves the construction of new emission units involves a change in operation, where the potential to emit of any pollutant increases as indicated below with potential to emit equal to or greater than twenty-five (25) tons per year of the following pollutants:

- (i) PM, PM₁₀, or direct PM_{2.5}.
- (ii) Sulfur dioxide (SO₂).

PTE of the Entire Source After Issuance of the FESOP Revision

The table below summarizes the after issuance source-wide potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of the revision, and only to the extent that the effect of the control equipment is made practically enforceable in the permit. If the control equipment has been determined to be integral, the table reflects the potential to emit (PTE) after consideration of the integral control device.

	Source-Wide Emissions After Issuance (ton/year)								
	PM ¹	PM ₁₀ ¹	PM _{2.5} ^{1, 2}	SO ₂	NO _x	VOC	CO	Single HAP ³	Total HAPs
Total PTE of Entire Source Excluding Fugitives*	86.24	36.77	42.00	49.00	49.00	11.35	46.30	2.75	3.74
Fugitives from NSPS/NESHAP Source Category (source wide)*	38.37	12.34	7.11	0.00	0.00	37.84	1.01	2.87	8.41
Total PTE of Entire Source	124.61	49.11	49.11	49.00	49.00	49.20	47.31	2.87	12.12
Title V Major Source Thresholds	NA	100	100	100	100	100	100	10	25
PSD Major Source Thresholds	250	250	250	250	250	250	250	--	--
¹ Under the Part 70 Permit program (40 CFR 70), PM ₁₀ and PM _{2.5} , not particulate matter (PM), are each considered as a "regulated air pollutant." ² PM _{2.5} listed is direct PM _{2.5} . ³ Single highest source-wide HAP *Fugitive HAP emissions are always included in the source-wide emissions.									

Appendix A of this TSD reflects the detailed potential to emit of the entire source after issuance.

The source opted to take (specify pollutant(s)) limit(s) in order to render the requirements of 326 IAC 2-7 (Part 70 Permits) and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable to this source. See Technical Support Document (TSD) State Rule Applicability - Entire Source section, 326 IAC 2-2 (PSD) and 326 IAC 2-3 (Emission Offset), 326 IAC 2-8 (FESOP), for more information regarding the limit(s).

- (a) This existing Title V minor stationary source will continue to be minor under 326 IAC 2-7 because the potential to emit regulated air pollutants and HAPs from the entire source will continue to be less than or limited to less than the Title V major source threshold levels. Therefore, the source is subject to the provisions of 326 IAC 2-8 (FESOP) and is an area source under Section 112 of the Clean Air Act (CAA).

- (b) This existing minor PSD stationary source will continue to be minor under 326 IAC 2-2 because the potential to emit of all PSD regulated pollutants from the entire source will continue to be less than or limited to less than the PSD major source thresholds. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

Federal Rule Applicability Determination

Federal rule applicability remains unchanged as a result of this revision.

State Rule Applicability - Entire Source

Due to this revision, state rule applicability has been reviewed as follows:

326 IAC 2-2 (PSD)

PSD applicability is discussed under the PTE of the Entire Source After Issuance of the FESOP Revision section of this document.

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))

The new emission unit(s) will emit less than ten (10) tons per year for a single HAP and less than twenty-five (25) tons per year for a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

326 IAC 2-6 (Emission Reporting)

This source is not subject to 326 IAC 2-6 (Emission Reporting), because it is not required to have an operating permit pursuant to 326 IAC 2-7 (Part 70); it is not located in Lake, Porter, Clark, or Floyd County, and its potential to emit lead is less than 5 tons per year. Therefore, this rule does not apply.

326 IAC 2-8-4 (FESOP)

FESOP applicability is discussed under the PTE of the Entire Source After Issuance of the FESOP Revision section of this document.

326 IAC 5-1 (Opacity Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (1) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (2) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

326 IAC 6-4 (Fugitive Dust Emissions Limitations)

Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions Limitations), the source shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4.

326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)

This source was constructed after December 13, 1985 and has potential fugitive particulate emissions of twenty-five (25) tons per year or more. Pursuant to 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations), fugitive particulate matter emissions shall be controlled according to the Fugitive Dust Control Plan that is included as Attachment A to the permit.

326 IAC 6.5 (Particulate Matter Limitations Except Lake County)

Pursuant to 326 IAC 6.5-1-1(a), this source (located in Allen County) is not subject to the requirements of 326 IAC 6.5 because it is not located in one of the following counties: Clark, Dearborn, Dubois, Howard, Marion, St. Joseph, Vanderburgh, Vigo or Wayne.

326 IAC 6.8 (Particulate Matter Limitations for Lake County)

Pursuant to 326 IAC 6.8-1-1(a), this source (located in Allen County) is not subject to the requirements of 326 IAC 6.8 because it is not located in Lake County.

326 IAC 6.8 (Lake County: Fugitive Particulate Matter)

Pursuant to 326 IAC 6.8-10-1, this source (located in Allen County) is not subject to the requirements of 326 IAC 6.8-10 because it is not located in Lake County.

Compliance Determination and Monitoring Requirements

There are no new or modified compliance requirements included with this revision.

Proposed Changes

The following changes listed below are due to the proposed revision. Deleted language appears as ~~strikethrough~~ text and new language appears as **bold** text:

- (1) Condition A.2, D.1, and E.1 have been modified to show the new and modified emission units updates.
- (2) Source name has been changed from E & B Paving, Inc. to E & B Paving, LLC in all relevant places

E & B Paving, ~~Inc.~~**LLC**

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

This stationary source consists of the following emission units and pollution control devices:

- (a) One (1) hot-mix asphalt drum dryer/mixer, identified as EU-01, constructed in 2004, **approved in 2020 for modification**, with a maximum throughput capacity of ~~350~~ **400** tons of raw material per hour, processing blast furnace slag, steel slag, and asbestos-free recycled asphalt shingles in the aggregate mix, equipped with one (1) 100 million British thermal units (MMBtu) per hour natural gas fired dryer burner, using #2 distillate fuel oil, refinery blend fuel oil, residual fuel oil, and waste oil as backup fuels, equipped with one (1) baghouse for particulate control and exhausting through one (1) stack, identified as stack SV-1. This source produces cold mix asphalt. No grinding of shingles occurs at this source.
- (b) Material feeding, conveying, and loading operations consisting of the following:
 - (1) ~~Three (3) asphalt mix storage silos;~~
(1) Four (4) storage silos, including:
 - (i) **Three (3) asphalt mix storage silos; and**
 - (ii) **One (1) mineral filler silo.**
 - (2) Raw material storage piles, including:
 - (i) Aggregate storage pile(s), total capacity 50,000 tons;

- (ii) Reclaimed asphalt pavement (RAP) storage pile(s), total capacity 20,000 tons;
 - (iii) Blast Furnace and/or Steel Slag storage pile(s), total capacity 10,000 tons; and
 - (iv) Recycled asphalt shingles pile(s), total capacity 3,000 tons.
- (3) ~~Seven (7)~~ **Nine (9)** feed bins, including:
- (i) ~~Six (6)~~ **Seven (7)** cold feed bins for coarse to fine aggregate; and
 - (ii) ~~One (1)~~ **Two (2)** feed bin for recycled asphalt pavement and recycled shingles.

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (a) One (1) hot-mix asphalt drum dryer/mixer, identified as EU-01, constructed in 2004, **approved in 2020 for modification**, with a maximum throughput capacity of ~~350~~ **400** tons of raw material per hour, processing blast furnace slag, steel slag, and asbestos-free recycled asphalt shingles in the aggregate mix, equipped with one (1) 100 million British thermal units (MMBtu) per hour natural gas fired dryer burner, using #2 distillate fuel oil, refinery blend fuel oil, residual fuel oil, and waste oil as backup fuels, equipped with one (1) baghouse for particulate control and exhausting through one (1) stack, identified as stack SV-1. This source produces cold mix asphalt. No grinding of shingles occurs at this source.
- (b) Material feeding, conveying, and loading operations consisting of the following:
- ~~(1) Three (3) asphalt mix storage silos;~~
(1) Four (4) storage silos, including:
 - (i) Three (3) asphalt mix storage silos; and**
 - (ii) One (1) mineral filler silo.**
 - (2) Raw material storage piles, including:
 - (i) Aggregate storage pile(s), total capacity 50,000 tons;
 - (ii) Reclaimed asphalt pavement (RAP) storage pile(s), total capacity 20,000 tons;
 - (iii) Blast Furnace and/or Steel Slag storage pile(s), total capacity 10,000 tons; and
 - (iv) Recycled asphalt shingles pile(s), total capacity 3,000 tons.
 - (3) ~~Seven (7)~~ **Nine (9)** feed bins, including:
 - (i) ~~Six (6)~~ **Seven (7)** cold feed bins for coarse to fine aggregate; and
 - (ii) ~~One (1)~~ **Two (2)** feed bin for recycled asphalt pavement and recycled shingles.

SECTION E.1

NSPS REQUIREMENTS

Emissions Unit Description: Hot-mix Asphalt Plant

- (a) One (1) hot-mix asphalt drum dryer/mixer, identified as EU-01, constructed in 2004, **approved in 2020 for modification**, with a maximum throughput capacity of ~~350~~ **400** tons of raw material per hour, processing blast furnace slag, steel slag, and asbestos-free recycled asphalt shingles in the aggregate mix, equipped with one (1) 100 million British thermal units (MMBtu) per hour natural gas fired dryer burner, using #2 distillate fuel oil, refinery blend fuel oil, residual fuel oil, and waste oil as backup fuels, equipped with one (1) baghouse for particulate control and exhausting through one (1) stack, identified as stack SV-1. This source produces cold mix asphalt. No grinding of shingles occurs at this source.
- (b) Material feeding, conveying, and loading operations consisting of the following:
 - ~~(1) Three (3) asphalt mix storage silos;~~
(1) Four (4) storage silos, including:
 - (i) Three (3) asphalt mix storage silos; and**
 - (ii) One (1) mineral filler silo.**
 - (2) Raw material storage piles, including:
 - (i) Aggregate storage pile(s), total capacity 50,000 tons;
 - (ii) Reclaimed asphalt pavement (RAP) storage pile(s), total capacity 20,000 tons;
 - (iii) Blast Furnace and/or Steel Slag storage pile(s), total capacity 10,000 tons; and
 - (iv) Recycled asphalt shingles pile(s), total capacity 3,000 tons.
 - (3) ~~Seven (7)~~ **Nine (9)** feed bins, including:
 - (i) ~~Six (6)~~ **Seven (7)** cold feed bins for coarse to fine aggregate; and
 - (ii) ~~One (1)~~ **Two (2)** feed bin for recycled asphalt pavement and recycled shingles.

Conclusion and Recommendation

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant. An application for the purposes of this review was received on July 2, 2020

The construction and operation of this proposed revision shall be subject to the conditions of the attached proposed FESOP Significant Permit Revision No. 003-43035-03281. The staff recommends to the Commissioner that the FESOP Significant Permit Revision be approved.

IDEM Contact

- (a) If you have any questions regarding this permit, please contact William Altman, Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251, or by telephone at (317) 233-9664 or (800) 451-6027, and ask for William Altman or (317) 233-9664.
- (b) A copy of the findings is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM Air Permits page on the Internet at: <http://www.in.gov/idem/airquality/2356.htm>; and the Citizens' Guide to IDEM on the Internet at: <http://www.in.gov/idem/6900.htm>.

**Appendix A.1: Unlimited Emissions Calculations
Entire Source**

Company Name: E & B Paving LLC
Source Address: 7320 Lower Huntington Road, Ft. Wayne, Indiana 46809
Operating Permit Number: F003-30070-03281
Revision Number: 003-43035-03281
Reviewer: William Altman

Drum-mix Asphalt Plant Maximum Capacity

Maximum Hourly Asphalt Production =	400	ton/hr									
Maximum Annual Asphalt Production =	3,504,000	ton/yr									
Maximum Annual Blast Furnace Slag Usage =	1,471,680	ton/yr	1.10	% sulfur							
Maximum Annual Steel Slag Usage =	1,471,680	ton/yr	0.66	% sulfur							
Maximum Dryer Fuel Input Rate =	100.0	MMBtu/hr									
Natural Gas Usage =	876	MMCF/yr									
No. 2 Fuel Oil Usage =	6,257,143	gal/yr, and	0.50	% sulfur							
No. 4 Fuel Oil Usage =	0	gal/yr, and	0	% sulfur							
Refinery Blend / Residual (No. 4, No. 5 or No. 6) Fuel Oil Usage =	6,257,143	gal/yr, and	0.75	% sulfur							
Propane Usage =	0	gal/yr, and	0	gr/100 ft3 sulfur							
Butane Usage =	0	gal/yr, and	0	gr/100 ft3 sulfur							
Used/Waste Oil Usage =	6,257,143	gal/yr, and	1.00	% sulfur	1.00	% ash	0.200	% chlorine,	0.010	% lead	
Diesel Fuel Oil Usage (crusher only) =	134,277	gal/yr.	0.50	% sulfur							
Unlimited PM Dryer/Mixer Emission Factor =	28.0	lb/ton of asphalt production									
Unlimited PM10 Dryer/Mixer Emission Factor =	6.5	lb/ton of asphalt production									
Unlimited PM2.5 Dryer/Mixer Emission Factor =	1.5	lb/ton of asphalt production									
Unlimited VOC Dryer/Mixer Emission Factor =	0.032	lb/ton of asphalt production									
Unlimited CO Dryer/Mixer Emission Factor =	0.13	lb/ton of asphalt production									
Unlimited Blast Furnace Slag SO2 Dryer/Mixer Emission Factor =	0.54	lb/ton of slag processed									
Unlimited Steel Slag SO2 Dryer/Mixer Emission Factor =	0.0014	lb/ton of slag processed									

Unlimited/Uncontrolled Emissions

Process Description	Unlimited/Uncontrolled Potential to Emit (tons/year)									
	Criteria Pollutants							Hazardous Air Pollutants		
	PM	PM10	PM2.5	SO2	NOx	VOC	CO	GHGs as CO2e	Total HAPs	Worst Case HAP
Ducted Emissions										
Dryer Fuel Combustion (worst case)	200.23	159.56	159.56	459.90	147.04	3.13	36.79	78,277.93	45.12	41.30 (hydrogen chloride)
Dryer/Mixer (Process)	49,056.00	11,388.00	2,628.00	101.62	96.36	56.06	227.76	58,257.50	18.68	5.43 (formaldehyde)
Dryer/Mixer Slag Processing	0	0	0	397.35	0	0	0	0	0	0
Hot Oil Heater Fuel Combustion (worst case)	0.01	0.04	0.04	3.42E-03	0.57	0.03	0.48	688.38	0.011	0.010 (hexane)
Crusher Fuel Combustion	2.85	2.85	2.85	2.67	40.56	3.31	8.74	1,513.83	0.036	0.011 (formaldehyde)
Worst Case Emissions*	49,058.86	11,390.89	2,630.89	859.92	188.18	59.41	236.98	80,480.15	45.17	41.30 (hydrogen chloride)
Fugitive Emissions										
Asphalt Load-Out, Silo Filling, On-Site Yard	1.94	1.94	1.94	0	0	30.01	5.05	0	0.50	0.16 (formaldehyde)
Material Storage Piles	5.78	2.02	2.02	0	0	0	0	0	0	0
Material Processing and Handling	11.32	5.35	0.81	0	0	0	0	0	0	0
Material Crushing, Screening, and Conveying	55.59	20.31	20.31	0	0	0	0	0	0	0
Unpaved and Paved Roads (worst case)	94.33	24.04	2.40	0	0	0	0	0	0	0
Cold Mix Asphalt Production	0	0	0	0	0	42,109.32	0	0	10,983.67	3,789.84 (xylenes)
Gasoline Fuel Transfer and Dispensing	0	0	0	0	0	0.74	0	0	0.19	0.07 (xylenes)
Volatile Organic Liquid Storage Vessels	0	0	0	0	0	negl	0	0	negl	0
Total Fugitive Emissions	168.95	53.66	27.48	0.00	0.00	42,140.07	5.05	0	10,984.36	3,789.90 (xylenes)
Totals Unlimited/Uncontrolled PTE	49,227.82	11,444.56	2,658.38	859.92	188.18	42,199.47	242.02	80,480.15	11,029.53	3,789.90 (xylenes)

negl = negligible

Worst Case Fuel Combustion is based on the fuel with the highest emissions for each specific pollutant.

*Worst Case Emissions (tons/yr) = Worst Case Emissions from Dryer Fuel Combustion and Dryer/Mixer + Dryer/Mixer Slag Processing + Worst Case Emissions from Hot Oil Heater Fuel Combustion
Fuel component percentages provided by the source.

Appendix A.1: Unlimited Emissions Calculations
Dryer/Mixer Fuel Combustion with Maximum Capacity ≥ 100 MMBtu/hr

Company Name: E & B Paving LLC
Source Address: 7320 Lower Huntington Road, Ft. Wayne, Indiana 46809
Operating Permit Number: F003-30070-03281
Revision Number: 003-43035-03281
Reviewer: William Altman

The following calculations determine the unlimited/uncontrolled emissions created from the combustion of natural gas, fuel oil, propane, butane, or used/waste oil in the dryer/mixer at the source.

Maximum Capacity

Maximum Hourly Asphalt Production =	400	ton/hr
Maximum Annual Asphalt Production =	3,504,000	ton/yr
Maximum Fuel Input Rate =	100	MMBtu/hr
Natural Gas Usage =	876	MMCF/yr
No. 2 Fuel Oil Usage =	6,257,143	gal/yr, and
	0.50	% sulfur
No. 4 Fuel Oil Usage =	0	gal/yr, and
	0	% sulfur
Refinery Blend / Residual (No. 4, No. 5 or No. 6) Fuel Oil Usage =	6,257,143	gal/yr, and
	0.75	% sulfur
Propane Usage =	0	gal/yr, and
	0	gr/100 ft3 sulfur
Butane Usage =	0	gal/yr, and
	0	gr/100 ft3 sulfur
Used/Waste Oil Usage =	6,257,143	gal/yr, and
	1.00	% sulfur
	1.00	% ash
	0.200	% chlorine,
	0.010	% lead

Unlimited/Uncontrolled Emissions

Criteria Pollutant	Emission Factor (units)							Unlimited/Uncontrolled Potential to Emit (tons/yr)							
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil* (lb/kgal)	Refinery Blend / Residual (No. 4, No. 5 or No. 6) Fuel Oil (lb/kgal)	Propane (lb/kgal)	Butane (lb/kgal)	Used/Waste Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Refinery Blend / Residual (No. 4, No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/Waste Oil (tons/yr)	Worse Case Fuel (tons/yr)
PM	1.9	2.0	7.0	10.1125	0.5	0.6	64.0	0.83	6.26	0	31.64	0	0	200.23	200.23
PM10/PM2.5	7.6	3.3	8.3	11.6125	0.5	0.6	51	3.33	10.32	0	36.33	0	0	159.56	159.56
SO2	0.6	71.0	0	117.8	0	0	147.0	0.26	222.13	0	368.39	0	0	459.90	459.90
NOx	190	24.0	47.0	47.0	13.0	15.0	19.0	83.22	75.09	0	147.04	0	0	59.44	147.04
VOC	5.5	0.20	0.20	0.28	1.00	1.10	1.0	2.41	0.63	0	0.88	0	0	3.13	3.13
CO	84	5.0	5.0	5.0	7.5	8.4	5.0	36.792	15.64	0	15.64	0	0	15.64	36.79
Hazardous Air Pollutant															
HCl							13.2							41.30	41.30
Antimony			5.25E-03	5.25E-03			neq1			0	1.64E-02				0.02
Arsenic	2.0E-04	5.6E-04	1.32E-03	1.32E-03			1.1E-01	8.8E-05	1.75E-03	0	4.13E-03			3.44E-01	0.34
Beryllium	1.2E-05	4.2E-04	2.78E-05	2.78E-05			neq1	5.3E-06	1.31E-03	0	8.70E-05			neq1	1.3E-03
Cadmium	1.1E-03	4.2E-04	3.98E-04	3.98E-04			9.3E-03	4.8E-04	1.31E-03	0	1.25E-03			2.91E-02	0.03
Chromium	1.4E-03	4.2E-04	8.45E-04	8.45E-04			2.0E-02	6.1E-04	1.31E-03	0	2.64E-03			6.26E-02	0.06
Cobalt	8.4E-05		6.02E-03	6.02E-03			2.1E-04	3.7E-05		0	1.88E-02			6.57E-04	0.02
Lead	5.0E-04	1.3E-03	1.51E-03	1.51E-03			0.55	2.2E-04	3.94E-03	0	4.72E-03			1.7E+00	1.72
Manganese	3.8E-04	8.4E-04	3.00E-03	3.00E-03			6.8E-02	1.7E-04	2.83E-03	0	9.39E-03			2.13E-01	0.21
Mercury	2.6E-04	4.2E-04	1.13E-04	1.13E-04				1.1E-04	1.31E-03	0	3.54E-04				1.3E-03
Nickel	2.1E-03	4.2E-04	8.45E-02	8.45E-02			1.1E-02	9.2E-04	1.31E-03	0	2.64E-01			3.44E-02	0.264
Selenium	2.4E-05	2.1E-03	6.83E-04	6.83E-04			neq1	1.1E-05	6.57E-03	0	2.14E-03			neq1	6.6E-03
1,1,1-Trichloroethane			2.36E-04	2.36E-04						0	7.38E-04				7.4E-04
1,3-Butadiene															0
Acetaldehyde															0
Acrolein															0
Benzene	2.1E-03		2.14E-04	2.14E-04				9.2E-04		0	6.70E-04				9.2E-04
Bis(2-ethylhexyl)phthalate							2.2E-03							6.88E-03	6.9E-03
Dichlorobenzene	1.2E-03						8.0E-07	5.3E-04						2.50E-06	5.3E-04
Ethylbenzene			6.36E-05	6.36E-05						0	1.99E-04				2.0E-04
Formaldehyde	7.5E-02	6.10E-02	3.30E-02	3.30E-02				3.3E-02	1.91E-01	0	1.03E-01				0.191
Hexane	1.8E+00							0.79							0.788
Phenol							2.4E-03							7.51E-03	7.5E-03
Toluene	3.4E-03		6.20E-03	6.20E-03				1.5E-03		0	1.94E-02				0.02
Total PAH Haps	neq1		1.13E-03	1.13E-03			3.9E-02	neq1		0	3.54E-03			1.22E-01	0.12
Polycyclic Organic Matter		3.30E-03							1.03E-02						0.01
Xylene			1.09E-04	1.09E-04						0	3.41E-04				3.4E-04
								Total HAPs	0.83	0.22	0	0.45	0	0	43.84
															45.12

Methodology

Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 MMCF/1,000 MMBtu]
 Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.140 MMBtu]
 Propane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.0905 MMBtu]
 Butane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.0974 MMBtu]
 Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Natural Gas Usage (MMCF/yr)] * [Emission Factor (lb/MMCF)] * [ton/2000 lbs]
 All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Fuel Usage (gals/yr)] * [Emission Factor (lb/kgal)] * [kgal/1000 gal] * [ton/2000 lbs]
 Sources of AP-42 Emission Factors for fuel combustion:

- Natural Gas: AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4
- No. 2, No.4, and No.6 Fuel Oil: AP-42 Chapter 1.3 (dated 9/98), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, 1.3-10, and 1.3-11
- Propane and Butane: AP-42 Chapter 1.5 (dated 7/08), Tables 1.5-1 (assuming PM = PM10)
- Waste Oil: AP-42 Chapter 1.11 (dated 10/96), Tables 1.11-1, 1.11-2, 1.11-3, 1.11-4, and 1.11-5
- Diesel Engine Oil: AP-42 Chapter 3.3 (dated 10/96), Tables 3.3-1 and 3.3-2

*Since there are no specific AP-42 HAP emission factors for combustion of No. 4 fuel oil, it was assumed that HAP emissions from combustion of No. 4 fuel oil were equal to combustion of residual or No. 6 fuel oil.

Abbreviations

- PM = Particulate Matter
- PM10 = Particulate Matter (<10 um)
- PM2.5 = Particulate Matter (< 2.5 um)
- SO2 = Sulfur Dioxide
- NOx = Nitrogen Oxides
- VOC = Volatile Organic Compounds
- CO = Carbon Monoxide
- HAP = Hazardous Air Pollutant

**Appendix A.1: Unlimited Emissions Calculations
Greenhouse Gas (CO2e) Emissions from the
Dryer/Mixer Fuel Combustion with Maximum Capacity ≥ 100 MMBtu/hr**

Company Name: E & B Paving LLC
Source Address: 7320 Lower Huntington Road, Ft. Wayne, Indiana 46809
Operating Permit Number: F003-30070-03281
Revision Number: 003-43035-03281
Reviewer: William Altman

The following calculations determine the unlimited/uncontrolled emissions created from the combustion of natural gas, fuel oil, propane, butane, or used/waste oil in the dryer/mixer at the source.

Maximum Capacity

Maximum Hourly Asphalt Production =	400	ton/hr						
Maximum Annual Asphalt Production =	3,504,000	ton/yr						
Maximum Fuel Input Rate =	100	MMBtu/hr						
Natural Gas Usage =	876	MMCF/yr						
No. 2 Fuel Oil Usage =	6,257,143	gal/yr. and	0.50	% sulfur				
No. 4 Fuel Oil Usage =	0	gal/yr. and	0	% sulfur				
Refinery Blend / Residual (No. 4, No. 5 or No. 6) Fuel Oil Usage =	6,257,143	gal/yr. and	0.75	% sulfur				
Propane Usage =	0	gal/yr. and	0	gr/100 ft3 sulfur				
Butane Usage =	0	gal/yr. and	0	gr/100 ft3 sulfur				
Used/Waste Oil Usage =	6,257,143	gal/yr. and	1.00	% sulfur	1.00	% ash	0.200	% chlorine, 0.010 % lead

Unlimited/Uncontrolled Emissions

CO2e Fraction	Emission Factor (units)							Greenhouse Warming Potentials (GWP)		
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil (lb/kgal)	Refinery Blend / Residual (No. 4, No. 5 or No. 6) Fuel Oil (lb/kgal)	Propane (lb/kgal)	Butane (lb/kgal)	Used/Waste Oil (lb/kgal)	Name	Chemical Formula	Global warming potential
CO2	120,161.84	22,501.41	24,153.46	24,835.04	12,500.00	14,506.73	22,024.15	Carbon dioxide	CO ₂	1
CH4	2.49	0.91	0.97	1.00	0.60	0.67	0.89	Methane	CH ₄	21
N2O	2.2	0.26	0.19	0.53	0.9	0.9	0.18	Nitrous oxide	N ₂ O	310

CO2e Fraction	Unlimited/Uncontrolled Potential to Emit (tons/yr)						
	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Refinery Blend / Residual (No. 4, No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/Waste Oil (tons/yr)
CO2	52,630.89	70,397.27	0	77,698.21	0	0	68,904.14
CH4	1.09	2.86	0	3.13	0	0	2.79
N2O	0.96	0.81	0	1.66	0	0	0.56
Total	52,632.94	70,400.94	0	77,703.00	0	0	68,907.49

CO2e for Worst Case Fuel* (tons/yr)
78,277.93

CO2e Equivalent Emissions (tons/yr)	52,952.54	70,709.41	0	78,277.93	0	0	69,137.37
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Methodology

Fuel Usage from TSD Appendix A.1, page 1 of 14.
 Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 MMCF/1,000 MMBtu]
 Fuel Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.140 MMBtu]
 Propane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.0915 MMBtu]
 Butane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.102 MMBtu]
 Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

Abbreviations
 PTE = Potential to Emit
 CO2 = Carbon Dioxide
 CH4 = Methane
 N2O = Nitrogen Dioxide

Sources of Emission Factors for fuel combustion: (Note: To form a conservative estimate, the "worst case" emission factors have been used.)

- Natural Gas: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/MMCF. Emission Factor for N2O from AP-42 Chapter 1.4 (dated 7/98), Table 1.4-2
- No. 2 Fuel Oil: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N2O from AP-42 Chapter 1.3 (dated 9/98), Table 1.3-8
- No.4 Fuel Oil: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N2O from AP-42 Chapter 1.3 (dated 9/98), Table 1.3-8
- Refinery Blend / Residual (No. 5 or No. 6) Fuel Oil: Emission Factor for CO2 from 40 CFR Part 98 Subpart C, Table C-1, has been converted from kg/mmBtu to lb/kgal. Emission Factors for CH4 and N2O from AP-42 Chapter 1.3 (dated 9/98), Table 1.3-8
- Propane: Emission Factor for CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, has been converted from kg/mmBtu to lb/kgal. Emission Factors for CO2 and N2O from AP-42 Chapter 1.5 (dated 7/08), Table 1.5-1
- Butane: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N2O from AP-42 Chapter 1.5 (dated 7/08), Table 1.5-1
- Waste Oil: Emission Factors for CO2, CH4, and N2O from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal.

Emission Factor (EF) Conversions

Natural Gas: EF (lb/MMCF) = [EF (kg/MMBtu)] * Conversion Factor (2.20462 lbs/kg) * Heating Value of Natural Gas (MMBtu/scf) * Conversion Factor (1,000,000 scf/MMCF)]
 Fuel Oils: EF (lb/kgal) = [EF (kg/MMBtu)] * Conversion Factor (2.20462 lbs/kg) * Heating Value of the Fuel Oil (MMBtu/gal) * Conversion Factor (1000 gal/kgal)]
 Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Natural Gas Usage (MMCF/yr)] * [Emission Factor (lb/MMCF)] * [ton/2000 lbs]
 All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Fuel Usage (gals/yr)] * [Emission Factor (lb/kgal)] * [kgal/1000 gal] * [ton/2000 lbs]
 Unlimited Potential to Emit CO2e (tons/yr) = Unlimited Potential to Emit CO2 of "worst case" fuel (ton/yr) x CO2 GWP (1) + Unlimited Potential to Emit CH4 of "worst case" fuel (ton/yr) x CH4 GWP (21) + Unlimited Potential to Emit N2O of "worst case" fuel (ton/yr) x N2O GWP (310).

Refinery Blend / Residual (No. 5 or No. 6) Fuel Oil

**Appendix A.1: Unlimited Emissions Calculations
Dryer/Mixer**

Company Name: E & B Paving LLC
Source Address: 7320 Lower Huntington Road, Ft. Wayne, Indiana 46809
Operating Permit Number: F003-30070-03281
Revision Number: 003-43035-03281
Reviewer: William Altman

The following calculations determine the unlimited/uncontrolled emissions from the aggregate drying/mixing

Maximum Hourly Asphalt Production = ton/hr
 Maximum Annual Asphalt Production = ton/yr

Criteria Pollutant	Uncontrolled Emission Factors (lb/ton)			Unlimited/Uncontrolled Potential to Emit (tons/yr)			Worse Case PTE
	Drum-Mix Plant (dryer/mixer)			Drum-Mix Plant (dryer/mixer)			
	Natural Gas	No. 2 Fuel Oil	Waste Oil	Natural Gas	No. 2 Fuel Oil	Waste Oil	
PM*	28	28	28	49,056.00	49,056.00	49,056.00	49,056.00
PM10*	6.5	6.5	6.5	11,388.00	11,388.00	11,388.00	11,388.00
PM2.5*	1.5	1.5	1.5	2,628.00	2,628.00	2,628.00	2,628.00
SO2**	0.0034	0.011	0.058	5.96	19.27	101.62	101.62
NOx**	0.026	0.055	0.055	45.55	96.36	96.36	96.36
VOC**	0.032	0.032	0.032	56.06	56.06	56.06	56.06
CO***	0.13	0.13	0.13	227.76	227.76	227.76	227.76
Hazardous Air Pollutant							
HCl			2.10E-04			3.68E-01	0.37
Antimony	1.80E-07	1.80E-07	1.80E-07	3.15E-04	3.15E-04	3.15E-04	3.15E-04
Arsenic	5.60E-07	5.60E-07	5.60E-07	9.81E-04	9.81E-04	9.81E-04	9.81E-04
Beryllium	negl	negl	negl	negl	negl	negl	0
Cadmium	4.10E-07	4.10E-07	4.10E-07	7.18E-04	7.18E-04	7.18E-04	7.18E-04
Chromium	5.50E-06	5.50E-06	5.50E-06	9.64E-03	9.64E-03	9.64E-03	9.64E-03
Cobalt	2.60E-08	2.60E-08	2.60E-08	4.56E-05	4.56E-05	4.56E-05	4.56E-05
Lead	6.20E-07	1.50E-05	1.50E-05	1.09E-03	2.63E-02	2.63E-02	0.03
Manganese	7.70E-06	7.70E-06	7.70E-06	1.35E-02	1.35E-02	1.35E-02	0.01
Mercury	2.40E-07	2.60E-06	2.60E-06	4.20E-04	4.56E-03	4.56E-03	4.56E-03
Nickel	6.30E-05	6.30E-05	6.30E-05	0.11	0.11	0.11	0.11
Selenium	3.50E-07	3.50E-07	3.50E-07	6.13E-04	6.13E-04	6.13E-04	6.13E-04
2,2,4 Trimethylpentane	4.00E-05	4.00E-05	4.00E-05	0.07	0.07	0.07	0.07
Acetaldehyde			1.30E-03			2.28	2.28
Acrolein			2.60E-05			4.56E-02	0.05
Benzene	3.90E-04	3.90E-04	3.90E-04	0.68	0.68	0.68	0.68
Ethylbenzene	2.40E-04	2.40E-04	2.40E-04	0.42	0.42	0.42	0.42
Formaldehyde	3.10E-03	3.10E-03	3.10E-03	5.43	5.43	5.43	5.43
Hexane	9.20E-04	9.20E-04	9.20E-04	1.61	1.61	1.61	1.61
Methyl chloroform	4.80E-05	4.80E-05	4.80E-05	0.08	0.08	0.08	0.08
MEK			2.00E-05			0.04	0.04
Propionaldehyde			1.30E-04			0.23	0.23
Quinone			1.60E-04			0.28	0.28
Toluene	1.50E-04	2.90E-03	2.90E-03	0.26	5.08	5.08	5.08
Total PAH Haps	1.90E-04	8.80E-04	8.80E-04	0.33	1.54	1.54	1.54
Xylene	2.00E-04	2.00E-04	2.00E-04	0.35	0.35	0.35	0.35

Total HAPs 18.68

Worst Single HAP 5.43 (formaldehyde)

Methodology

Unlimited/Uncontrolled Potential to Emit (tons/yr) = (Maximum Annual Asphalt Production (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs)
 Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-3, 11.1-7, 11.1-8, 11.1-10, and 11.1-12

Natural gas, No. 2 fuel oil, and waste oil represent the worst possible emissions scenario. AP-42 did not provide emission factors for any other fuels.

* PM, PM10, and PM2.5 AP-42 emission factors based on drum mix dryer fired with natural gas, propane, fuel oil, and waste oil. According to AP-42 fuel type does not significantly effect PM, PM10, and PM2.5 emissions.

** SO2, NOx, and VOC AP-42 emission factors are for natural gas, No. 2 fuel oil, and waste oil only.

*** CO AP-42 emission factor determined by combining data from drum mix dryer fired with natural gas, No. 6 fuel oil, and No. 2 fuel oil to develop single CO emission factor.

Abbreviations

VOC - Volatile Organic Compounds
 HCl = Hydrogen Chloride

SO2 = Sulfur Dioxide
 HAP = Hazardous Air Pollutant

PAH = Polyaromatic Hydrocarbon

**Appendix A.1: Unlimited Emissions Calculations
Greenhouse Gas (CO₂e) Emissions from the
Drum-Mix Plant (Dryer/Mixer) Process Emissions**

Company Name: E & B Paving LLC
Source Address: 7320 Lower Huntington Road, Ft. Wayne, Indiana 46809
Operating Permit Number: F003-30070-03281
Revision Number: 003-43035-03281
Reviewer: William Altman

The following calculations determine the unlimited/uncontrolled emissions from the aggregate drying/mixing

Maximum Hourly Asphalt Production = 400 ton/hr
 Maximum Annual Asphalt Production = 3,504,000 ton/yr

Criteria Pollutant	Emission Factor or Limitation (lb/ton) Drum-Mix Plant (dryer/mixer, controlled by fabric filter)			Greenhouse Gas Global Warming Potentials (GWP)	Unlimited/Uncontrolled Potential to Emit (tons/yr) Drum-Mix Plant (dryer/mixer, controlled by fabric filter)			CO ₂ e for Worst Case Fuel (tons/yr)
	Natural Gas	No. 2 Fuel Oil	Waste Oil		Natural Gas	No. 2 Fuel Oil	Waste Oil	
CO ₂	33	33	33	1	57,816.00	57,816.00	57,816.00	58,257.50
CH ₄	0.0120	0.0120	0.0120	21	21.02	21.02	21.02	
N ₂ O				310	0	0	0	
Total					57,837.02	57,837.02	57,837.02	
CO₂e Equivalent Emissions (tons/yr)					58,257.50	58,257.50	58,257.50	

Methodology

Natural gas, No. 2 fuel oil, and waste oil represent the worst possible emissions scenario. AP-42 did not provide emission factors for any other fuels. Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-7 and 11.1-8

There are no emission factors for N₂O available in either the 40 CFR 98, Subpart C or AP-42 Chapter 11.1. Therefore, it is assumed that there are no N₂O emission anticipated from this process.

Unlimited/Uncontrolled Potential to Emit (tons/yr) = (Maximum Annual Asphalt Production (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs)

Unlimited Potential to Emit CO₂e (tons/yr) = Unlimited Potential to Emit CO₂ of "worst case" fuel (ton/yr) x CO₂ GWP (1) + Unlimited Potential to Emit CH₄ of "worst case" fuel (ton/yr) x CH₄ GWP (21) + Unlimited Potential to Emit N₂O of "worst case" fuel (ton/yr) x N₂O GWP (310).

Abbreviations

CO₂ = Carbon Dioxide

CH₄ = Methane

N₂O = Nitrogen Dioxide

PTE = Potential to Emit

**Appendix A.1: Unlimited Emissions Calculations
Dryer/Mixer Slag Processing**

Company Name: E & B Paving LLC
Source Address: 7320 Lower Huntington Road, Ft. Wayne, Indiana 46809
Operating Permit Number: F003-30070-03281
Revision Number: 003-43035-03281
Reviewer: William Altman

The following calculations determine the unlimited emissions from the processing of slag in the aggregate drying/mixing

Maximum Annual Blast Furnace Slag Usage* =	1,471,680	ton/yr	1.10	% sulfur
Unlimited Blast Furnace Slag SO2 Dryer/Mixer Emission Factor ¹ =	0.540	lb/ton of slag processed		
Maximum Annual Steel Slag Usage* =	1,471,680		0.66	% sulfur
Unlimited Steel Slag SO2 Dryer/Mixer Emission Factor ² =	0.0014	lb/ton of slag processed		

Slag Type	Emission Factor (lb/ton)**	Unlimited Potential to Emit (tons/yr)
Blast Furnace Slag	0.54	397.35
Steel Slag	0.0014	1.03

Methodology

* The maximum annual slag usage was provided by the source.

¹ Testing results for blast furnace slag, obtained January 9, 2009 from similar operations at Rieth-Riley Construction Co., Inc. facility located in Valparaiso, IN (permit #127-27075-05241), produced an Emission Factor of 0.54 lb/ton from blast furnace slag containing 1.10% sulfur content.

² Testing results for steel slag, obtained June 2009 from E & B Paving, Inc. facility located in Huntington, IN. The testing results showed a steel slag emission factor of 0.0007 lb/ton from slag containing 0.33% sulfur content.

Unlimited Potential to Emit SO2 from Slag (tons/yr) = [(Maximum Annual Slag Usage (ton/yr)) * [Emission Factor (lb/ton)] * [ton/2000 lbs]

Abbreviations

SO2 = Sulfur Dioxide

Appendix A.1: Unlimited Emissions Calculations
Hot Oil Heater
Fuel Combustion with Maximum Capacity < 100 MMBtu/hr

Company Name: E & B Paving LLC
Source Address: 7320 Lower Huntington Road, Ft. Wayne, Indiana 46809
Operating Permit Number: F003-30070-03281
Revision Number: 003-43035-03281
Reviewer: William Altman

Maximum Hot Oil Heater Fuel Input Rate = 1.30 MMBtu/hr
 Natural Gas Usage = 11 MMCF/yr
 No. 2 Fuel Oil Usage = 0 gal/yr, and 0.50 % sulfur

Unlimited/Uncontrolled Emissions

Criteria Pollutant	Emission Factor (units)		Unlimited/Uncontrolled Potential to Emit (tons/yr)		Worse Case Fuel (tons/yr)
	Hot Oil Heater		Hot Oil Heater		
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	
PM	1.9	2.0	0.011	0	0.01
PM10/PM2.5	7.6	3.3	0.043	0	0.04
SO2	0.6	71.0	0.003	0	3.42E-03
NOx	100	20.0	0.569	0	0.57
VOC	5.5	0.20	0.031	0	0.03
CO	84	5.0	0.478	0	0.48
Hazardous Air Pollutant					
Arsenic	2.0E-04	5.6E-04	1.1E-06	0	1.1E-06
Beryllium	1.2E-05	4.2E-04	6.8E-08	0	6.8E-08
Cadmium	1.1E-03	4.2E-04	6.3E-06	0	6.3E-06
Chromium	1.4E-03	4.2E-04	8.0E-06	0	8.0E-06
Cobalt	8.4E-05		4.8E-07		4.8E-07
Lead	5.0E-04	1.3E-03	2.8E-06	0	2.8E-06
Manganese	3.8E-04	8.4E-04	2.2E-06	0	2.2E-06
Mercury	2.6E-04	4.2E-04	1.5E-06	0	1.5E-06
Nickel	2.1E-03	4.2E-04	1.2E-05	0	1.2E-05
Selenium	2.4E-05	2.1E-03	1.4E-07	0	1.4E-07
Benzene	2.1E-03		1.2E-05		1.2E-05
Dichlorobenzene	1.2E-03		6.8E-06		6.8E-06
Ethylbenzene					0
Formaldehyde	7.5E-02	6.10E-02	4.3E-04	0	4.3E-04
Hexane	1.8E+00		0.01		0.01
Phenol					0
Toluene	3.4E-03		1.9E-05		1.9E-05
Total PAH Haps	negl		negl		0
Polycyclic Organic Matter		3.30E-03		0	0
Total HAPs =			1.1E-02	0	0.011

Methodology

Equivalent Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 MMCF/1,000 MMBtu]

Equivalent Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.140 MMBtu]

Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Natural Gas Usage (MMCF/yr)] * [Emission Factor (lb/MMCF)] * [ton/2000 lbs]

All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Fuel Usage (gals/yr)] * [Emission Factor (lb/kgal)] * [kgal/1000 gal] * [ton/2000 lbs]

Sources of AP-42 Emission Factors for fuel combustion:

Natural Gas : AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4

No. 2 Fuel Oil: AP-42 Chapter 1.3 (dated 9/98), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, 1.3-10, and 1.3-11

Abbreviations

PM = Particulate Matter
 PM10 = Particulate Matter (<10 um)
 SO2 = Sulfur Dioxide
 NOx = Nitrous Oxides
 VOC - Volatile Organic Compounds

CO = Carbon Monoxide
 HAP = Hazardous Air Pollutant
 HCl = Hydrogen Chloride
 PAH = Polyaromatic Hydrocarbon

**Appendix A.1: Unlimited Emissions Calculations
Greenhouse Gas (CO2e) Emissions from
Fuel Combustion with Maximum Capacity < 100 MMBtu/hr
from the Hot oil Heating System**

Company Name: E & B Paving LLC
Source Address: 7320 Lower Huntington Road, Ft. Wayne, Indiana 46809
Operating Permit Number: F003-30070-03281
Revision Number: 003-43035-03281
Reviewer: William Altman

Maximum Hot Oil Heater Fuel Input Rate =

1.30	MMBtu/hr
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 Natural Gas Usage =

11	MMCF/yr
----	---------

 No. 2 Fuel Oil Usage =

0	gal/yr,
---	---------

0.50	% sulfur
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Unlimited/Uncontrolled Emissions

Criteria Pollutant	Emission Factor (units)		Greenhouse Global Warming Potentials (GWP)	Unlimited/Uncontrolled Potential to Emit (tons/yr)		Worse Case CO2e Emissions (tons/yr)
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)		Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	
CO2	120,161.84	22,501.41	1	684.20	0	688.38
CH4	2.49	0.91	21	0.01	0	
N2O	2.2	0.26	310	0.01	0	
				684.23	0	
CO2e Equivalent Emissions (tons/yr)				688.38	0	

Methodology

Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

Equivalent Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 MMCF/1,000 MMBtu]

Equivalent Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.140 MMBtu]

Sources of Emission Factors for fuel combustion: (Note: To form a conservative estimate, the "worst case" emission factors have been used.)

Natural Gas: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/MMCF. Emission Factor for N2O from AP-42 Chapter 1.4 (dated 7/98),

No. 2 Fuel Oil: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N2O from AP-42 Chapter 1.3 (dated 9/98), Table 1.3-8

Emission Factor (EF) Conversions

Natural Gas: EF (lb/MMCF) = [EF (kg/MMBtu) * Conversion Factor (2.20462 lbs/kg) * Heating Value of Natural Gas (MMBtu/scf) * Conversion Factor (1,000,000 scf/MMCF)]

Fuel Oils: EF (lb/kgal) = [EF (kg/MMBtu) * Conversion Factor (2.20462 lbs/kg) * Heating Value of the Fuel Oil (MMBtu/gal) * Conversion Factor (1000 gal/kgal)]

Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Natural Gas Usage (MMCF/yr)] * [Emission Factor (lb/MMCF)] * [ton/2000 lbs]

All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Fuel Usage (gals/yr)] * [Emission Factor (lb/kgal)] *

Unlimited Potential to Emit CO2e (tons/yr) = Unlimited Potential to Emit CO2 of "worst case" fuel (ton/yr) x CO2 GWP (1) + Unlimited Potential to Emit CH4 of "worst case" fuel (ton/yr) x CH4 GWP (21) + Unlimited Potential to Emit N2O of "worst case" fuel (ton/yr) x

Abbreviations

CO2 = Carbon Dioxide
 CH4 = Methane

N2O = Nitrogen Dioxide
 PTE = Potential to Emit

**Appendix A.1: Unlimited Emissions Calculations
 Reciprocating Internal Combustion Engines
 Diesel Fuel-fired Portable Crusher
 Output Rating (<= 600 HP)
 Maximum Input Rate (<= 4.2 MMBtu/hr)**

Company Name: E & B Paving LLC
Source Address: 7320 Lower Huntington Road, Ft. Wayne, Indiana 46809
Operating Permit Number: F003-30070-03281
Revision Number: 003-43035-03281
Reviewer: William Altman

Emissions calculated based on output rating (hp)

Output Horsepower Rating (hp) = 300.0
 Maximum Operating Hours per Year = 8760
 Unlimited Potential Throughput (hp-hr/yr) = 2,628,000
 Unlimited Potential Diesel Engine Oil Usage = 134,277 gal/yr, and 0.50 % sulfur

	Criteria Pollutants						
	PM*	PM10*	PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/kgal	42.47	42.47	42.47	39.73	604.17	49.32	130.15
Potential Emission in tons/yr	2.85	2.85	2.85	2.67	40.56	3.31	8.74

*PM and PM2.5 emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

	Hazardous Air Pollutants (HAPs)							
	Benzene	Toluene	Xylene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Total PAH HAPs***
Emission Factor in lb/kgal****	1.28E-01	5.60E-02	3.90E-02	5.36E-03	1.62E-01	1.05E-01	1.27E-02	2.30E-02
Potential Emission in tons/yr	8.58E-03	3.76E-03	2.62E-03	3.60E-04	0.011	7.05E-03	8.51E-04	1.55E-03

***PAH = Polyaromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)

****Emission factors in lb/MMBtu were converted to lb/kgal using the heating value of diesel fuel oil (137,000 Btu/gal) as taken from AP 42 Appendix A (09/85), page A-5.

Potential Emission of Total Combined HAPs (tons/yr)	0.036
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Notes

Constant: 1 kilogallon (kgal) = 1000 gallons (gal)

The heating value of Diesel fuel oil is 137,000 Btu/gal as taken from AP 42 Appendix A (09/85), page A-5.

Emission Factors for Diesel Fuel Oil combustion are from AP 42 - 3.3 Gasoline and Diesel Industrial Engines (Supplement B 10/96), Tables 3.3-1 and 3.3-2

Methodology

Potential Throughput (hp-hr/yr) = Output Horsepower Rating (hp) * Maximum Operating Hours per Year

Unlimited Potential Diesel Engine Oil Usage (gal/yr) = [(Potential Throughput (hp-hr/yr) * average brake specific fuel consumption of 7,000 Btu/hp-hr) / 137,000 Btu/gal]

Unlimited Potential to Emit (tons/yr) = [(Unlimited Potential Diesel Engine Oil Usage (gal/yr)) * Emission Factor (lb/kgal)] / (1000 gal/kgal * 2,000 lb/ton)

**ATSD Appendix A.1: Unlimited Emissions Calculations
Greenhouse Gas (CO₂e) Emissions from the
Diesel Fuel-fired Portable Crusher
Reciprocating Internal Combustion Engines
Output Rating (<= 600 HP)
Maximum Input Rate (<= 4.2 MMBtu/hr)**

Company Name: E & B Paving LLC
Source Address: 7320 Lower Huntington Road, Ft. Wayne, Indiana 46809
Operating Permit Number: F003-30070-03281
Revision Number: 003-43035-03281
Reviewer: William Altman

Emissions calculated based on output rating (hp)

Output Horsepower Rating (hp)	300.0
Maximum Operating Hours per Year	8760
Potential Throughput (hp-hr/yr)	2,628,000
Diesel Engine Oil Usage ¹ =	134,277 gal/yr, and
	0.50 % sulfur

Greenhouse Warming Potentials (GWP)		
Name	Chemical Formula	Global warming potential
Carbon dioxide	CO ₂	1
Methane	CH ₄	21
Nitrous oxide	N ₂ O	310

	Unlimited/Uncontrolled Potential to Emit (tons/yr)		
	CO ₂	CH ₄	N ₂ O
Emission Factor in lb/kgal	22,472.92	0.91	0.18
Potential Emission in tons/yr	1,508.80	0.061	0.012
Summed Potential Emissions in tons/yr	1,508.88		
CO ₂ e Equivalent Emissions (tons/yr)	1,513.83		

Notes

Constant: 1 kilogallon (kgal) = 1000 gallons (gal)

The heating value of Diesel fuel oil is 137,000 Btu/gal as taken from AP 42 Appendix A (09/85), page A-5.

Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

Sources of Emission Factors for fuel combustion: (Note: To form a conservative estimate, the "worst case" emission factors have been used.)

Diesel Engine Oil: Emission Factor for CO₂ from AP-42 Chapter 3.3 (dated 10/96), Table 3.3-1, has been converted from lb/MMBtu to lb/kgal. Emission Factors for CH₄ and N₂O from 40 CFR Part 98 Subpart C, Table C-2, have been converted from kg/mmBtu to lb/kgal.

Emission Factor (EF) Conversion

for CO₂: EF (lb/kgal) = [EF (lb/MMBtu) x average heating value of diesel (19,300 Btu/lb) x Conversion Factor (1/1,000,000 MMBtu/Btu) x density of diesel (7.1 lb/gal) x Conversion Factor (1,000 gal/kgal)]

for CH₄ & N₂O: EF (lb/kgal) = [EF (kg/MMBtu) * Conversion Factor (2.20462 lbs/kg) * Heating Value of the Fuel Oil (MMBtu/gal) * Conversion Factor (1000 gal/kgal)]

Methodology

Potential Throughput (hp-hr/yr) = Output Horsepower Rating (hp) * Maximum Operating Hours per Year

Unlimited Potential Diesel Engine Oil Usage (gal/yr) = [(Potential Throughput (hp-hr/yr) * average brake specific fuel consumption of 7,000 Btu/hp-hr) / 137,000 Btu/gal]

Unlimited Potential to Emit (tons/yr) = [(Unlimited Potential Diesel Engine Oil Usage (gal/yr)) * Emission Factor (lb/kgal)] / (1000 gal/kgal * 2,000 lb/ton)]

Unlimited Potential to Emit CO₂e (tons/yr) = Unlimited Potential to Emit CO₂ (ton/yr) x CO₂ GWP (1) + Unlimited Potential to Emit CH₄ (ton/yr) x CH₄ GWP (21) + Unlimited Potential to Emit N₂O (ton/yr) x N₂O GWP (310).

**Appendix A.1: Unlimited Emissions Calculations
Asphalt Load-Out, Silo Filling, and Yard Emissions**

Company Name: E & B Paving LLC
Source Address: 7320 Lower Huntington Road, Ft. Wayne, Indiana 46809
Operating Permit Number: F003-30070-03281
Revision Number: 003-43035-03281
Reviewer: William Altman

The following calculations determine the unlimited/uncontrolled fugitive emissions from hot asphalt mix load-out, silo filling, and on-site yard for a drum mix hot mix asphalt plant

Asphalt Temperature, T =	325	F
Asphalt Volatility Factor, V =	-0.5	
Maximum Annual Asphalt Production =	3,504,000	tons/yr

Pollutant	Emission Factor (lb/ton asphalt)			Unlimited/Uncontrolled Potential to Emit (tons/yr)			
	Load-Out	Silo Filling	On-Site Yard	Load-Out	Silo Filling	On-Site Yard	Total
Total PM*	5.2E-04	5.9E-04	NA	0.91	1.03	NA	1.94
Organic PM	3.4E-04	2.5E-04	NA	0.60	0.445	NA	1.04
TOC	0.004	0.012	0.001	7.29	21.35	1.927	30.6
CO	0.001	0.001	3.5E-04	2.36	2.067	0.617	5.05

NA = Not Applicable (no AP-42 Emission Factor)

PM/HAPs	0.042	0.050	0	0.093
VOC/HAPs	0.108	0.272	0.028	0.408
non-VOC/HAPs	5.6E-04	5.8E-05	1.5E-04	7.7E-04
non-VOC/non-HAPs	0.53	0.30	0.14	0.97

Total VOCs	6.85	21.35	1.8	30.0
Total HAPs	0.15	0.32	0.029	0.50
	Worst Single HAP			0.155
				(formaldehyde)

Methodology

The asphalt temperature and volatility factor were provided by the source.

Unlimited/Uncontrolled Potential to Emit (tons/yr) = (Maximum Annual Asphalt Production (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs)
 Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-14, 11.1-15, and 11.1-16

Plant Load-Out Emission Factor Equations (AP-42 Table 11.1-14):

Total PM/PM10/PM2.5 Ef = $0.000181 + 0.00141(-V)e^{((0.0251)(T+460)-20.43)}$
 Organic PM Ef = $0.00141(-V)e^{((0.0251)(T+460)-20.43)}$
 TOC Ef = $0.0172(-V)e^{((0.0251)(T+460)-20.43)}$
 CO Ef = $0.00558(-V)e^{((0.0251)(T+460)-20.43)}$

Silo Filling Emission Factor Equations (AP-42 Table 11.1-14):

PM/PM10 Ef = $0.000332 + 0.00105(-V)e^{((0.0251)(T+460)-20.43)}$
 Organic PM Ef = $0.00105(-V)e^{((0.0251)(T+460)-20.43)}$
 TOC Ef = $0.0504(-V)e^{((0.0251)(T+460)-20.43)}$
 CO Ef = $0.00488(-V)e^{((0.0251)(T+460)-20.43)}$

On Site Yard CO emissions estimated by multiplying the TOC emissions by 0.32

*No emission factors available for PM10 or PM2.5, therefore IDEM assumes PM10 and PM2.5 are equivalent to Total PM.

Abbreviations

TOC = Total Organic Compounds
 CO = Carbon Monoxide
 PM = Particulate Matter

PM10 = Particulate Matter (<10 um)
 PM2.5 = Particulate Matter (<2.5 um)

HAP = Hazardous Air Pollutant
 VOC = Volatile Organic Compound

**Appendix A.1: Unlimited Emissions Calculations
Asphalt Load-Out, Silo Filling, and Yard Emissions (continued)**

Company Name: E & B Paving LLC
Source Address: 7320 Lower Huntington Road, Ft. Wayne, Indiana 46809
Operating Permit Number: F003-30070-03281
Revision Number: 003-43035-03281
Reviewer: William Altman

Organic Particulate-Based Compounds (Table 11.1-15)

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Unlimited/Uncontrolled Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of Total Organic PM)	Silo Filling and Asphalt Storage Tank (% by weight of Total Organic PM)	Load-out	Silo Filling	Onsite Yard	Total
PAH HAPs										
Acenaphthene	83-32-9	PM/HAP	POM	Organic PM	0.26%	0.47%	1.6E-03	2.1E-03	NA	3.6E-03
Acenaphthylene	208-96-8	PM/HAP	POM	Organic PM	0.028%	0.014%	1.7E-04	6.2E-05	NA	2.3E-04
Anthracene	120-12-7	PM/HAP	POM	Organic PM	0.07%	0.13%	4.2E-04	5.8E-04	NA	1.0E-03
Benzo(a)anthracene	56-55-3	PM/HAP	POM	Organic PM	0.019%	0.056%	1.1E-04	2.5E-04	NA	3.6E-04
Benzo(b)fluoranthene	205-99-2	PM/HAP	POM	Organic PM	0.0076%	0	4.5E-05	0	NA	4.5E-05
Benzo(k)fluoranthene	207-08-9	PM/HAP	POM	Organic PM	0.0022%	0	1.3E-05	0	NA	1.3E-05
Benzo(g,h,i)perylene	191-24-2	PM/HAP	POM	Organic PM	0.0019%	0	1.1E-05	0	NA	1.1E-05
Benzo(a)pyrene	50-32-8	PM/HAP	POM	Organic PM	0.0023%	0	1.4E-05	0	NA	1.4E-05
Benzo(e)pyrene	192-97-2	PM/HAP	POM	Organic PM	0.0078%	0.0095%	4.7E-05	4.2E-05	NA	8.9E-05
Chrysene	218-01-9	PM/HAP	POM	Organic PM	0.103%	0.21%	6.2E-04	9.3E-04	NA	1.5E-03
Dibenz(a,h)anthracene	53-70-3	PM/HAP	POM	Organic PM	0.00037%	0	2.2E-06	0	NA	2.2E-06
Fluoranthene	206-44-0	PM/HAP	POM	Organic PM	0.05%	0.15%	3.0E-04		NA	3.0E-04
Fluorene	86-73-7	PM/HAP	POM	Organic PM	0.77%	1.01%	4.6E-03	4.5E-03	NA	9.1E-03
Indeno(1,2,3-cd)pyrene	193-39-5	PM/HAP	POM	Organic PM	0.00047%	0	2.8E-06	0	NA	2.8E-06
2-Methylnaphthalene	91-57-6	PM/HAP	POM	Organic PM	2.38%	5.27%	1.4E-02	2.3E-02	NA	0.038
Naphthalene	91-20-3	PM/HAP	POM	Organic PM	1.25%	1.82%	7.5E-03	8.1E-03	NA	1.6E-02
Perylene	198-55-0	PM/HAP	POM	Organic PM	0.022%	0.03%	1.3E-04	1.3E-04	NA	2.6E-04
Phenanthrene	85-01-8	PM/HAP	POM	Organic PM	0.81%	1.80%	4.8E-03	8.0E-03	NA	1.3E-02
Pyrene	129-00-0	PM/HAP	POM	Organic PM	0.15%	0.44%	9.0E-04	2.0E-03	NA	2.9E-03
Total PAH HAPs							0.035	0.050	NA	0.086
Other semi-volatile HAPs										
Phenol		PM/HAP	---	Organic PM	1.18%	0	7.0E-03	0	0	7.0E-03

NA = Not Applicable (no AP-42 Emission Factor)

Methodology

Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Speciation Profile (%)] * [Organic PM (tons/yr)]

Speciation Profiles from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-15 and 11.1-16

Abbreviations

PM = Particulate Matter

HAP = Hazardous Air Pollutant

POM = Polycyclic Organic Matter

**Appendix A.1: Unlimited Emissions Calculations
Asphalt Load-Out, Silo Filling, and Yard Emissions (continued)**

Organic Volatile-Based Compounds (Table 11.1-16)

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Unlimited/Uncontrolled Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of TOC)	Silo Filling and Asphalt Storage Tank (% by weight of TOC)	Load-out	Silo Filling	Onsite Yard	Total
VOC		VOC	---	TOC	94%	100%	6.85	21.35	1.81	30.01
non-VOC/non-HAPS										
Methane	74-82-8	non-VOC/non-HAP	---	TOC	6.50%	0.26%	4.7E-01	5.6E-02	1.3E-01	0.654
Acetone	67-64-1	non-VOC/non-HAP	---	TOC	0.046%	0.055%	3.4E-03	1.2E-02	8.9E-04	0.016
Ethylene	74-85-1	non-VOC/non-HAP	---	TOC	0.71%	1.10%	5.2E-02	2.3E-01	1.4E-02	0.300
Total non-VOC/non-HAPS					7.30%	1.40%	0.532	0.299	0.141	0.97
Volatile organic HAPs										
Benzene	71-43-2	VOC/HAP	---	TOC	0.052%	0.032%	3.8E-03	6.8E-03	1.0E-03	1.2E-02
Bromomethane	74-83-9	VOC/HAP	---	TOC	0.0096%	0.0049%	7.0E-04	1.0E-03	1.9E-04	1.9E-03
2-Butanone	78-93-3	VOC/HAP	---	TOC	0.049%	0.039%	3.6E-03	8.3E-03	9.4E-04	1.3E-02
Carbon Disulfide	75-15-0	VOC/HAP	---	TOC	0.013%	0.016%	9.5E-04	3.4E-03	2.5E-04	4.6E-03
Chloroethane	75-00-3	VOC/HAP	---	TOC	0.00021%	0.004%	1.5E-05	8.5E-04	4.0E-06	8.7E-04
Chloromethane	74-87-3	VOC/HAP	---	TOC	0.015%	0.023%	1.1E-03	4.9E-03	2.9E-04	6.3E-03
Cumene	92-82-8	VOC/HAP	---	TOC	0.11%	0	8.0E-03	0	2.1E-03	1.0E-02
Ethylbenzene	100-41-4	VOC/HAP	---	TOC	0.28%	0.038%	2.0E-02	8.1E-03	5.4E-03	0.034
Formaldehyde	50-00-0	VOC/HAP	---	TOC	0.088%	0.69%	6.4E-03	1.5E-01	1.7E-03	0.155
n-Hexane	100-54-3	VOC/HAP	---	TOC	0.15%	0.10%	1.1E-02	2.1E-02	2.9E-03	0.035
Isooctane	540-84-1	VOC/HAP	---	TOC	0.0018%	0.00031%	1.3E-04	6.6E-05	3.5E-05	2.3E-04
Methylene Chloride	75-09-2	non-VOC/HAP	---	TOC	0	0.00027%	0	5.8E-05	0	5.8E-05
MTBE	1634-04-4	VOC/HAP	---	TOC	0	0	0	0	0	0
Styrene	100-42-5	VOC/HAP	---	TOC	0.0073%	0.0054%	5.3E-04	1.2E-03	1.4E-04	1.8E-03
Tetrachloroethene	127-18-4	non-VOC/HAP	---	TOC	0.0077%	0	5.6E-04	0	1.5E-04	7.1E-04
Toluene	100-88-3	VOC/HAP	---	TOC	0.21%	0.062%	1.5E-02	1.3E-02	4.0E-03	0.033
1,1,1-Trichloroethane	71-55-6	VOC/HAP	---	TOC	0	0	0	0	0	0
Trichloroethene	79-01-6	VOC/HAP	---	TOC	0	0	0	0	0	0
Trichlorofluoromethane	75-69-4	VOC/HAP	---	TOC	0.0013%	0	9.5E-05	0	2.5E-05	1.2E-04
m-/p-Xylene	1330-20-7	VOC/HAP	---	TOC	0.41%	0.20%	3.0E-02	4.3E-02	7.9E-03	0.080
o-Xylene	95-47-6	VOC/HAP	---	TOC	0.08%	0.057%	5.8E-03	1.2E-02	1.5E-03	2.0E-02
Total volatile organic HAPs					1.50%	1.30%	0.109	0.278	0.029	0.416

Methodology

Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Speciation Profile (%)] * [TOC (tons/yr)]
Speciation Profiles from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-15 and 11.1-16

Abbreviations

TOC = Total Organic Compounds
HAP = Hazardous Air Pollutant
VOC = Volatile Organic Compound
MTBE = Methyl tert butyl ether

Appendix A.1: Unlimited Emissions Calculations Material Storage Piles

Company Name: E & B Paving LLC
Source Address: 7320 Lower Huntington Road,
 Ft. Wayne, Indiana 46809
Operating Permit Number: F003-30070-03281
Revision Number: 003-43035-03281
Reviewer: William Altman

The following calculations determine the amount of emissions created by wind erosion of storage stockpiles, based on 8,760 hours of use and USEPA's AP-42 (Pre 1983 Edition), Section 11.2.3.

$$E_f = 1.7 * (s/1.5) * (365-p) / 235 * (f/15)$$

where E_f = emission factor (lb/acre/day)
 s = silt content (wt %)
 p = 125 days of rain greater than or equal to 0.01 inches
 f = 15 % of wind greater than or equal to 12 mph

Material	Silt Content (wt %)*	Emission Factor (lb/acre/day)	Maximum Anticipated Pile Size (acres)**	PTE of PM (tons/yr)	PTE of PM10/PM2.5 (tons/yr)
Sand	2.6	3.01	2.78	1.527	0.534
Limestone	1.6	1.85	6.89	2.329	0.815
RAP	0.5	0.58	2.75	0.290	0.102
Gravel	1.6	1.85	0	0	0
Slag	3.8	4.40	1.57	1.260	0.441
Shingles	3.8	4.40	0.46	0.369	0.129
Totals				5.78	2.02

Methodology

PTE of PM (tons/yr) = (Emission Factor (lb/acre/day)) * (Maximum Pile Size (acres)) * (ton/2000 lbs) * (8760 hours/yr)

PTE of PM10/PM2.5 (tons/yr) = (Potential PM Emissions (tons/yr)) * 35%

*Silt content values obtained from AP-42 Table 13.2.4-1 (dated 1/95)

**Maximum anticipated pile size (acres) provided by the source.

PM2.5 = PM10

Abbreviations

PM = Particulate Matter

PM10 = Particulate Matter (<10 um)

PM2.5 = Particulate Matter (<2.5 um)

PTE = Potential to Emit

RAP - recycled asphalt pavement

**Appendix A.1: Unlimited Emissions Calculations
Material Processing, Handling, Crushing, Screening, and Conveying**

Company Name: E & B Paving LLC
Source Address: 7320 Lower Huntington Road, Ft. Wayne, Indiana 46809
Operating Permit Number: F003-30070-03281
Revision Number: 003-43035-03281
Reviewer: William Altman

Batch or Continuous Drop Operations (AP-42 Section 13.2.4)

To estimate potential fugitive dust emissions from processing and handling of raw materials (batch or continuous drop operations), AP-42 emission factors for Aggregate Handling, Section 13.2.4 (fifth edition, 1/95) are utilized.

$$E_f = k * (0.0032) * [(U/5)^{1.3} / (M/2)^{1.4}]$$
 where: E_f = Emission factor (lb/ton)
 k (PM) = 0.74 = particle size multiplier (0.74 assumed for aerodynamic diameter <=100 um)
 k (PM10) = 0.35 = particle size multiplier (0.35 assumed for aerodynamic diameter <=10 um)
 k (PM2.5) = 0.053 = particle size multiplier (0.053 assumed for aerodynamic diameter <=2.5 um)
 U = 10.2 = worst case annual mean wind speed (Source: NOAA, 2006*)
 M = 4.0 = material % moisture content of aggregate (Source: AP-42 Section 11.1.1.1)
 E_f (PM) = 2.27E-03 lb PM/ton of material handled
 E_f (PM10) = 1.07E-03 lb PM10/ton of material handled
 E_f (PM2.5) = 1.62E-04 lb PM2.5/ton of material handled

Maximum Annual Asphalt Production = 3,504,000 tons/yr
 Percent Asphalt Cement/Binder (weight %) = 5.0%
 Maximum Material Handling Throughput = 3,328,800 tons/yr

Type of Activity	Unlimited/Uncontrolled PTE of PM (tons/yr)	Unlimited/Uncontrolled PTE of PM10 (tons/yr)	Unlimited/Uncontrolled PTE of PM2.5 (tons/yr)
Truck unloading of materials into storage piles	3.77	1.78	0.27
Front-end loader dumping of materials into feeder bins	3.77	1.78	0.27
Conveyor dropping material into dryer/mixer or batch tower	3.77	1.78	0.27
Total (tons/yr)	11.32	5.35	0.81

Methodology

The percent asphalt cement/binder provided by the source.
 Maximum Material Handling Throughput (tons/yr) = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]
 Unlimited Potential to Emit (tons/yr) = (Maximum Material Handling Throughput (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs)
 Raw materials may include limestone, sand, recycled asphalt pavement (RAP), gravel, slag, and other additives
 *Worst case annual mean wind speed (Indianapolis, IN) from "Comparative Climatic Data", National Climatic Data Center, NOAA, 2006

Material Screening and Conveying (AP-42 Section 11.19.2)

To estimate potential fugitive dust emissions from raw material crushing, screening, and conveying, AP-42 emission factors for Crushed Stone Processing Operations, Section 11.19.2 (dated 8/04) are utilized.

Operation	Uncontrolled Emission Factor for PM (lbs/ton)*	Uncontrolled Emission Factor for PM10 (lbs/ton)*	Unlimited/Uncontrolled PTE of PM (tons/yr)	Unlimited/Uncontrolled PTE of PM10/PM2.5 (tons/yr)**
Crushing	0.0054	0.0024	8.99	3.99
Screening	0.025	0.0087	41.61	14.48
Conveying	0.003	0.0011	4.99	1.83
Unlimited Potential to Emit (tons/yr) =			55.59	20.31

Methodology

Maximum Material Handling Throughput (tons/yr) = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]
 Unlimited Potential to Emit (tons/yr) = [Maximum Material Handling Throughput (tons/yr)] * [Emission Factor (lb/ton)] * [ton/2000 lbs]
 Raw materials may include stone/gravel, slag, and recycled asphalt pavement (RAP)
 Emission Factors from AP-42 Chapter 11.19.2 (dated 8/04), Table 11.19.2-2
 *Uncontrolled emissions factors for PM/PM10 represent tertiary crushing of stone with moisture content ranging from 0.21 to 1.3 percent by weight (Table 11.19.2-2). The bulk moisture content of aggregate in the storage piles at a hot mix asphalt production plant typically stabilizes between 3 to 5 percent by weight (Source: AP-42 Section 11.1.1.1).
 **Assumes PM10 = PM2.5

Abbreviations

PM = Particulate Matter
 PM10 = Particulate Matter (<10 um)
 PM2.5 = Particulate matter (< 2.5 um)
 PTE = Potential to Emit

**Appendix A.1: Unlimited Emissions Calculations
Unpaved Roads**

Company Name: E & B Paving LLC
Source Address: 7320 Lower Huntington Road, Ft. Wayne, Indiana 46809
Operating Permit Number: F003-30070-03281
Revision Number: 003-43035-03281
Reviewer: William Altman

Unpaved Roads at Industrial Site

The following calculations determine the amount of emissions created by unpaved roads, based on 8,760 hours of use and AP-42, Ch 13.2.2 (12/2003).

Maximum Annual Asphalt Production = 3,504,000 tons/yr
 Percent Asphalt Cement/Binder (weight %) = 5.0%
 Maximum Material Handling Throughput = 3,328,800 tons/yr
 Maximum Asphalt Cement/Binder Throughput = 175,200 tons/yr
 Maximum No. 2 Fuel Oil Usage = 6,257,143 gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per year (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	17.0	22.4	39.4	1.5E+05	5.9E+06	300	0.057	8,443.6
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.0	1.5E+05	2.5E+06	300	0.057	8,443.6
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.0	4.9E+03	2.3E+05	300	0.057	276.5
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	4.9E+03	5.8E+04	300	0.057	276.5
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.0	6.6E+02	2.9E+04	300	0.057	37.6
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	6.6E+02	7.9E+03	300	0.057	37.6
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.2	7.9E+05	1.5E+07	200	0.038	30,021.6
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.0	7.9E+05	1.2E+07	200	0.038	30,021.6
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.0	1.5E+05	6.0E+06	300	0.057	8,295.5
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.0	1.5E+05	2.5E+06	300	0.057	8,295.5
Total					2.2E+06	4.4E+07			9.4E+04

Average Vehicle Weight Per Trip = 20.3 tons/trip
 Average Miles Per Trip = 0.043 miles/trip

Unmitigated Emission Factor, Ef = $k \cdot [(s/12)^a] \cdot [(W/3)^b]$ (Equation 1a from AP-42 13.2.2)

	PM	PM10	PM2.5	
where k =	4.9	1.5	0.15	lb/mi = particle size multiplier (AP-42 Table 13.2.2-2 for Industrial Roads)
s =	4.8	4.8	4.8	% = mean % silt content of unpaved roads (AP-42 Table 13.2.2-3 Sand/Gravel Processing Plant Road)
a =	0.7	0.9	0.9	= constant (AP-42 Table 13.2.2-2)
W =	20.3	20.3	20.3	tons = average vehicle weight (provided by source)
b =	0.45	0.45	0.45	= constant (AP-42 Table 13.2.2-2)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, Eext = $E \cdot [(365 - P)/365]$

Mitigated Emission Factor, Eext = $E \cdot [(365 - P)/365]$
 where P = 125 days of rain greater than or equal to 0.01 inches (see Fig. 13.2.2-1)

	PM	PM10	PM2.5	
Unmitigated Emission Factor, Ef =	6.09	1.55	0.16	lb/mile
Mitigated Emission Factor, Eext =	4.01	1.02	0.10	lb/mile
Dust Control Efficiency =	50%	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	25.73	6.56	0.66	16.92	4.31	0.43	8.46	2.16	0.22
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	25.73	6.56	0.66	16.92	4.31	0.43	8.46	2.16	0.22
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.843	0.215	0.02	0.554	0.141	0.01	0.277	0.071	0.01
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.843	0.215	0.02	0.554	0.141	0.01	0.277	0.071	0.01
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0.114	0.029	0.003	0.075	0.019	0.002	0.038	0.010	0.001
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0.114	0.029	0.003	0.075	0.019	0.002	0.038	0.010	0.001
Aggregate/RAP Loader Full	Front-end loader (3 CY)	91.49	23.32	2.33	60.16	15.33	1.53	30.08	7.67	0.77
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	91.49	23.32	2.33	60.16	15.33	1.53	30.08	7.67	0.77
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	25.28	6.44	0.64	16.62	4.24	0.42	8.31	2.12	0.21
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	25.28	6.44	0.64	16.62	4.24	0.42	8.31	2.12	0.21
Totals		286.91	73.12	7.31	188.65	48.08	4.81	94.33	24.04	2.40

Methodology

Maximum Material Handling Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]
 Maximum Asphalt Cement/Binder Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [Percent Asphalt Cement/Binder (weight %)]
 Maximum Weight of Vehicle and Load (tons/trip) = [Maximum Weight of Vehicle (tons/trip)] + [Maximum Weight of Load (tons/trip)]
 Maximum trips per year (trip/yr) = [Throughput (tons/yr)] / [Maximum Weight of Load (tons/trip)]
 Total Weight driven per year (ton/yr) = [Maximum Weight of Vehicle and Load (tons/trip)] * [Maximum trips per year (trip/yr)]
 Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip)] / [5280 ft/mile]
 Maximum one-way miles (miles/yr) = [Maximum trips per year (trip/yr)] * [Maximum one-way distance (mi/trip)]
 Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per year (ton/yr)] / SUM[Maximum trips per year (trip/yr)]
 Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/yr)] / SUM[Maximum trips per year (trip/yr)]
 Unmitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Unmitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
 Mitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Mitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
 Controlled PTE (tons/yr) = (Mitigated PTE (tons/yr)) * (1 - Dust Control Efficiency)

Abbreviations

PM = Particulate Matter
 PM10 = Particulate Matter (<10 um)
 PM2.5 = Particulate Matter (<2.5 um)
 PM2.5 = PM10
 PTE = Potential to Emit

**Appendix A: Unlimited Emissions Calculations
Paved Roads**

Company Name: E & B Paving LLC
Source Address: 7320 Lower Huntington Road, Ft. Wayne, Indiana 46809
Operating Permit Number: F003-30070-03281
Revision Number: 003-43035-03281
Reviewer: William Altman

Paved Roads at Industrial Site

The following calculations determine the amount of emissions created by paved roads, based on 8,760 hours of use and AP-42, Ch 13.2.1 (12/2003).

Maximum Annual Asphalt Production =	3,504,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	3,328,800	tons/yr
Maximum Asphalt Cement/Binder Throughput =	175,200	tons/yr
Maximum No. 2 Fuel Oil Usage =	6,257,143	gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per day (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	17.0	22.4	39.40	1.5E+05	5.9E+06	400	0.076	11258.1
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.00	1.5E+05	2.5E+06	400	0.076	11258.1
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.00	4.9E+03	2.3E+05	500	0.095	460.9
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	4.9E+03	5.8E+04	500	0.095	460.9
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.00	6.6E+02	2.9E+04	500	0.095	62.6
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	6.6E+02	7.9E+03	500	0.095	62.6
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.20	7.9E+05	1.5E+07	300	0.057	45032.5
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.00	7.9E+05	1.2E+07	300	0.057	45032.5
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.00	1.5E+05	6.0E+06	500	0.095	13825.8
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.00	1.5E+05	2.5E+06	500	0.095	13825.8
Total						2.2E+06	4.4E+07		1.4E+05

Average Vehicle Weight Per Trip =	20.3	tons/trip
Average Miles Per Trip =	0.065	miles/trip

Unmitigated Emission Factor, Ef = [k * (sL)^{0.91} * (W)^{1.02}] (Equation 1 from AP-42 13.2.1)

	PM	PM10	PM2.5	
where k =	0.011	0.0022	0.00054	lb/VMT = particle size multiplier (AP-42 Table 13.2.1-1)
W =	20.3	20.3	20.3	tons = average vehicle weight (provided by source)
sL =	0.6	0.6	0.6	g/m ² = Ubiquitous Baseline Silt Loading Values of paved roads (Table 13.2.1-3 for summer months)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, Eext = E * [1 - (p/4N)]

Mitigated Emission Factor, Eext =	Ef * [1 - (p/4N)]
where p =	125 days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)
N =	365 days per year

	PM	PM10	PM2.5	
Unmitigated Emission Factor, Ef =	0.149	0.030	0.007	lb/mile
Mitigated Emission Factor, Eext =	0.136	0.027	0.007	lb/mile
Dust Control Efficiency =	50%	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	0.84	0.17	0.04	0.77	0.15	0.04	0.38	0.08	0.02
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	0.84	0.17	0.04	0.77	0.15	0.04	0.38	0.08	0.02
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.034	0.007	1.7E-03	0.031	0.006	1.5E-03	0.016	3.1E-03	7.7E-04
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.034	0.007	1.7E-03	0.031	0.006	1.5E-03	0.016	3.1E-03	7.7E-04
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	4.7E-03	9.3E-04	2.3E-04	4.3E-03	8.5E-04	2.1E-04	2.1E-03	4.3E-04	1.0E-04
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	4.7E-03	9.3E-04	2.3E-04	4.3E-03	8.5E-04	2.1E-04	2.1E-03	4.3E-04	1.0E-04
Aggregate/RAP Loader Full	Front-end loader (3 CY)	3.35	0.67	0.16	3.06	0.61	0.15	1.53	0.31	0.08
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	3.35	0.67	0.16	3.06	0.61	0.15	1.53	0.31	0.08
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	1.03	0.21	0.05	0.94	0.19	0.05	0.47	0.09	0.02
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	1.03	0.21	0.05	0.94	0.19	0.05	0.47	0.09	0.02
Totals		10.51	2.10	0.52	9.61	1.92	0.47	4.80	0.96	0.24

Methodology

Maximum Material Handling Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]
 Maximum Asphalt Cement/Binder Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [Percent Asphalt Cement/Binder (weight %)]
 Maximum Weight of Vehicle and Load (tons/trip) = [Maximum Weight of Vehicle (tons/trip)] + [Maximum Weight of Load (tons/trip)]
 Maximum trips per year (trip/yr) = [Throughput (tons/yr)] / [Maximum Weight of Load (tons/trip)]
 Total Weight driven per year (ton/yr) = [Maximum Weight of Vehicle and Load (tons/trip)] * [Maximum trips per year (trip/yr)]
 Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip)] / [5280 ft/mile]
 Maximum one-way miles (miles/yr) = [Maximum trips per year (trip/yr)] * [Maximum one-way distance (mi/trip)]
 Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per year (ton/yr)] / SUM[Maximum trips per year (trip/yr)]
 Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/yr)] / SUM[Maximum trips per year (trip/yr)]
 Unmitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Unmitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
 Mitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Mitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
 Controlled PTE (tons/yr) = (Mitigated PTE (tons/yr)) * (1 - Dust Control Efficiency)
 PM2.5 = PM10

Abbreviations

PM = Particulate Matter
 PM10 = Particulate Matter (<10 um)
 PM2.5 = Particulate Matter (<2.5 um)
 PTE = Potential to Emit

**Appendix A.1: Unlimited Emissions Calculations
Cold Mix Asphalt Production and Stockpiles**

Company Name: E & B Paving LLC
Source Address: 7320 Lower Huntington Road, Ft. Wayne, Indiana 46809
Operating Permit Number: F003-30070-03281
Revision Number: 003-43035-03281
Reviewer: William Altman

The following calculations determine the amount of VOC and HAP emissions created from volatilization of solvent used as diluent in the liquid binder for cold mix asphalt production

Maximum Annual Asphalt Production = 3,504,000 tons/yr
 Percent Asphalt Cement/Binder (weight %) = 5.0%
 Maximum Asphalt Cement/Binder Throughput = 175,200 tons/yr

Volatile Organic Compounds

	Maximum weight % of VOC solvent in binder*	Weight % VOC solvent in binder that evaporates	Maximum VOC Solvent Usage (tons/yr)	PTE of VOC (tons/yr)
Cut back asphalt rapid cure (assuming gasoline or naphtha solvent)	25.3%	95.0%	44,325.60	42,109.32
Cut back asphalt medium cure (assuming kerosene solvent)	28.6%	70.0%	50,107.20	35,075.04
Cut back asphalt slow cure (assuming fuel oil solvent)	20.0%	25.0%	35,040.00	8,760.00
Emulsified asphalt with solvent (assuming water, emulsifying agent, and 15% fuel oil solvent)	15.0%	46.4%	26,280.00	12,193.92
Other asphalt with solvent binder	25.9%	2.5%	45,376.80	1,134.42
Worst Case PTE of VOC =				42,109.32

Hazardous Air Pollutants

Worst Case Total HAP Content of VOC solvent (weight %)* =	26.08%
Worst Case Single HAP Content of VOC solvent (weight %)* =	9.0% Xylenes
PTE of Total HAPs (tons/yr) =	10,983.67
PTE of Single HAP (tons/yr) =	3,789.84 Xylenes

Hazardous Air Pollutant (HAP) Content (% by weight) For Various Petroleum Solvents*

Volatile Organic HAP	CAS#	Hazardous Air Pollutant (HAP) Content (% by weight)* For Various Petroleum Solvents				
		Gasoline	Kerosene	Diesel (#2) Fuel Oil	No. 2 Fuel Oil	No. 6 Fuel Oil
1,3-Butadiene	106-99-0	3.70E-5%				
2,2,4-Trimethylpentane	540-84-1	2.40%				
Acenaphthene	83-32-9		4.70E-5%		1.80E-4%	
Acenaphthylene	208-96-8		4.50E-5%		6.00E-5%	
Anthracene	120-12-7		1.20E-6%	5.80E-5%	2.80E-5%	5.00E-5%
Benzene	71-43-2	1.90%		2.90E-4%		
Benzo(a)anthracene	56-55-3			9.60E-7%	4.50E-7%	5.50E-4%
Benzo(a)pyrene	50-32-8			2.20E-6%	2.10E-7%	4.40E-5%
Benzo(g,h,i)perylene	191-24-2			1.20E-7%	5.70E-8%	
Biphenyl	92-52-4			6.30E-4%	7.20E-5%	
Chrysene	218-01-9			4.50E-7%	1.40E-6%	6.90E-4%
Ethylbenzene	100-41-4	1.70%		0.07%	3.40E-4%	
Fluoranthene	206-44-0		7.10E-6%	5.90E-5%	1.40E-5%	2.40E-4%
Fluorene	86-73-7		4.20E-5%	8.60E-4%	1.90E-4%	
Indeno(1,2,3-cd)pyrene	193-39-5			1.60E-7%		1.00E-4%
Methyl-tert-butylether	1634-04-4	0.33%				
Naphthalene	91-20-3	0.25%	0.31%	0.26%	0.22%	4.20E-5%
n-Hexane	110-54-3	2.40%				
Phenanthrene	85-01-8		8.60E-6%	8.80E-4%	7.90E-4%	2.10E-4%
Pyrene	129-00-0		2.40E-6%	4.60E-5%	2.90E-5%	2.30E-5%
Toluene	108-88-3	8.10%		0.18%	6.20E-4%	
Total Xylenes	1330-20-7	9.00%		0.50%	0.23%	
Total Organic HAPs		26.08%	0.33%	1.29%	0.68%	0.19%
Worst Single HAP		9.00%	0.31%	0.50%	0.23%	0.07%
		Xylenes	Naphthalene	Xylenes	Xylenes	Chrysene

Methodology

Maximum Asphalt Cement/Binder Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [Percent Asphalt Cement/Binder (weight %)]
 Maximum VOC Solvent Usage (tons/yr) = [Maximum Asphalt Cement/Binder Throughput (tons/yr)] * [Maximum Weight % of VOC Solvent in Binder]
 PTE of VOC (tons/yr) = [Weight % VOC solvent in binder that evaporates] * [Maximum VOC Solvent Usage (tons/yr)]
 PTE of Total HAPs (tons/yr) = [Worst Case Total HAP Content of VOC solvent (weight %)] * [Worst Case Limited PTE of VOC (tons/yr)]
 PTE of Single HAP (tons/yr) = [Worst Case Single HAP Content of VOC solvent (weight %)] * [Worst Case Limited PTE of VOC (tons/yr)]
 *Source: Petroleum Liquids. Potter, T.L. and K.E. Simmons. 1998. Total Petroleum Hydrocarbon Criteria Working Group Series, Volume 2. Composition of Petroleum Mixtures. The Association for Environmental Health and Science. Available on the Internet at: <http://www.aehs.com/publications/catalog/contents/tp.htm>

Abbreviations

VOC = Volatile Organic Compounds

PTE = Potential to Emit

**Appendix A.1: Unlimited Emissions Calculations
Gasoline Fuel Transfer and Dispensing Operation**

Company Name: E & B Paving LLC
Source Address: 7320 Lower Huntington Road, Ft. Wayne, Indiana 46809
Operating Permit Number: F003-30070-03281
Revision Number: 003-43035-03281
Reviewer: William Altman

To calculate evaporative emissions from the gasoline dispensing fuel transfer and dispensing operation handling emission factors from AP-42 Table 5.2-7 were used. The total potential emission of VOC is as follows:

$$\begin{aligned} \text{Gasoline Throughput} &= \frac{1,300}{474.5} \text{ gallons/day} \\ &= \text{kgal/yr} \end{aligned}$$

Volatile Organic Compounds

Emission Source	Emission Factor (lb/kgal of throughput)	PTE of VOC (tons/yr)*
Filling storage tank (balanced submerged filling)	0.3	0.07
Tank breathing and emptying	1.0	0.24
Vehicle refueling (displaced losses - controlled)	1.1	0.26
Spillage	0.7	0.17
Total		0.74

Hazardous Air Pollutants

Worst Case Total HAP Content of VOC solvent (weight %)* =	26.08%
Worst Case Single HAP Content of VOC solvent (weight %)* =	9.0% Xylenes
Limited PTE of Total HAPs (tons/yr) =	0.19
Limited PTE of Single HAP (tons/yr) =	0.07 Xylenes

Methodology

The gasoline throughput was provided by the source.

Gasoline Throughput (kgal/yr) = [Gasoline Throughput (lbs/day)] * [365 days/yr] * [kgal/1000 gal]

PTE of VOC (tons/yr) = [Gasoline Throughput (kgal/yr)] * [Emission Factor (lb/kgal)] * [ton/2000 lb]

PTE of Total HAPs (tons/yr) = [Worst Case Total HAP Content of VOC solvent (weight %)] * [PTE of VOC (tons/yr)]

PTE of Single HAP (tons/yr) = [Worst Case Single HAP Content of VOC solvent (weight %)] * [PTE of VOC (tons/yr)]

*Source: Petroleum Liquids. Potter, T.L. and K.E. Simmons. 1998. Total Petroleum Hydrocarbon Criteria Working Group Series, Volume 2. Composition of Petroleum Mixtures. The Association for Environmental Health and Science. Available on the Internet at: <http://www.aehs.com/publications/catalog/contents/tph.htm>

Abbreviations

VOC = Volatile Organic Compounds

PTE = Potential to Emit

**Appendix A.2: Limited Emissions Summary
Entire Source**

Company Name: E & B Paving LLC
Source Address: 7320 Lower Huntington Road, Ft. Wayne, Indiana 46809
Operating Permit Number: F003-30070-03281
Revision Number: 003-43035-03281
Reviewer: William Altman

Asphalt Plant Limitations

Maximum Hourly Asphalt Production =	400	ton/hr										
Annual Asphalt Production Limitation =	700,000	ton/yr										
Blast Furnace Slag Usage Limitation =	67,500	ton/yr	1.10	% sulfur								
Steel Slag Usage =	700,000		0.66	% sulfur								
Natural Gas Limitation =	494	MMCF/yr										
No. 2 Fuel Oil Limitation =	864,007	gal/yr, and	0.50	% sulfur								
No. 4 Fuel Oil Limitation =	0	gal/yr, and	0	% sulfur								
Refinery Blend / Residual (No. 4, No. 5, or No. 6) Fuel Oil Limitation =	520,973	gal/yr, and	0.75	% sulfur								
Propane Limitation =	0	gal/yr, and	0	gr/100 ft3 sulfur								
Butane Limitation =	0	gal/yr, and	0	gr/100 ft3 sulfur								
Used/Waste Oil Limitation =	417,310	gal/yr, and	1.00	% sulfur	1.00	% ash	0.200	% chlorine	0.010	% lead		
Diesel Fuel Oil Limitation =	5,000	gal/yr, and	0.50	% sulfur								
PM Dryer/Mixer Limitation =	0.246	lb/ton of asphalt production										
PM10 Dryer/Mixer Limitation =	0.105	lb/ton of asphalt production										
PM2.5 Dryer/Mixer Limitation =	0.120	lb/ton of asphalt production										
VOC Dryer/Mixer Limitation =	0.032	lb/ton of asphalt production										
CO Dryer/Mixer Limitation =	0.130	lb/ton of asphalt production										
Blast Furnace Slag SO2 Dryer/Mixer Limitation =	0.540	lb/ton of slag processed										
Steel Slag SO2 Dryer/Mixer Limitation =	0.0014	lb/ton of slag processed										
Cold Mix Asphalt VOC Usage Limitation =	31.11	tons/yr										
HCl Limitation =	13.20	lb/kgal										

Limited/Controlled Emissions

Process Description	Limited/Controlled Potential Emissions (tons/year)									
	Criteria Pollutants							Hazardous Air Pollutants		
	PM	PM10	PM2.5	SO2	NOx	VOC	CO	GHGs as CO2e	Total HAPs	Worst Case HAP
Ducted Emissions										
Dryer Fuel Combustion (worst case)	13.35	10.64	10.64	30.67	46.92	1.36	20.74	29,855.11	3.42	2.75 (hydrogen chloride)
Dryer/Mixer (Process)	86.12	36.62	41.85	20.30	19.25	11.20	45.50	11,638.20	3.73	1.09 (formaldehyde)
Dryer/Mixer Slag Processing (worst case)	0	0	0	18.23	0	0	0	0	0	0
Hot Oil Heater Fuel Combustion (worst case)	0.01	0.04	0.04	3.42E-03	0.57	0.03	0.48	688.38	0.011	0.010 (hexane)
Crusher Fuel Combustion	0.11	0.11	0.11	0.10	1.51	0.12	0.33	56.37	1.33E-03	4.04E-04 (formaldehyde)
Worst Case Emissions*	86.24	36.77	42.00	49.00	49.00	11.35	46.30	30,599.86	3.74	2.75 (hydrogen chloride)
Fugitive Emissions										
Asphalt Load-Out, Silo Filling, On-Site Yard	0.39	0.39	0.39	0	0	6.00	1.01	0	0.10	0.03 (formaldehyde)
Material Storage Piles	5.78	2.02	2.02	0	0	0	0	0	0	0
Material Processing and Handling	2.26	1.07	0.16	0	0	0	0	0	0	0
Material Crushing, Screening, and Conveying	11.11	4.06	4.06	0	0	0	0	0	0	0
Unpaved and Paved Roads (worst case)	18.84	4.80	0.48	0	0	0	0	0	0	0
Cold Mix Asphalt Production	0	0	0	0	0	31.11	0	0	8.12	2.80 (xylenes)
Gasoline Fuel Transfer and Dispensing	0	0	0	0	0	0.74	0	0	0.19	0.07 (xylenes)
Volatile Organic Liquid Storage Vessels	0	0	0	0	0	negl	0	0	negl	negl
Total Fugitive Emissions	38.37	12.34	7.11	0	0	37.84	1.01	0	8.41	2.87 (xylenes)
Totals Limited/Controlled Emissions	124.61	49.11	49.11	49.00	49.00	49.20	47.31	30,599.86	12.15	2.87 (xylenes)

negl = negligible

Worst Case Fuel Combustion is based on the fuel with the highest emissions for each specific pollutant.

*Worst Case Emissions (tons/yr) = Worst Case Emissions from Dryer Fuel Combustion and Dryer/Mixer + Dryer/Mixer Slag Processing + Worst Case Emissions from Hot Oil Heater Fuel Combustion
 Fuel component percentages provided by the source.

Appendix A.2: Limited Emissions Calculations
Dryer/Mixer Fuel Combustion with Maximum Capacity ≥ 100 MMBtu/hr

Company Name: E & B Paving LLC
Source Address: 7320 Lower Huntington Road, Ft. Wayne, Indiana 46809
Operating Permit Number: F003-30070-03281
Revision Number: 003-43035-03281
Reviewer: William Altman

The following calculations determine the limited emissions created from the combustion of natural gas, fuel oil, propane, butane, or used/waste oil in the dryer/mixer and all other fuel combustion sources at the source.

Production and Fuel Limitations

Maximum Hourly Asphalt Production =	400	ton/hr
Annual Asphalt Production Limitation =	700,000	ton/yr
Natural Gas Limitation =	494	MMCF/yr
No. 2 Fuel Oil Limitation =	864,007	gal/yr, and
No. 4 Fuel Oil Limitation =	0	0.50 % sulfur
Refinery Blend / Residual (No. 4, No. 5, or No. 6) Fuel Oil Limitation =	0	0 % sulfur
Propane Limitation =	520,973	gal/yr, and
Butane Limitation =	0	0.75 % sulfur
Used/Waste Oil Limitation =	0	0 gr/100 ft3 sulfur
	0	0 gr/100 ft3 sulfur
	417,310	gal/yr, and
		1.00 % sulfur
		1.00 % ash
		0.200 % chlorine
		0.010 % lead

Limited Emissions

Criteria Pollutant	Emission Factor (units)							Limited Potential to Emit (tons/yr)							
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil* (lb/kgal)	Refinery Blend / Residual (No. 4, No. 5, or No. 6) Fuel Oil (lb/kgal)	Propane (lb/kgal)	Butane (lb/kgal)	Used/Waste Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Refinery Blend / Residual (No. 4, No. 5, or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/Waste Oil (tons/yr)	Worse Case Fuel (tons/yr)
PM	1.9	2	7	10.1125	0.5	0.6	64	0.47	0.86	0	2.63	0	0	13.35	13.35
PM10	7.6	3.3	8.3	11.6125	0.5	0.6	51	1.88	1.43	0	3.02	0	0	10.64	10.64
SO2	0.6	71.0	0	117.8	0	0	147.0	0.15	30.67	0	30.67	0	0	30.67	30.67
NOx	190	24.0	47.0	47.0	13.0	15.0	19.0	46.92	10.37	0	12.24	0	0	3.96	46.92
VOC	5.5	0.20	0.20	0.28	1.00	1.10	1.0	1.36	0.09	0	0.07	0	0	0.21	1.36
CO	84	5.0	5.0	5.0	7.5	8.4	5.0	20.74	2.16	0	1.30	0	0	1.04	20.74
Hazardous Air Pollutant															
HCl							13.2							2.75	2.75
Antimony			5.25E-03	5.25E-03			negl			0	1.37E-03			negl	1.4E-03
Arsenic	2.0E-04	5.6E-04	1.32E-03	1.32E-03			1.1E-01	4.9E-05	2.42E-04	0	3.44E-04			2.30E-02	2.3E-02
Beryllium	1.2E-05	4.2E-04	2.78E-05	2.78E-05			negl	3.0E-06	1.81E-04	0	7.24E-06			negl	1.8E-04
Cadmium	1.1E-03	4.2E-04	3.98E-04	3.98E-04			9.3E-03	2.7E-04	1.81E-04	0	1.04E-04			1.94E-03	1.9E-03
Chromium	1.4E-03	4.2E-04	8.45E-04	8.45E-04			2.0E-02	3.5E-04	1.81E-04	0	2.20E-04			4.17E-03	4.2E-03
Cobalt	8.4E-05	6.02E-03	6.02E-03	6.02E-03			2.1E-04	2.1E-05		0	1.57E-03			4.38E-05	1.6E-03
Lead	5.0E-04	1.3E-03	1.51E-03	1.51E-03			0.55	1.2E-04	5.44E-04	0	3.93E-04			1.1E-01	0.11
Manganese	3.8E-04	8.4E-04	3.00E-03	3.00E-03			6.8E-02	9.4E-05	3.63E-04	0	7.81E-04			1.42E-02	0.01
Mercury	2.6E-04	4.2E-04	1.13E-04	1.13E-04				6.4E-05	1.81E-04	0	2.94E-05				1.8E-04
Nickel	2.1E-03	4.2E-04	8.45E-02	8.45E-02			1.1E-02	5.2E-04	1.81E-04	0	2.20E-02			2.30E-03	0.022
Selenium	2.4E-05	2.1E-03	6.83E-04	6.83E-04			negl	5.9E-06	9.07E-04	0	1.78E-04			negl	9.1E-04
1,1,1-Trichloroethane			2.36E-04	2.36E-04						0	6.15E-05				6.1E-05
1,3-Butadiene															0.0E+00
Acetaldehyde															0.0E+00
Acrolein															0.0E+00
Benzene	2.1E-03		2.14E-04	2.14E-04				5.2E-04		0	5.57E-05				5.2E-04
Bis(2-ethylhexyl)phthalate							2.2E-03							4.59E-04	4.6E-04
Dichlorobenzene	1.2E-03						8.0E-07	3.0E-04						1.67E-07	3.0E-04
Ethylbenzene			6.36E-05	6.36E-05						0	1.66E-05				1.7E-05
Formaldehyde	7.5E-02	6.10E-02	3.30E-02	3.30E-02				1.9E-02	2.64E-02	0	8.60E-03				0.026
Hexane	1.8E+00							0.44							0.445
Phenol							2.4E-03							5.01E-04	5.0E-04
Toluene	3.4E-03		6.20E-03	6.20E-03				8.4E-04		0	1.62E-03				1.6E-03
Total PAH Haps	negl		1.13E-03	1.13E-03			3.9E-02	negl		0	2.94E-04			8.16E-03	8.2E-03
Polycyclic Organic Matter		3.30E-03							1.43E-03						1.4E-03
Xylene			1.09E-04	1.09E-04						0	2.84E-05				2.8E-05
Total HAPs								0.47	0.03	0	0.04	0	0	2.92	3.42

Methodology

Natural Gas: Limited Potential to Emit (tons/yr) = (Natural Gas Limitation (MMCF/yr)) * (Emission Factor (lb/MMCF)) * (ton/2000 lbs)
 All Other Fuels: Limited Potential to Emit (tons/yr) = (Fuel Limitation (gals/yr)) * (Emission Factor (lb/kgal)) * (kgal/1000 gal) * (ton/2000 lbs)
 Sources of AP-42 Emission Factors for fuel combustion:

- Natural Gas : AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4
- No. 2, No.4, and No.6 Fuel Oil: AP-42 Chapter 1.3 (dated 9/98), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, 1.3-10, and 1.3-11
- Propane and Butane: AP-42 Chapter 1.5 (dated 7/08), Tables 1.5-1 (assuming PM = PM10)
- Waste Oil: AP-42 Chapter 1.11 (dated 10/96), Tables 1.11-1, 1.11-2, 1.11-3, 1.11-4, and 1.11-5

Abbreviations

- PM = Particulate Matter
- PM10 = Particulate Matter (<10 um)
- SO2 = Sulfur Dioxide
- NOx = Nitrous Oxides
- VOC = Volatile Organic Compounds
- CO = Carbon Monoxide
- HAP = Hazardous Air Pollutant
- HCl = Hydrogen Chloride
- PAH = Polyaromatic Hydrocarbon

*Since there are no specific AP-42 HAP emission factors for combustion of No. 4 fuel oil, it was assumed that HAP emissions from combustion of No. 4 fuel oil were equal to combustion of residual or No. 6 fuel oil.

**Appendix A.2: Limited Emissions Calculations
Greenhouse Gas (CO2e) Emissions from the
Dryer/Mixer Fuel Combustion with Maximum Capacity ≥ 100 MMBtu/hr**

Company Name: E & B Paving LLC
Source Address: 7320 Lower Huntington Road, Ft. Wayne, Indiana 46809
Operating Permit Number: F003-30070-03281
Revision Number: 003-43035-03281
Reviewer: William Altman

The following calculations determine the limited emissions created from the combustion of natural gas, fuel oil, propane, butane, or used/waste oil in the dryer/mixer and all other fuel combustion sources at the source.

Production and Fuel Limitations

Maximum Hourly Asphalt Production =	400	ton/hr								
Annual Asphalt Production Limitation =	700,000	ton/yr								
Natural Gas Limitation =	494	MMCF/yr								
No. 2 Fuel Oil Limitation =	864,007	gal/yr, and	0.50	% sulfur						
No. 4 Fuel Oil Limitation =	0	gal/yr, and	0	% sulfur						
Refinery Blend / Residual (No. 4, No. 5, or No. 6) Fuel Oil Limitation =	520,973	gal/yr, and	0.75	% sulfur						
Propane Limitation =	0	gal/yr, and	0	gr/100 ft3 sulfur						
Butane Limitation =	0	gal/yr, and	0	gr/100 ft3 sulfur						
Used/Waste Oil Limitation =	417,310	gal/yr, and	1.00	% sulfur	1.00	% ash	0.200	% chlorine,	0.010	% lead

Limited Emissions

CO2e Fraction	Emission Factor (units)							Greenhouse Warming Potentials (GWP)		
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil (lb/kgal)	Refinery Blend / Residual (No.4, No. 5, or No. 6) Fuel Oil (lb/kgal)	Propane (lb/kgal)	Butane (lb/kgal)	Used/Waste Oil (lb/kgal)	Name	Chemical Formula	Global warming potential
CO2	120,161.84	22,501.41	24,153.46	24,835.04	12,500.00	14,506.73	22,024.15	Carbon dioxide	CO ₂	1
CH4	2.49	0.91	0.97	1.00	0.60	0.67	0.89	Methane	CH ₄	21
N2O	2.20	0.26	0.19	0.53	0.90	0.90	0.18	Nitrous oxide	N ₂ O	310

CO2e Fraction	Limited Potential to Emit (tons/yr)						
	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Refinery Blend / Residual (No. 4, No. 5, or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/Waste Oil (tons/yr)
CO2	29,673.76	9,720.69	0	6,469	0	0	4,595.45
CH4	0.62	0.39	0	0	0	0	0.19
N2O	0.54	0.11	0	0	0	0	0.04
Total	29,674.92	9,721.20	0	6,470	0	0	4,595.67
CO2e Equivalent Emissions (tons/yr)	29,855.11	9,763.79	0	6,517	0	0	4,611.00

CO2e for Worst Case Fuel* (tons/yr)
29,855.11

Natural Gas

Methodology

Fuel Limitations from TSD Appendix A.2, page 1 of 15.
Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Sources of Emission Factors for fuel combustion: (Note: To form a conservative estimate, the "worst case" emission factors have been used.)
Natural Gas: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/MMCF. Emission Factor for N2O from AP-42 Chapter 1.4 (dated 7/98), Table 1.4-2
No. 2 Fuel Oil: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N2O from AP-42 Chapter 1.3 (dated 9/98), Table 1.3-8
No. 4 Fuel Oil: Emission Factors for CO2, CH4, and N2O from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal.
Refinery Blend / Residual Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N2O from AP-42 Chapter 1.3 (No. 5 or No. 6) Fuel Oil: (dated 9/98), Table 1.3-8
Propane and Butane: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N2O from AP-42 Chapter 1.5 (dated 7/08), Table 1.5-1
Waste Oil: Emission Factors for CO2, CH4, and N2O from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal.

Emission Factor (EF) Conversions

Natural Gas: EF (lb/MMCF) = [EF (kg/MMBtu) * Conversion Factor (2.20462 lbs/kg) * Heating Value of Natural Gas (MMBtu/scf) * Conversion Factor (1,000,000 scf/MMCF)]
Fuel Oils: EF (lb/kgal) = [EF (kg/MMBtu) * Conversion Factor (2.20462 lbs/kg) * Heating Value of the Fuel Oil (MMBtu/gal) * Conversion Factor (1000 gal/kgal)]

Natural Gas: Limited Potential to Emit (tons/yr) = (Natural Gas Limitation (MMCF/yr)) * (Emission Factor (lb/MMCF)) * (ton/2000 lbs)

All Other Fuels: Limited Potential to Emit (tons/yr) = (Fuel Limitation (gals/yr)) * (Emission Factor (lb/kgal)) * (kgal/1000 gal) * (ton/2000 lbs)

Limited CO2e Emissions (tons/yr) = CO2 Potential Emission of "worst case" fuel (ton/yr) x CO2 GWP (1) + CH4 Potential Emission of "worst case" fuel (ton/yr) x CH4 GWP (21) + N2O Potential Emission of "worst case" fuel (ton/yr) x N2O GWP (310).

Abbreviations

CH4 = Methane

CO2 = Carbon Dioxide

N2O = Nitrogen Dioxide

PTE = Potential to Emit

**Appendix A.2: Limited Emissions Calculations
Dryer/Mixer**

Company Name: E & B Paving LLC
Source Address: 7320 Lower Huntington Road, Ft. Wayne, Indiana 46809
Operating Permit Number: F003-30070-03281
Revision Number: 003-43035-03281
Reviewer: William Altman

The following calculations determine the limited emissions from the aggregate drying/mixing

Maximum Hourly Asphalt Production =	400	ton/hr
Annual Asphalt Production Limitation =	700,000	ton/yr
PM Dryer/Mixer Limitation =	0.246	lb/ton of asphalt production
PM10 Dryer/Mixer Limitation =	0.105	lb/ton of asphalt production
PM2.5 Dryer/Mixer Limitation =	0.120	lb/ton of asphalt production
CO Dryer/Mixer Limitation =	0.130	lb/ton of asphalt production
VOC Dryer/Mixer Limitation =	0.032	lb/ton of asphalt production

Criteria Pollutant	Emission Factor or Limitation (lb/ton)			Limited/Controlled Potential to Emit (tons/yr)			Worse Case PTE
	Drum-Mix Plant (dryer/mixer, controlled by fabric filter)			Drum-Mix Plant (dryer/mixer, controlled by fabric filter)			
	Natural Gas	No. 2 Fuel Oil	Waste Oil	Natural Gas	No. 2 Fuel Oil	Waste Oil	
PM*	0.246	0.246	0.246	86.1	86.1	86.1	86.1
PM10*	0.105	0.105	0.105	36.6	36.6	36.6	36.6
PM2.5*	0.120	0.120	0.120	41.8	41.8	41.8	41.8
SO2**	0.003	0.011	0.058	1.2	3.9	20.3	20.3
NOx**	0.026	0.055	0.055	9.1	19.3	19.3	19.3
VOC**	0.032	0.032	0.032	11.2	11.2	11.2	11.2
CO***	0.130	0.130	0.130	45.5	45.5	45.5	45.5
Hazardous Air Pollutant							
HCl			2.10E-04			0.07	0.07
Antimony	1.80E-07	1.80E-07	1.80E-07	6.30E-05	6.30E-05	6.30E-05	6.30E-05
Arsenic	5.60E-07	5.60E-07	5.60E-07	1.96E-04	1.96E-04	1.96E-04	1.96E-04
Beryllium	negl	negl	negl	negl	negl	negl	0
Cadmium	4.10E-07	4.10E-07	4.10E-07	1.44E-04	1.44E-04	1.44E-04	1.44E-04
Chromium	5.50E-06	5.50E-06	5.50E-06	1.93E-03	1.93E-03	1.93E-03	1.93E-03
Cobalt	2.60E-08	2.60E-08	2.60E-08	9.10E-06	9.10E-06	9.10E-06	9.10E-06
Lead	6.20E-07	1.50E-05	1.50E-05	2.17E-04	5.25E-03	5.25E-03	5.25E-03
Manganese	7.70E-06	7.70E-06	7.70E-06	2.70E-03	2.70E-03	2.70E-03	2.70E-03
Mercury	2.40E-07	2.60E-06	2.60E-06	8.40E-05	9.10E-04	9.10E-04	9.10E-04
Nickel	6.30E-05	6.30E-05	6.30E-05	2.21E-02	2.21E-02	2.21E-02	2.21E-02
Selenium	3.50E-07	3.50E-07	3.50E-07	1.23E-04	1.23E-04	1.23E-04	1.23E-04
2,2,4 Trimethylpentane	4.00E-05	4.00E-05	4.00E-05	1.40E-02	1.40E-02	1.40E-02	1.40E-02
Acetaldehyde			1.30E-03			0.46	0.46
Acrolein			2.60E-05			9.10E-03	9.10E-03
Benzene	3.90E-04	3.90E-04	3.90E-04	0.14	0.14	0.14	0.14
Ethylbenzene	2.40E-04	2.40E-04	2.40E-04	0.08	0.08	0.08	0.08
Formaldehyde	3.10E-03	3.10E-03	3.10E-03	1.09	1.09	1.09	1.09
Hexane	9.20E-04	9.20E-04	9.20E-04	0.32	0.32	0.32	0.32
Methyl chloroform	4.80E-05	4.80E-05	4.80E-05	0.02	0.02	0.02	0.02
MEK			2.00E-05			0.01	0.01
Propionaldehyde			1.30E-04			0.05	0.05
Quinone			1.60E-04			0.06	0.06
Toluene	1.50E-04	2.90E-03	2.90E-03	0.05	1.02	1.02	1.02
Total PAH Haps	1.90E-04	8.80E-04	8.80E-04	0.07	0.31	0.31	0.31
Xylene	2.00E-04	2.00E-04	2.00E-04	0.07	0.07	0.07	0.07
				Total HAPs			3.73
				Worst Single HAP			1.085 (formaldehyde)

Methodology

Limited/Controlled Potential to Emit (tons/yr) = (Annual Asphalt Production Limitation (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs)
Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-3, 11.1-4, 11.1-7, 11.1-8, 11.1-10, and 11.1-12

Natural gas, No. 2 fuel oil, and waste oil represent the worst possible emissions scenario. AP-42 did not provide emission factors for any other fuels.

* PM, PM10, and PM2.5 AP-42 emission factors based on drum mix dryer fired with natural gas, propane, fuel oil, and waste oil. According to AP-42 fuel type does not significantly effect PM, PM10, and PM2.5 emissions.

** SO2, NOx, and VOC AP-42 emission factors are for natural gas, No. 2 fuel oil, and waste oil only.

*** CO AP-42 emission factor determined by combining data from drum mix dryer fired with natural gas, No. 6 fuel oil, and No. 2 fuel oil to develop single CO emission factor.

Abbreviations

VOC - Volatile Organic Compounds
HCl = Hydrogen Chloride

SO2 = Sulfur Dioxide
HAP = Hazardous Air Pollutant

PAH = Polyaromatic Hydrocarbon

**Appendix A.2: Limited Emissions Calculations
Greenhouse Gas (CO₂e) Emissions from the
Drum-Mix Plant (Dryer/Mixer) Process Emissions**

Company Name: E & B Paving LLC
Source Address: 7320 Lower Huntington Road, Ft. Wayne, Indiana 46809
Operating Permit Number: F003-30070-03281
Revision Number: 003-43035-03281
Reviewer: William Altman

The following calculations determine the limited emissions from the aggregate drying/mixing

Maximum Hourly Asphalt Production = ton/hr
 Annual Asphalt Production Limitation = ton/yr

Criteria Pollutant	Emission Factor or Limitation (lb/ton) Drum-Mix Plant (dryer/mixer, controlled by fabric filter)			Greenhouse Gas Global Warming Potentials (GWP)	Limited Potential to Emit (tons/yr) Drum-Mix Plant (dryer/mixer, controlled by fabric filter)			CO ₂ e for Worst Case Fuel (tons/yr)
	Natural Gas	No. 2 Fuel Oil	Waste Oil		Natural Gas	No. 2 Fuel Oil	Waste Oil	
CO ₂	33	33	33	1	11,550.00	11,550.00	11,550.00	11,638.20
CH ₄	0.0120	0.0120	0.0120	21	4.20	4.20	4.20	
N ₂ O				310	0	0	0	
				Total	11,554.20	11,554.20	11,554.20	
	CO ₂ e Equivalent Emissions (tons/yr)				11,638.20	11,638.20	11,638.20	

Methodology

Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-7 and 11.1-8

There are no emission factors for N₂O available in either the 40 CFR 98, Subpart C or AP-42 Chapter 11.1. Therefore, it is assumed that there are no N₂O emission anticipated from this process.

Limited/Controlled Potential to Emit (tons/yr) = (Annual Asphalt Production Limitation (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs)

Natural gas, No. 2 fuel oil, and waste oil represent the worst possible emissions scenario. AP-42 did not provide emission factors for any other fuels.

Limited CO₂e Emissions (tons/yr) = CO₂ Potential Emission of "worst case" fuel (ton/yr) x CO₂ GWP (1) + CH₄ Potential Emission of "worst case" fuel (ton/yr) x CH₄ GWP (21) + N₂O Potential Emission of "worst case" fuel (ton/yr) x N₂O GWP (310).

Abbreviations

CO₂ = Carbon Dioxide

CH₄ = Methane

N₂O = Nitrogen Dioxide

PTE = Potential to Emit

**Appendix A.2: Limited Emissions Calculations
Dryer/Mixer Slag Processing**

Company Name: E & B Paving LLC
Source Address: 7320 Lower Huntington Road, Ft. Wayne, Indiana 46809
Operating Permit Number: F003-30070-03281
Revision Number: 003-43035-03281
Reviewer: William Altman

The following calculations determine the limited emissions from the processing of slag in the aggregate drying/mixing

Blast Furnace Slag Usage Limitation =	67,500	ton/yr	1.10 % sulfur
Blast Furnace Slag SO2 Dryer/Mixer Limitation ¹ =	0.540	lb/ton of slag processed	
Steel Slag Usage ^α =	700,000		0.66 % sulfur
Steel Slag SO2 Dryer/Mixer Limitation ² =	0.0014	lb/ton of slag processed	

Slag Type	Emission Factor or Limitation (lb/ton)*	Limited Potential to Emit (tons/yr)
Blast Furnace Slag	0.54	18.23
Steel Slag	0.0014	0.49

Methodology

¹ Testing results for blast furnace slag, obtained January 9, 2009 from similar operations at Rieth-Riley Construction Co., Inc. facility located in Valparaiso, IN (permit #127-27075-05241), produced an Emission Factor of 0.54 lb/ton from blast furnace slag containing 1.10% sulfur content.

² Testing results for steel slag, obtained June 2009 from E & B Paving, Inc. facility located in Huntington, IN. The testing results showed a steel slag emission factor of 0.0007 lb/ton from slag containing 0.33% sulfur content.

Limited Potential to Emit SO2 from Slag (tons/yr) = (Slag Usage Limitation (ton/yr)) * [Limited Emission Factor (lb/ton)] * [ton/2000 lbs]

Notes

^α A Steel slag usage limit is not required for the source to comply with their FESOP SO2 Limit, since unlimited usage results in a PTE SO2 of 0.90 tons/yr (see TSD Appendix A, page 6 of 19). To form a conservative estimate, SO2 emissions are based on the "worst case" assumption that steel slag usage corresponds to 100% of the aggregate used to produce the hot-mix asphalt.

Abbreviations

SO2 = Sulfur Dioxide

Appendix A.2: Limited Emissions Calculations
Hot Oil Heater
Fuel Combustion with Maximum Capacity < 100 MMBtu/hr

Company Name: E & B Paving LLC
Source Address: 7320 Lower Huntington Road, Ft. Wayne, Indiana 46809
Operating Permit Number: F003-30070-03281
Revision Number: 003-43035-03281
Reviewer: William Altman

Maximum Hot Oil Heater Fuel Input Rate = 1.30 MMBtu/hr
 Natural Gas Usage = 11 MMCF/yr
 No. 2 Fuel Oil Usage = 0 gal/yr, and 0.50 % sulfur

Unlimited/Uncontrolled Emissions

Criteria Pollutant	Emission Factor (units)		Unlimited/Uncontrolled Potential to Emit (tons/yr)		Worse Case Fuel (tons/yr)
	Hot Oil Heater		Hot Oil Heater		
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	
PM	1.9	2.0	0.011	0	0.01
PM10/PM2.5	7.6	3.3	0.043	0	0.04
SO2	0.6	71.0	0.003	0	3.42E-03
NOx	100	20.0	0.569	0	0.57
VOC	5.5	0.20	0.031	0	0.03
CO	84	5.0	0.478	0	0.48
Hazardous Air Pollutant					
Arsenic	2.0E-04	5.6E-04	1.1E-06	0	1.1E-06
Beryllium	1.2E-05	4.2E-04	6.8E-08	0	6.8E-08
Cadmium	1.1E-03	4.2E-04	6.3E-06	0	6.3E-06
Chromium	1.4E-03	4.2E-04	8.0E-06	0	8.0E-06
Cobalt	8.4E-05		4.8E-07		4.8E-07
Lead	5.0E-04	1.3E-03	2.8E-06	0	2.8E-06
Manganese	3.8E-04	8.4E-04	2.2E-06	0	2.2E-06
Mercury	2.6E-04	4.2E-04	1.5E-06	0	1.5E-06
Nickel	2.1E-03	4.2E-04	1.2E-05	0	1.2E-05
Selenium	2.4E-05	2.1E-03	1.4E-07	0	1.4E-07
Benzene	2.1E-03		1.2E-05		1.2E-05
Dichlorobenzene	1.2E-03		6.8E-06		6.8E-06
Ethylbenzene					0
Formaldehyde	7.5E-02	6.10E-02	4.3E-04	0	4.27E-04
Hexane	1.8E+00		0.01		0.010
Phenol					0
Toluene	3.4E-03		1.9E-05		1.9E-05
Total PAH Haps	negl		negl		0
Polycyclic Organic Matter		3.30E-03		0	0
Total HAPs = 1.1E-02 0 0.011					

Methodology

Equivalent Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 MMCF/1,000 MMBtu]

Equivalent Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.140 MMBtu]

Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Natural Gas Usage

All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Fuel Usage (gals/yr)] *

Sources of AP-42 Emission Factors for fuel combustion:

Natural Gas : AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4

No. 2 Fuel Oil: AP-42 Chapter 1.3 (dated 9/98), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, 1.3-10, and 1.3-11

Abbreviations

PM = Particulate Matter

PM10 = Particulate Matter (<10 um)

SO2 = Sulfur Dioxide

NOx = Nitrous Oxides

VOC - Volatile Organic Compounds

CO = Carbon Monoxide

HAP = Hazardous Air Pollutant

HCl = Hydrogen Chloride

PAH = Polyaromatic Hydrocarbon

**Appendix A.2: Limited Emissions Calculations
Greenhouse Gas (CO₂e) Emissions from
Fuel Combustion with Maximum Capacity < 100 MMBtu/hr
from the Hot oil Heating System**

Company Name: E & B Paving LLC
Source Address: 7320 Lower Huntington Road, Ft. Wayne, Indiana 46809
Operating Permit Number: F003-30070-03281
Revision Number: 003-43035-03281
Reviewer: William Altman

Maximum Hot Oil Heater Fuel Input Rate = 1.30 MMBtu/hr
 Natural Gas Usage = 11 MMCF/yr
 No. 2 Fuel Oil Usage = 0 gal/yr, 0.50 % sulfur

Unlimited/Uncontrolled Emissions

Criteria Pollutant	Emission Factor (units)		Greenhouse Gas Global Warming Potentials (GWP)	Unlimited/Uncontrolled Potential to Emit (tons/yr)	
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)		Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)
CO ₂	120,161.84	22,501.41	1	684.20	0
CH ₄	2.49	0.91	21	0.014	0
N ₂ O	2.20	0.26	310	0.013	0
Total				684.23	0

Worse Case CO ₂ e Emissions (tons/yr)
688.38

CO ₂ e Equivalent Emissions (tons/yr)	688.38	0
--	--------	---

Methodology

Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

Sources of Emission Factors for fuel combustion: (Note: To form a conservative estimate, the "worst case" emission factors have been used.)

Natural Gas : Emission Factors for CO₂ and CH₄ from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/MMCF. Emission Factor for N₂O from AP-42 Chapter 1.4 (dated 7/98),

No. 2 Fuel Oil: Emission Factors for CO₂ and CH₄ from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N₂O from AP-42 Chapter 1.3 (dated 9/98), Table

Emission Factor (EF) Conversions

Natural Gas: EF (lb/MMCF) = [EF (kg/MMBtu) * Conversion Factor (2.20462 lbs/kg) * Heating Value of Natural Gas (MMBtu/scf) * Conversion Factor (1,000,000 scf/MMCF)]

Fuel Oils: EF (lb/kgal) = [EF (kg/MMBtu) * Conversion Factor (2.20462 lbs/kg) * Heating Value of the Fuel Oil (MMBtu/gal) * Conversion Factor (1000 gal/kgal)]

Equivalent Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 MMCF/1,000 MMBtu]

Equivalent Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.140 MMBtu]

Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Natural Gas Usage (MMCF/yr)] * [Emission Factor (lb/MMCF)] * [ton/2000 lbs]

All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Fuel Usage (gals/yr)] * [Emission Factor (lb/kgal)] * Potential to Emit CH₄ of "worst case" fuel (ton/yr) x CH₄ GWP (21) + Unlimited Potential to Emit N₂O of "worst case" fuel (ton/yr) x N₂O GWP (310).

Abbreviations

CH₄ = Methane
 CO₂ = Carbon Dioxide

N₂O = Nitrogen Dioxide
 PTE = Potential to Emit

**Appendix A.2: Limited Emissions Calculations
 Reciprocating Internal Combustion Engines
 Diesel Fuel-fired Portable Crusher
 Output Rating (<= 600 HP)
 Maximum Input Rate (<= 4.2 MMBtu/hr)**

Company Name: E & B Paving LLC
Source Address: 7320 Lower Huntington Road, Ft. Wayne, Indiana 46809
Operating Permit Number: F003-30070-03281
Revision Number: 003-43035-03281
Reviewer: William Altman

Emissions calculated based on output rating (hp)

Output Horsepower Rating (hp) = 300.0
 Maximum Operating Hours per Year = 8760
 Potential Throughput (hp-hr/yr) = 2,628,000
 Diesel Engine Oil Usage Limitation = 5,000 gal/yr, and 0.50 % sulfur

	Criteria Pollutants						
	PM*	PM10*	PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/kgal	42.47	42.47	42.47	39.73	604.17	49.32	130.15
Potential Emission in tons/yr	0.11	0.11	0.11	0.10	1.51	0.12	0.33

*PM and PM2.5 emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

	Hazardous Air Pollutants (HAPs)							
	Benzene	Toluene	Xylene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Total PAH HAPs***
Emission Factor in lb/kgal****	1.28E-01	5.60E-02	3.90E-02	5.36E-03	1.62E-01	1.05E-01	1.27E-02	2.30E-02
Potential Emission in tons/yr	3.20E-04	1.40E-04	9.76E-05	1.34E-05	4.04E-04	2.63E-04	3.17E-05	5.75E-05

***PAH = Polyaromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)

****Emission factors in lb/MMBtu were converted to lb/kgal using the heating value of diesel fuel oil (137,000 Btu/gal) as taken from AP 42 Appendix A (09/85), page A-5.

Potential Emission of Total Combined HAPs (tons/yr)	1.33E-03
--	-----------------

Notes

Constant: 1 kilogallon (kgal) = 1000 gallons (gal)

The heating value of Diesel fuel oil is 137,000 Btu/gal as taken from AP 42 Appendix A (09/85), page A-5.

Emission Factors for Diesel Fuel Oil combustion are from AP 42 - 3.3 Gasoline and Diesel Industrial Engines (Supplement B 10/96), Tables 3.3-1 and 3.3-2

Methodology

Potential Throughput (hp-hr/yr) = Output Horsepower Rating (hp) * Maximum Operating Hours per Year

Diesel Engine Oil Usage (gal/yr) = [(Potential Throughput (hp-hr/yr) * average brake specific fuel consumption of 7,000 Btu/hp-hr) / 137,000 Btu/gal]

Limited Potential to Emit (tons/yr) = Diesel Engine Oil Usage (gal/yr) * Emission Factor (lb/kgal) / (1000 gal/kgal * 2,000 lb/ton)]

**ATSD Appendix A.2: Limited Emissions Summary
Greenhouse Gas (CO2e) Emissions from the
Diesel Fuel-fired Portable Crusher
Reciprocating Internal Combustion Engines
Output Rating (<= 600 HP)
Maximum Input Rate (<= 4.2 MMBtu/hr)**

Company Name: E & B Paving LLC
Source Address: 7320 Lower Huntington Road, Ft. Wayne, Indiana 46809
Operating Permit Number: F003-30070-03281
Revision Number: 003-43035-03281
Reviewer: William Altman

Emissions calculated based on output rating (hp)

Output Horsepower Rating (hp)	300.0	
Maximum Operating Hours per Year	8760	
Potential Throughput (hp-hr/yr)	2,628,000	
Diesel Engine Oil Usage =	5,000	gal/yr, and 0.50 % sulfur

Greenhouse Warming Potentials (GWP)		
Name	Chemical Formula	Global warming potential
Carbon dioxide	CO ₂	1
Methane	CH ₄	21
Nitrous oxide	N ₂ O	310

	Limited Potential to Emit (tons/yr)		
	CO2	CH4	N2O
Emission Factor in lb/kgal	22,472.92	0.91	0.18
Potential Emission in tons/yr	56.18	2.28E-03	4.50E-04
Summed Potential Emissions in tons/yr	56.19		
CO2e Equivalent Emissions (tons/yr) *	56.37		

Notes

Constant: 1 kilogallon (kgal) = 1000 gallons (gal)
 The heating value of Diesel fuel oil is 137,000 Btu/gal as taken from AP 42 Appendix A (09/85), page A-5.
 Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
 Sources of Emission Factors for fuel combustion: (Note: To form a conservative estimate, the "worst case" emission factors have been used.)
 Diesel Engine Oil: Emission Factor for CO2 from AP-42 Chapter 3.3 (dated 10/96), Table 3.3-1, has been converted from lb/MMBtu to lb/kgal. Emission Factors for CH4 and N2O from 40 CFR Part 98 Subpart C, Table C-2, have been converted from kg/mmBtu to lb/kgal.
 Emission Factor (EF) Conversion
 for CO2: EF (lb/kgal) = [EF (lb/MMbtu) x average heating value of diesel (19,300 Btu/lb) x Conversion Factor (1/1,000,000 MMBtu/Btu) x density of diesel (7.1 lb/gal) x Conversion Factor (1,000 gal/kgal)]
 for CH4 & N2O: EF (lb/kgal) = [EF (kg/MMBtu) * Conversion Factor (2.20462 lbs/kg) * Heating Value of the Fuel Oil (MMBtu/gal) * Conversion Factor (1000 gal/kgal)]

Methodology

Potential Throughput (hp-hr/yr) = Output Horsepower Rating (hp) * Maximum Operating Hours per Year
 Diesel Engine Oil Usage (gal/yr) = [(Potential Throughput (hp-hr/yr) * average brake specific fuel consumption of 7,000 Btu/hp-hr) / 137,000 Btu/gal]
 Limited Potential to Emit (tons/yr) = [Diesel Engine Oil Usage (gal/yr) * Emission Factor (lb/kgal)] / (1000 gal/kgal * 2,000 lb/ton) * Global Warming Potential
 Limited CO2e Emissions (tons/yr) = CO2 Potential Emission (ton/yr) x CO2 GWP (1) + CH4 Potential Emission (ton/yr) x CH4 GWP (21) + N2O Potential Emission (ton/yr) x N2O GWP (310).

**Appendix A.2: Limited Emissions Calculations
Asphalt Load-Out, Silo Filling, and Yard Emissions**

Company Name: E & B Paving LLC
Source Address: 7320 Lower Huntington Road, Ft. Wayne, Indiana 46809
Operating Permit Number: F003-30070-03281
Revision Number: 003-43035-03281
Reviewer: William Altman

The following calculations determine the limited fugitive emissions from hot asphalt mix load-out, silo filling, and on-site yard for a drum mix hot mix asphalt plant

Asphalt Temperature, T =	325	F
Asphalt Volatility Factor, V =	-0.5	
Annual Asphalt Production Limitation =	700,000	tons/yr

Pollutant	Emission Factor (lb/ton asphalt)			Limited Potential to Emit (tons/yr)			
	Load-Out	Silo Filling	On-Site Yard	Load-Out	Silo Filling	On-Site Yard	Total
Total PM*	5.2E-04	5.9E-04	NA	0.18	0.21	NA	0.39
Organic PM	3.4E-04	2.5E-04	NA	0.12	0.089	NA	0.21
TOC	0.004	0.012	0.001	1.46	4.27	0.385	6.1
CO	0.001	0.001	3.5E-04	0.47	0.413	0.123	1.01

NA = Not Applicable (no AP-42 Emission Factor)

PM/HAPs	0.008	0.010	0	0.019
VOC/HAPs	0.022	0.054	0.006	0.081
non-VOC/HAPs	1.1E-04	1.2E-05	3.0E-05	1.5E-04
non-VOC/non-HAPs	0.11	0.06	0.03	0.19

Total VOCs	1.37	4.27	0.4	6.0
Total HAPs	0.03	0.06	0.006	0.10
		Worst Single HAP		0.031
				(formaldehyde)

Methodology

The asphalt temperature and volatility factor were provided by the source.

Limited Potential to Emit (tons/yr) = (Annual Asphalt Production Limitation (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs)

Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-14, 11.1-15, and 11.1-16

Plant Load-Out Emission Factor Equations (AP-42 Table 11.1-14)::

$$\text{Total PM/PM10 Ef} = 0.000181 + 0.00141(-V)e^{((0.0251)(T+460)-20.43)}$$

$$\text{Organic PM Ef} = 0.00141(-V)e^{((0.0251)(T+460)-20.43)}$$

$$\text{TOC Ef} = 0.0172(-V)e^{((0.0251)(T+460)-20.43)}$$

$$\text{CO Ef} = 0.00558(-V)e^{((0.0251)(T+460)-20.43)}$$

Silo Filling Emission Factor Equations (AP-42 Table 11.1-14):

$$\text{PM/PM10 Ef} = 0.000332 + 0.00105(-V)e^{((0.0251)(T+460)-20.43)}$$

$$\text{Organic PM Ef} = 0.00105(-V)e^{((0.0251)(T+460)-20.43)}$$

$$\text{TOC Ef} = 0.0504(-V)e^{((0.0251)(T+460)-20.43)}$$

$$\text{CO Ef} = 0.00488(-V)e^{((0.0251)(T+460)-20.43)}$$

On Site Yard CO emissions estimated by multiplying the TOC emissions by 0.32

*No emission factors available for PM10 or PM2.5, therefore IDEM assumes PM10 and PM2.5 are equivalent to Total PM.

Abbreviations

TOC = Total Organic Compounds

PM10 = Particulate Matter (<10 um)

HAP = Hazardous Air Pollutant

CO = Carbon Monoxide

PM2.5 = Particulate Matter (<2.5 um)

VOC = Volatile Organic Compound

PM = Particulate Matter

**Appendix A.2: Limited Emissions Calculations
Asphalt Load-Out, Silo Filling, and Yard Emissions (continued)**

Company Name: E & B Paving LLC
Source Address: 7320 Lower Huntington Road, Ft. Wayne, Indiana 46809
Operating Permit Number: F003-30070-03281
Revision Number: 003-43035-03281
Reviewer: William Altman

Organic Particulate-Based Compounds (Table 11.1-15)

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Limited Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of Total Organic PM)	Silo Filling and Asphalt Storage Tank (% by weight of Total Organic PM)	Load-out	Silo Filling	Onsite Yard	Total
PAH HAPs										
Acenaphthene	83-32-9	PM/HAP	POM	Organic PM	0.26%	0.47%	3.1E-04	4.2E-04	NA	7.3E-04
Acenaphthylene	208-96-8	PM/HAP	POM	Organic PM	0.028%	0.014%	3.3E-05	1.2E-05	NA	4.6E-05
Anthracene	120-12-7	PM/HAP	POM	Organic PM	0.07%	0.13%	8.4E-05	1.2E-04	NA	2.0E-04
Benzo(a)anthracene	56-55-3	PM/HAP	POM	Organic PM	0.019%	0.056%	2.3E-05	5.0E-05	NA	7.2E-05
Benzo(b)fluoranthene	205-99-2	PM/HAP	POM	Organic PM	0.0076%	0	9.1E-06	0	NA	9.1E-06
Benzo(k)fluoranthene	207-08-9	PM/HAP	POM	Organic PM	0.0022%	0	2.6E-06	0	NA	2.6E-06
Benzo(g,h,i)perylene	191-24-2	PM/HAP	POM	Organic PM	0.0019%	0	2.3E-06	0	NA	2.3E-06
Benzo(a)pyrene	50-32-8	PM/HAP	POM	Organic PM	0.0023%	0	2.7E-06	0	NA	2.7E-06
Benzo(e)pyrene	192-97-2	PM/HAP	POM	Organic PM	0.0078%	0.0095%	9.3E-06	8.4E-06	NA	1.8E-05
Chrysene	218-01-9	PM/HAP	POM	Organic PM	0.103%	0.21%	1.2E-04	1.9E-04	NA	3.1E-04
Dibenz(a,h)anthracene	53-70-3	PM/HAP	POM	Organic PM	0.00037%	0	4.4E-07	0	NA	4.4E-07
Fluoranthene	206-44-0	PM/HAP	POM	Organic PM	0.05%	0.15%	6.0E-05	1.3E-04	NA	1.9E-04
Fluorene	86-73-7	PM/HAP	POM	Organic PM	0.77%	1.01%	9.2E-04	9.0E-04	NA	1.8E-03
Indeno(1,2,3-cd)pyrene	193-39-5	PM/HAP	POM	Organic PM	0.00047%	0	5.6E-07	0	NA	5.6E-07
2-Methylnaphthalene	91-57-6	PM/HAP	POM	Organic PM	2.38%	5.27%	2.8E-03	4.7E-03	NA	0.008
Naphthalene	91-20-3	PM/HAP	POM	Organic PM	1.25%	1.82%	1.5E-03	1.6E-03	NA	3.1E-03
Perylene	198-55-0	PM/HAP	POM	Organic PM	0.022%	0.03%	2.6E-05	2.7E-05	NA	5.3E-05
Phenanthrene	85-01-8	PM/HAP	POM	Organic PM	0.81%	1.80%	9.7E-04	1.6E-03	NA	2.6E-03
Pyrene	129-00-0	PM/HAP	POM	Organic PM	0.15%	0.44%	1.8E-04	3.9E-04	NA	5.7E-04
Total PAH HAPs							0.007	0.010	NA	0.017
Other semi-volatile HAPs										
Phenol		PM/HAP	---	Organic PM	1.18%	0	1.4E-03	0	0	1.4E-03

NA = Not Applicable (no AP-42 Emission Factor)

Methodology

Limited Potential to Emit (tons/yr) = [Speciation Profile (%)] * [Organic PM (tons/yr)]

Speciation Profiles from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-15 and 11.1-16

Abbreviations

PM = Particulate Matter

HAP = Hazardous Air Pollutant

POM = Polycyclic Organic Matter

**Appendix A.2: Limited Emissions Calculations
Asphalt Load-Out, Silo Filling, and Yard Emissions (continued)
Limited Emissions**

Organic Volatile-Based Compounds (Table 11.1-16)

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Limited Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of TOC)	Silo Filling and Asphalt Storage Tank (% by weight of TOC)	Load-out	Silo Filling	Onsite Yard	Total
VOC		VOC	---	TOC	94%	100%	1.37	4.27	0.36	6.00
non-VOC/non-HAPS										
Methane	74-82-8	non-VOC/non-HAP	---	TOC	6.50%	0.26%	9.5E-02	1.1E-02	2.5E-02	0.131
Acetone	67-64-1	non-VOC/non-HAP	---	TOC	0.046%	0.055%	6.7E-04	2.3E-03	1.8E-04	0.003
Ethylene	74-85-1	non-VOC/non-HAP	---	TOC	0.71%	1.10%	1.0E-02	4.7E-02	2.7E-03	0.060
Total non-VOC/non-HAPS					7.30%	1.40%	0.106	0.060	0.028	0.19
Volatile organic HAPs										
Benzene	71-43-2	VOC/HAP	---	TOC	0.052%	0.032%	7.6E-04	1.4E-03	2.0E-04	2.3E-03
Bromomethane	74-83-9	VOC/HAP	---	TOC	0.0096%	0.0049%	1.4E-04	2.1E-04	3.7E-05	3.9E-04
2-Butanone	78-93-3	VOC/HAP	---	TOC	0.049%	0.039%	7.1E-04	1.7E-03	1.9E-04	2.6E-03
Carbon Disulfide	75-15-0	VOC/HAP	---	TOC	0.013%	0.016%	1.9E-04	6.8E-04	5.0E-05	9.2E-04
Chloroethane	75-00-3	VOC/HAP	---	TOC	0.00021%	0.004%	3.1E-06	1.7E-04	8.1E-07	1.7E-04
Chloromethane	74-87-3	VOC/HAP	---	TOC	0.015%	0.023%	2.2E-04	9.8E-04	5.8E-05	1.3E-03
Cumene	92-82-8	VOC/HAP	---	TOC	0.11%	0	1.6E-03	0	4.2E-04	2.0E-03
Ethylbenzene	100-41-4	VOC/HAP	---	TOC	0.28%	0.038%	4.1E-03	1.6E-03	1.1E-03	0.007
Formaldehyde	50-00-0	VOC/HAP	---	TOC	0.088%	0.69%	1.3E-03	2.9E-02	3.4E-04	0.031
n-Hexane	100-54-3	VOC/HAP	---	TOC	0.15%	0.10%	2.2E-03	4.3E-03	5.8E-04	0.007
Isooctane	540-84-1	VOC/HAP	---	TOC	0.0018%	0.00031%	2.6E-05	1.3E-05	6.9E-06	4.6E-05
Methylene Chloride	75-09-2	non-VOC/HAP	---	TOC	0	0.00027%	0	1.2E-05	0	1.2E-05
MTBE	1634-04-4	VOC/HAP	---	TOC	0	0	0	0	0	0
Styrene	100-42-5	VOC/HAP	---	TOC	0.0073%	0.0054%	1.1E-04	2.3E-04	2.8E-05	3.6E-04
Tetrachloroethene	127-18-4	non-VOC/HAP	---	TOC	0.0077%	0	1.1E-04	0	3.0E-05	1.4E-04
Toluene	100-88-3	VOC/HAP	---	TOC	0.21%	0.062%	3.1E-03	2.6E-03	8.1E-04	0.007
1,1,1-Trichloroethane	71-55-6	VOC/HAP	---	TOC	0	0	0	0	0	0
Trichloroethene	79-01-6	VOC/HAP	---	TOC	0	0	0	0	0	0
Trichlorofluoromethane	75-69-4	VOC/HAP	---	TOC	0.0013%	0	1.9E-05	0	5.0E-06	2.4E-05
m-/p-Xylene	1330-20-7	VOC/HAP	---	TOC	0.41%	0.20%	6.0E-03	8.5E-03	1.6E-03	0.016
o-Xylene	95-47-6	VOC/HAP	---	TOC	0.08%	0.057%	1.2E-03	2.4E-03	3.1E-04	3.9E-03
Total volatile organic HAPs					1.50%	1.30%	0.022	0.055	0.006	0.083

Methodology

Limited Potential to Emit (tons/yr) = [Speciation Profile (%)] * [TOC (tons/yr)]

Speciation Profiles from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-15 and 11.1-16

Abbreviations

TOC = Total Organic Compounds
HAP = Hazardous Air Pollutant
VOC = Volatile Organic Compound
MTBE = Methyl tert butyl ether

**Appendix A.2: Limited Emissions Calculations
Material Storage Piles**

Company Name: E & B Paving LLC
Source Address: 7320 Lower Huntington Road, Ft. Wayne, Indiana 46809
Operating Permit Number: F003-30070-03281
Revision Number: 003-43035-03281
Reviewer: William Altman

Note: Since the emissions from the storage piles are minimal, the limited emissions are equal to the unlimited emissions.

The following calculations determine the amount of emissions created by wind erosion of storage stockpiles, based on 8,760 hours of use and USEPA's AP-42 (Pre 1983 Edition), Section 11.2.3.

$$E_f = 1.7 \cdot (s/1.5)^{0.365} \cdot (365 \cdot p) / (2.35 \cdot (f/15))$$

where E_f = emission factor (lb/acre/day)
 s = silt content (wt %)
 p = 125 days of rain greater than or equal to 0.01 inches
 f = 15 % of wind greater than or equal to 12 mph

Material	Silt Content (wt %)*	Emission Factor (lb/acre/day)	Maximum Anticipated Pile Size (acres)**	PTE of PM (tons/yr)	PTE of PM10/PM2.5 (tons/yr)
Sand	2.6	3.01	2.78	1.527	0.534
Limestone	1.6	1.85	6.89	2.329	0.815
RAP	0.5	0.58	2.75	0.290	0.102
Gravel	1.6	1.85	0	0.000	0.000
Slag	3.8	4.40	1.57	1.260	0.441
Shingles	3.8	4.40	0.46	0.369	0.129
Totals				5.78	2.02

Methodology

PTE of PM (tons/yr) = (Emission Factor (lb/acre/day)) * (Maximum Pile Size (acres)) * (ton/2000 lbs) * (8760 hours/yr)
 PTE of PM10/PM2.5 (tons/yr) = (Potential PM Emissions (tons/yr)) * 35%
 *Silt content values obtained from AP-42 Table 13.2.4-1 (dated 1/95)
 **Maximum anticipated pile size (acres) provided by the source.
 PM2.5 = PM10

Abbreviations

PM = Particulate Matter
 PM10 = Particulate Matter (<10 um)
 PM2.5 = Particulate Matter (<2.5 um)
 PTE = Potential to Emit

**Appendix A.2: Limited Emissions Calculations
Material Processing, Handling, Crushing, Screening, and Conveying**

Company Name: E & B Paving LLC
Source Address: 7320 Lower Huntington Road, Ft. Wayne, Indiana 46809
Operating Permit Number: F003-30070-03281
Revision Number: 003-43035-03281
Reviewer: William Altman

Batch or Continuous Drop Operations (AP-42 Section 13.2.4)

To estimate potential fugitive dust emissions from processing and handling of raw materials (batch or continuous drop operations), AP-42 emission factors for Aggregate Handling, Section 13.2.4 (fifth edition, 1/95) are utilized.

$$E_f = k \cdot (0.0032)^{1.3} \cdot (U/5)^{1.3} / (M/2)^{1.4}$$

where: E_f = Emission factor (lb/ton)

k (PM) = 0.74	= particle size multiplier (0.74 assumed for aerodynamic diameter <=100 um)
k (PM10) = 0.35	= particle size multiplier (0.35 assumed for aerodynamic diameter <=10 um)
k (PM2.5) = 0.053	= particle size multiplier (0.053 assumed for aerodynamic diameter <=2.5 um)
U = 10.2	= worst case annual mean wind speed (Source: NOAA, 2006*)
M = 4.0	= material % moisture content of aggregate (Source: AP-42 Section 11.1.1.1)
E_f (PM) = 2.27E-03	lb PM/ton of material handled
E_f (PM10) = 1.07E-03	lb PM10/ton of material handled
E_f (PM2.5) = 1.62E-04	lb PM2.5/ton of material handled

Annual Asphalt Production Limitation =	700,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	665,000	tons/yr

Type of Activity	Limited PTE of PM (tons/yr)	Limited PTE of PM10 (tons/yr)	Limited PTE of PM2.5 (tons/yr)
Truck unloading of materials into storage piles	0.75	0.36	0.05
Front-end loader dumping of materials into feeder bins	0.75	0.36	0.05
Conveyor dropping material into dryer/mixer or batch tower	0.75	0.36	0.05
Total (tons/yr)	2.26	1.07	0.16

Methodology

The percent asphalt cement/binder provided by the source.
 Maximum Material Handling Throughput (tons/yr) = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]
 Limited Potential to Emit (tons/yr) = (Maximum Material Handling Throughput (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs)
 Raw materials may include limestone, sand, recycled asphalt pavement (RAP), gravel, slag, and other additives
 *Worst case annual mean wind speed (Indianapolis, IN) from "Comparative Climatic Data", National Climatic Data Center, NOAA, 2006

Material Screening and Conveying (AP-42 Section 19.2.2)

To estimate potential fugitive dust emissions from raw material crushing, screening, and conveying, AP-42 emission factors for Crushed Stone Processing Operations, Section 19.2.2 (dated 8/04) are utilized.

Operation	Uncontrolled Emission Factor for PM (lbs/ton)*	Uncontrolled Emission Factor for PM10 (lbs/ton)*	Limited PTE of PM (tons/yr)	Limited PTE of PM10/PM2.5 (tons/yr)**
Crushing	0.0054	0.0024	1.80	0.80
Screening	0.025	0.0087	8.31	2.89
Conveying	0.003	0.0011	1.00	0.37
Limited Potential to Emit (tons/yr) =			11.11	4.06

Methodology

Maximum Material Handling Throughput (tons/yr) = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]
 Limited Potential to Emit (tons/yr) = [Maximum Material Handling Throughput (tons/yr)] * [Emission Factor (lb/ton)] * [ton/2000 lbs]
 Raw materials may include stone/gravel, slag, and recycled asphalt pavement (RAP)
 Emission Factors from AP-42 Chapter 11.19.2 (dated 8/04), Table 11.19.2-2
 *Uncontrolled emissions factors for PM/PM10 represent tertiary crushing of stone with moisture content ranging from 0.21 to 1.3 percent by weight (Table 11.19.2-2). The bulk moisture content of aggregate in the storage piles at a hot mix asphalt production plant typically stabilizes between 3 to 5 percent by weight (Source: AP-42 Section 11.1.1.1).
 **Assumes PM10 = PM2.5

Abbreviations

PM = Particulate Matter
 PM10 = Particulate Matter (<10 um)
 PM2.5 = Particulate Matter (<2.5 um)
 PTE = Potential to Emit

**Appendix A.2: Limited Emissions Calculations
Unpaved Roads**

Company Name: E & B Paving LLC
Source Address: 7320 Lower Huntington Road, Ft. Wayne, Indiana 46809
Operating Permit Number: F003-30070-03281
Revision Number: 003-43035-03281
Reviewer: William Altman

Unpaved Roads at Industrial Site

The following calculations determine the amount of emissions created by unpaved roads, based on 8,760 hours of use and AP-42, Ch 13.2.2 (12/2003).

Annual Asphalt Production Limitation =	700,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	665,000	tons/yr
Maximum Asphalt Cement/Binder Throughput =	35,000	tons/yr
No. 2 Fuel Oil Limitation =	864,007	gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per year (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	17.0	22.4	39.4	3.0E+04	1.2E+06	300	0.057	1,686.8
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.0	3.0E+04	5.0E+05	300	0.057	1,686.8
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.0	9.7E+02	4.7E+04	300	0.057	55.2
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	9.7E+02	1.2E+04	300	0.057	55.2
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.0	9.1E+01	4.0E+03	300	0.057	5.2
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	9.1E+01	1.1E+03	300	0.057	5.2
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.2	1.6E+05	3.0E+06	200	0.038	5,997.5
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.0	1.6E+05	2.4E+06	200	0.038	5,997.5
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.0	2.9E+04	1.2E+06	300	0.057	1,657.2
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.0	2.9E+04	5.0E+05	300	0.057	1,657.2
Total					4.4E+05	8.8E+06			1.9E+04

Average Vehicle Weight Per Trip =	20.3	tons/trip
Average Miles Per Trip =	0.043	miles/trip

Unmitigated Emission Factor, $E_f = k \cdot [(s/12)^a] \cdot [(W/3)^b]$ (Equation 1a from AP-42 13.2.2)

	PM	PM10	PM2.5	
where k =	4.9	1.5	0.15	lb/mi = particle size multiplier (AP-42 Table 13.2.2-2 for Industrial Roads)
s =	4.8	4.8	4.8	% = mean % silt content of unpaved roads (AP-42 Table 13.2.2-3 Sand/Gravel Processing Plant Road)
a =	0.7	0.9	0.9	= constant (AP-42 Table 13.2.2-2)
W =	20.3	20.3	20.3	tons = average vehicle weight (provided by source)
b =	0.45	0.45	0.45	= constant (AP-42 Table 13.2.2-2)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, $E_{ext} = E_f \cdot [(365 - P)/365]$

Mitigated Emission Factor, $E_{ext} = E_f \cdot [(365 - P)/365]$

where P = 125 days of rain greater than or equal to 0.01 inches (see Fig. 13.2.2-1)

	PM	PM10	PM2.5	
Unmitigated Emission Factor, E_f =	6.09	1.55	0.16	lb/mile
Mitigated Emission Factor, E_{ext} =	4.01	1.02	0.10	lb/mile
Dust Control Efficiency =	50%	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	5.14	1.31	0.13	3.38	0.86	0.09	1.69	0.43	0.04
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	5.14	1.31	0.13	3.38	0.86	0.09	1.69	0.43	0.04
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.168	0.043	0.00	0.111	0.028	2.8E-03	0.055	0.014	1.4E-03
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.168	0.043	0.00	0.111	0.028	2.8E-03	0.055	0.014	1.4E-03
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0.016	0.004	4.0E-04	0.010	0.003	2.6E-04	0.005	0.001	1.3E-04
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0.016	0.004	4.0E-04	0.010	0.003	2.6E-04	0.005	0.001	1.3E-04
Aggregate/RAP Loader Full	Front-end loader (3 CY)	18.28	4.66	0.47	12.02	3.06	0.31	6.01	1.53	0.15
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	18.28	4.66	0.47	12.02	3.06	0.31	6.01	1.53	0.15
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	5.05	1.29	0.13	3.32	0.85	0.08	1.66	0.42	0.04
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	5.05	1.29	0.13	3.32	0.85	0.08	1.66	0.42	0.04
Totals		57.30	14.60	1.46	37.68	9.60	0.96	18.84	4.80	0.48

Methodology

Maximum Material Handling Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]
 Maximum Asphalt Cement/Binder Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [Percent Asphalt Cement/Binder (weight %)]
 Maximum Weight of Vehicle and Load (tons/trip) = [Maximum Weight of Vehicle (tons/trip)] + [Maximum Weight of Load (tons/trip)]
 Maximum trips per year (trip/yr) = [Throughput (tons/yr)] / [Maximum Weight of Load (tons/trip)]
 Total Weight driven per year (ton/yr) = [Maximum Weight of Vehicle and Load (tons/trip)] * [Maximum trips per year (trip/yr)]
 Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip)] / [5280 ft/mile]
 Maximum one-way miles (miles/yr) = [Maximum trips per year (trip/yr)] * [Maximum one-way distance (mi/trip)]
 Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per year (ton/yr)] / SUM[Maximum trips per year (trip/yr)]
 Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/yr)] / SUM[Maximum trips per year (trip/yr)]
 Unmitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Unmitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
 Mitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Mitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
 Controlled PTE (tons/yr) = (Mitigated PTE (tons/yr)) * (1 - Dust Control Efficiency)

Abbreviations

PM = Particulate Matter
 PM10 = Particulate Matter (<10 um)
 PM2.5 = Particulate Matter (<2.5 um)
 PM2.5 = PM10
 PTE = Potential to Emit

**Appendix A.2: Limited Emissions Calculations
Paved Roads
Limited Emissions**

Company Name: E & B Paving LLC
Source Address: 7320 Lower Huntington Road, Ft. Wayne, Indiana 46809
Operating Permit Number: F003-30070-03281
Revision Number: 003-43035-03281
Reviewer: William Altman

Paved Roads at Industrial Site

The following calculations determine the amount of emissions created by paved roads, based on 8,760 hours of use and AP-42, Ch 13.2.1 (12/2003).

Annual Asphalt Production Limitation =	700,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	665,000	tons/yr
Maximum Asphalt Cement/Binder Throughput =	35,000	tons/yr
No. 2 Fuel Oil Limitation =	864,007	gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per day (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	17.0	22.4	39.40	3.0E+04	1.2E+06	400	0.076	2,249.1
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.00	3.0E+04	5.0E+05	400	0.076	2,249.1
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.00	9.7E+02	4.7E+04	500	0.095	92.1
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	9.7E+02	1.2E+04	500	0.095	92.1
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.00	9.1E+01	4.0E+03	500	0.095	8.6
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	9.1E+01	1.1E+03	500	0.095	8.6
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.20	1.6E+05	3.0E+06	300	0.057	8,996.2
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.00	1.6E+05	2.4E+06	300	0.057	8,996.2
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.00	2.9E+04	1.2E+06	500	0.095	2,762.0
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.00	2.9E+04	5.0E+05	500	0.095	2,762.0
Total					4.4E+05	8.8E+06			2.8E+04

Average Vehicle Weight Per Trip =	20.3	tons/trip
Average Miles Per Trip =	0.065	miles/trip

Unmitigated Emission Factor, Ef = [k * (sL)^{0.91} * (W)^{1.02}] (Equation 1 from AP-42 13.2.1)

	PM	PM10	PM2.5	
where k =	0.011	0.0022	0.00054	lb/VMT = particle size multiplier (AP-42 Table 13.2.1-1)
W =	20.3	20.3	20.3	tons = average vehicle weight (provided by source)
sL =	0.6	0.6	0.6	g/m ² = Ubiquitous Baseline Silt Loading Values of paved roads (Table 13.2.1-3 for summer months)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, Eext = E * [1 - (p/4N)]

Mitigated Emission Factor, Eext =	E * [1 - (p/4N)]	
where p =	125	days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)
N =	365	days per year

	PM	PM10	PM2.5	
Unmitigated Emission Factor, Ef =	0.149	0.030	0.007	lb/mile
Mitigated Emission Factor, Eext =	0.136	0.027	0.007	lb/mile
Dust Control Efficiency =	50%	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	0.17	0.03	8.21E-03	0.15	0.03	7.51E-03	0.08	0.02	3.75E-03
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	0.17	0.03	8.21E-03	0.15	0.03	7.51E-03	0.08	0.02	3.75E-03
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.007	0.001	3.4E-04	0.006	0.001	3.1E-04	0.003	6.3E-04	1.5E-04
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.007	0.001	3.4E-04	0.006	0.001	3.1E-04	0.003	6.3E-04	1.5E-04
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	6.4E-04	1.3E-04	3.2E-05	5.9E-04	1.2E-04	2.9E-05	2.9E-04	5.9E-05	1.4E-05
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	6.4E-04	1.3E-04	3.2E-05	5.9E-04	1.2E-04	2.9E-05	2.9E-04	5.9E-05	1.4E-05
Aggregate/RAP Loader Full	Front-end loader (3 CY)	0.67	0.13	0.03	0.61	0.12	0.03	0.31	0.06	0.02
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	0.67	0.13	0.03	0.61	0.12	0.03	0.31	0.06	0.02
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	0.21	0.04	1.01E-02	0.19	0.04	9.22E-03	0.09	1.88E-02	4.61E-03
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	0.21	0.04	1.01E-02	0.19	0.04	9.22E-03	0.09	1.88E-02	4.61E-03
Totals		2.10	0.42	0.10	1.92	0.38	0.09	0.96	0.19	0.05

Methodology

Maximum Material Handling Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]
 Maximum Asphalt Cement/Binder Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [Percent Asphalt Cement/Binder (weight %)]
 Maximum Weight of Vehicle and Load (tons/trip) = [Maximum Weight of Vehicle (tons/trip)] + [Maximum Weight of Load (tons/trip)]
 Maximum trips per year (trip/yr) = [Throughput (tons/yr)] / [Maximum Weight of Load (tons/trip)]
 Total Weight driven per year (ton/yr) = [Maximum Weight of Vehicle and Load (tons/trip)] * [Maximum trips per year (trip/yr)]
 Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip)] / [5280 ft/mile]
 Maximum one-way miles (miles/yr) = [Maximum trips per year (trip/yr)] * [Maximum one-way distance (mi/trip)]
 Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per year (ton/yr)] / SUM[Maximum trips per year (trip/yr)]
 Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/yr)] / SUM[Maximum trips per year (trip/yr)]
 Unmitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Unmitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
 Mitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Mitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
 Controlled PTE (tons/yr) = (Mitigated PTE (tons/yr)) * (1 - Dust Control Efficiency)
 PM2.5 = PM10

Abbreviations

PM = Particulate Matter
 PM10 = Particulate Matter (<10 um)
 PM2.5 = Particulate Matter (<2.5 um)
 PTE = Potential to Emit

**Appendix A.2: Limited Emissions Calculations
Cold Mix Asphalt Production and Stockpiles**

Company Name: E & B Paving LLC
Source Address: 7320 Lower Huntington Road, Ft. Wayne, Indiana 46809
Operating Permit Number: F003-30070-03281
Revision Number: 003-43035-03281
Reviewer: William Altman

The following calculations determine the amount of VOC and HAP emissions created from volatilization of solvent used as diluent in the liquid binder for cold mix asphalt production

Cold Mix Asphalt VOC Usage Limitation = tons/yr

Volatile Organic Compounds

	Maximum weight % of VOC solvent in binder	Weight % VOC solvent in binder that evaporates	VOC Solvent Usage Limitation (tons/yr)	Limited PTE of VOC (tons/yr)	Liquid Binder Adjustment Ratio
Cut back asphalt rapid cure (assuming gasoline or naphtha solvent)	25.3%	95.0%	32.75	31.11	1.053
Cut back asphalt medium cure (assuming kerosene solvent)	28.6%	70.0%	44.45	31.11	1.429
Cut back asphalt slow cure (assuming fuel oil solvent)	20.0%	25.0%	124.45	31.11	4.000
Emulsified asphalt with solvent (assuming water, emulsifying agent, and 15% fuel oil solvent)	15.0%	46.4%	67.05	31.11	2.155
Other asphalt with solvent binder	25.9%	2.5%	1,244.47	31.11	40.0
Worst Case Limited PTE of VOC =				31.11	

Hazardous Air Pollutants

Worst Case Total HAP Content of VOC solvent (weight %)* =	26.08%
Worst Case Single HAP Content of VOC solvent (weight %)* =	9.0% Xylenes
Limited PTE of Total HAPs (tons/yr) =	8.12
Limited PTE of Single HAP (tons/yr) =	2.80 Xylenes

Hazardous Air Pollutant (HAP) Content (% by weight) For Various Petroleum Solvents*

	CAS#	Hazardous Air Pollutant (HAP) Content (% by weight)* For Various Petroleum Solvents				
		Gasoline	Kerosene	Diesel (#2) Fuel Oil	No. 2 Fuel Oil	No. 6 Fuel Oil
Volatile Organic HAP						
1,3-Butadiene	106-99-0	3.70E-5%				
2,2,4-Trimethylpentane	540-84-1	2.40%				
Acenaphthene	83-32-9		4.70E-5%		1.80E-4%	
Acenaphthylene	208-96-8		4.50E-5%		6.00E-5%	
Anthracene	120-12-7		1.20E-6%	5.80E-5%	2.80E-5%	5.00E-5%
Benzene	71-43-2	1.90%		2.90E-4%		
Benzo(a)anthracene	56-55-3			9.60E-7%	4.50E-7%	5.50E-4%
Benzo(a)pyrene	50-32-8			2.20E-6%	2.10E-7%	4.40E-5%
Benzo(g,h,i)perylene	191-24-2			1.20E-7%	5.70E-8%	
Biphenyl	92-52-4			6.30E-4%	7.20E-5%	
Chrysene	218-01-9			4.50E-7%	1.40E-6%	6.90E-4%
Ethylbenzene	100-41-4	1.70%		0.07%	3.40E-4%	
Fluoranthene	206-44-0		7.10E-6%	5.90E-5%	1.40E-5%	2.40E-4%
Fluorene	86-73-7		4.20E-5%	8.60E-4%	1.90E-4%	
Indeno(1,2,3-cd)pyrene	193-39-5			1.60E-7%		1.00E-4%
Methyl-tert-butylether	1634-04-4	0.33%				
Naphthalene	91-20-3	0.25%	0.31%	0.26%	0.22%	4.20E-5%
n-Hexane	110-54-3	2.40%				
Phenanthrene	85-01-8		8.60E-6%	8.80E-4%	7.90E-4%	2.10E-4%
Pyrene	129-00-0		2.40E-6%	4.60E-5%	2.90E-5%	2.30E-5%
Toluene	108-88-3	8.10%		0.18%	6.20E-4%	
Total Xylenes	1330-20-7	9.00%		0.50%	0.23%	
Total Organic HAPs		26.08%	0.33%	1.29%	0.68%	0.19%
Worst Single HAP		9.00%	0.31%	0.50%	0.23%	0.07%
		Xylenes	Naphthalene	Xylenes	Xylenes	Chrysene

Methodology

Limited PTE of VOC (tons/yr) = [Weight % VOC solvent in binder that evaporates] * [VOC Solvent Usage Limitation (tons/yr)]

Limited PTE of Total HAPs (tons/yr) = [Worst Case Total HAP Content of VOC solvent (weight %)] * [Worst Case Limited PTE of VOC (tons/yr)]

Limited PTE of Single HAP (tons/yr) = [Worst Case Single HAP Content of VOC solvent (weight %)] * [Worst Case Limited PTE of VOC (tons/yr)]

*Source: Petroleum Liquids. Potter, T.L. and K.E. Simmons. 1998. Total Petroleum Hydrocarbon Criteria Working Group Series, Volume 2.

Composition of Petroleum Mixtures. The Association for Environmental Health and Science. Available on the Internet at:

<http://www.aehs.com/publications/catalog/contents/tph.htm>

Abbreviations

VOC = Volatile Organic Compounds

PTE = Potential to Emit

**Appendix A.2: Limited Emissions Calculations
Gasoline Fuel Transfer and Dispensing Operation**

Company Name: E & B Paving LLC
Source Address: 7320 Lower Huntington Road, Ft. Wayne, Indiana 46809
Operating Permit Number: F003-30070-03281
Revision Number: 003-43035-03281
Reviewer: William Altman

Note: Since the emissions from the gasoline fuel transfer and dispensing operation are minimal, the limited emissions are equal to the unlimited emissions.

To calculate evaporative emissions from the gasoline dispensing fuel transfer and dispensing operation handling emission factors from AP-42 Table 5.2-7 were used. The total potential emission of VOC is as follows:

$$\begin{aligned} \text{Gasoline Throughput} &= 1,300 \text{ gallons/day} \\ &= 474.5 \text{ kgal/yr} \end{aligned}$$

Volatile Organic Compounds

Emission Source	Emission Factor (lb/kgal of throughput)	PTE of VOC (tons/yr)*
Filling storage tank (balanced submerged filling)	0.3	0.07
Tank breathing and emptying	1.0	0.24
Vehicle refueling (displaced losses - controlled)	1.1	0.26
Spillage	0.7	0.17
Total		0.74

Hazardous Air Pollutants

Worst Case Total HAP Content of VOC solvent (weight %)* =	26.08%	
Worst Case Single HAP Content of VOC solvent (weight %)* =	9.0%	Xylenes
Limited PTE of Total HAPs (tons/yr) =	0.19	
Limited PTE of Single HAP (tons/yr) =	0.07	Xylenes

Methodology

The gasoline throughput was provided by the source.

Gasoline Throughput (kgal/yr) = [Gasoline Throughput (lbs/day)] * [365 days/yr] * [kgal/1000 gal]

PTE of VOC (tons/yr) = [Gasoline Throughput (kgal/yr)] * [Emission Factor (lb/kgal)] * [ton/2000 lb]

PTE of Total HAPs (tons/yr) = [Worst Case Total HAP Content of VOC solvent (weight %)] * [PTE of VOC (tons/yr)]

PTE of Single HAP (tons/yr) = [Worst Case Single HAP Content of VOC solvent (weight %)] * [PTE of VOC (tons/yr)]

*Source: Petroleum Liquids. Potter, T.L. and K.E. Simmons. 1998. Total Petroleum Hydrocarbon Criteria Working Group Series, Volume 2. Composition of Petroleum Mixtures. The Association for Environmental Health and Science. Available on the Internet at: <http://www.aehs.com/publications/catalog/contents/tpb.htm>

Abbreviations

VOC = Volatile Organic Compounds

PTE = Potential to Emit

Additional Calculations for FESOP SPR No.: 003-43035-03281
Appendix A.3 to the TSD

Potential to Emit (PTE) Calculations:

One Mineral Filler Silo (AP-42)

The Fort Wayne/ Lower Huntington Road FESOP does not explicitly have provisions or calculation methodology for the addition of a mineral filler silo. Individual controlled PTE calculations were generated for one mineral filler silo using AP-42 emission factors. Calculation methodology is based upon maximum material handling throughputs.

TSP controlled:

$$(665,000 \text{ tons/yr}) \times (0.00099 \text{ lbs/ton}) = 658.35 \text{ lbs/yr} / (2000 \text{ lbs/ton}) \\ = 0.33 \text{ tons/yr}$$

PM10 controlled:

$$(665,000 \text{ tons/yr}) \times (0.00034 \text{ lbs/ton}) = 658.35 \text{ lbs/yr} / (2000 \text{ lbs/ton}) \\ = 0.11 \text{ tons/yr}$$

One Cold Feed Bin and One RAP Bin

The Fort Wayne/ Lower Huntington Road FESOP calculates emissions for feed bins based on maximum material handling throughputs, which are derived from the maximum annual asphalt production limits in the permit. No individual PTE calculations for equipment appear to be necessary for that purpose but are included for accurate emissions calculations. The maximum throughput rate of 30 tons/hr for each individual feed bin is used for PTE calculations, which is a typical bin throughput used at E&B Paving facilities.

TSP controlled:

$$30 \text{ tons/hr} \times (0.00227 \text{ lbs/ton}) = 0.068 \text{ lbs/hr} \times \{8760 \text{ hrs/yr}\} \times (2000 \text{ lbs/ton}) = 0.3 \text{ tons/yr} \times (2 \text{ bins}) \\ = 0.6 \text{ tons/yr}$$

PM10 controlled:

$$30 \text{ tons/hr} \times (0.00107 \text{ lbs/ton}) = 0.032 \text{ lbs/hr} \times \{8760 \text{ hrs/yr}\} \times (2000 \text{ lbs/ton}) = 0.14 \text{ tons/yr} \times (2 \text{ bins}) \\ = 0.28 \text{ tons/yr}$$

Update Max Throughput Capacity of Drum Dryer

FESOP lists capacity of drum dryer at 350 tons/hr. Actual capacity of drum dryer is 400 tons/hr. Due to the extensive calculations required on facility specific calculation spreadsheets, the applicant requests that IDEM perform these PTE calculations.

Added Equipment - Total controlled emissions

Total emissions:

TSP: 0.93 tons/yr

PM10: 0.39 tons/yr



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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Eric J. Holcomb
Governor

Bruno L. Pigott
Commissioner

September 18, 2020
Adam Watts
E & B Paving, LLC
8032 North State Road 9
Greenfield, IN 46140

Re: Public Notice
E & B Paving, LLC
Permit Level: FESOP – Significant Permit Revision
(Minor PSD/EO)
Permit Number: 003-43035-03281

Dear Mr. Adam Watts:

Enclosed is the Notice of 30-Day Period for Public Comment for your draft air permit.

Our records indicate that you are the contact person for this application. However, if you are not the appropriate person within your company to receive this document, please forward it to the correct person. The Notice of 30-Day Period for Public Comment has also been sent to the OAQ Permits Branch Interested Parties List and, if applicable, your Consultant/Agent and/or Responsible Official/Authorized Individual.

The preliminary findings, including the draft permit, technical support document, emission calculations, and other supporting documents, **are available electronically at:**

IDEM's online searchable database: <http://www.in.gov/apps/idem/caats/> . Choose Search Option by **Permit Number**, then enter permit 43035

and

IDEM's Virtual File Cabinet (VFC): <http://www.IN.gov/idem>. Enter VFC in the search box, then search for permit documents using a variety of criteria, such as Program area, date range, permit #, Agency Interest Number, or Source ID.

The Public Notice period will begin the date the Notice is published on the IDEM Official Public Notice website. Publication has been requested and is expected within 2-3 business days. You may check the exact Public Notice begins and ends date here: <https://www.in.gov/idem/5474.htm>

Please note that as of April 17, 2019, IDEM is no longer required to publish the notice in a newspaper.

OAQ has submitted the draft permit package to the Allen County Public Library – Aboite Branch, 5630 Coventy Lane in Fort Wayne, IN 46804. As a reminder, you are obligated by 326 IAC 2-1.1-6(c) to place a copy of the complete permit application at this library no later than ten (10) days after submittal of the application or additional information to our department. We highly recommend that even if you have already placed these materials at the library, that you confirm with the library that these materials are available for review and request that the library keep the materials available for review during the entire permitting process.

Please review the draft permit documents carefully. This is your opportunity to comment on the draft permit and notify the OAQ of any corrections that are needed before the final decision. Questions or comments about the enclosed documents should be directed to William Altman, Indiana Department of Environmental Management, Office of Air Quality, 100 N. Senate Avenue, Indianapolis, Indiana, 46204 or call (800) 451-6027, and ask for extension 3-9664 or dial (317) 233-9664.

Sincerely,

Kathy Bourquein

Kathy Bourquein
Permits Branch
Office of Air Quality

Enclosures

PN Applicant Cover Letter access via website 8/10/2020



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Eric J. Holcomb
Governor

Bruno L. Pigott
Commissioner

September 18, 2020

To: Allen County Public Library – Aboite Branch

From: Jenny Acker, Branch Chief
Permits Branch
Office of Air Quality

Subject: **Important Information to Display Regarding a Public Notice for an Air Permit**

Applicant Name: E & B Paving, LLC
Permit Number: 003-43035-03281

Enclosed is a copy of important information to make available to the public. This proposed project is regarding a source that may have the potential to significantly impact air quality. Librarians are encouraged to educate the public to make them aware of the availability of this information. The following information is enclosed for public reference at your library:

- Notice of a 30-day Period for Public Comment
- Draft Permit and Technical Support Document

You will not be responsible for collecting any comments from the citizens. Please refer all questions and request for the copies of any pertinent information to the person named below.

Members of your community could be very concerned in how these projects might affect them and their families. **Please make this information readily available until you receive a copy of the final package.**

If you have any questions concerning this public review process, please contact Joanne Smiddie-Brush, OAQ Permits Administration Section at 1-800-451-6027, extension 3-0185. Questions pertaining to the permit itself should be directed to the contact listed on the notice.

Enclosures
PN Library updated 4/2019



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Eric J. Holcomb
Governor

Bruno L. Pigott
Commissioner

Notice of Public Comment

September 18, 2020

E & B Paving, LLC
003-43035-03281

Dear Concerned Citizen(s):

You have been identified as someone who could potentially be affected by this proposed air permit. The Indiana Department of Environmental Management, in our ongoing efforts to better communicate with concerned citizens, invites your comment on the draft permit.

Enclosed is a Notice of Public Comment, which has posted on IDEM's Public Notice website at <https://www.in.gov/idem/5474.htm>.

The application and supporting documentation for this proposed permit have been placed at the library indicated in the Notice. These documents more fully describe the project, the applicable air pollution control requirements and how the applicant will comply with these requirements.

If you would like to comment on this draft permit, please contact the person named in the enclosed Public Notice. Thank you for your interest in the Indiana's Air Permitting Program.

Please Note: *If you feel you have received this Notice in error, or would like to be removed from the Air Permits mailing list, please contact Joanne Smiddie-Brush with the Air Permits Administration Section at 1-800-451-6027, ext. 3-0185 or via e-mail at JBRUSH@IDEM.IN.GOV. If you have recently moved and this Notice has been forwarded to you, please notify us of your new address and if you wish to remain on the mailing list. Mail that is returned to IDEM by the Post Office with a forwarding address in a different county will be removed from our list unless otherwise requested.*

Enclosure
PN AAA Cover Letter 2/28/2020



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Eric J. Holcomb
Governor

Bruno L. Pigott
Commissioner

AFFECTED STATE NOTIFICATION OF PUBLIC COMMENT PERIOD DRAFT INDIANA AIR PERMIT

September 18, 2020

A 30-day public comment period has been initiated for:

Permit Number: 003-43035-03281
Applicant Name: E & B Paving, LLC
Location: Fort Wayne, Allen County, Indiana

The public notice, draft permit and technical support documents can be accessed via the **IDEM Air Permits Online** site at:

<http://www.in.gov/ai/appfiles/idem-caats/>

Questions or comments on this draft permit should be directed to the person identified in the public notice by telephone or in writing to:

Indiana Department of Environmental Management
Office of Air Quality, Permits Branch
100 North Senate Avenue
Indianapolis, IN 46204

Questions or comments regarding this email notification or access to this information from the EPA Internet site can be directed to Chris Hammack at chammack@idem.IN.gov or (317) 233-2414.

Affected States Notification 1/9/2017

Mail Code 61-53

IDEM Staff	KBOURQUE E & B Paving LLC 003-43035-03281 (draft)		September 18, 2020	AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender		Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204	Type of Mail: CERTIFICATE OF MAILING ONLY	

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handing Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee	Remarks
1		Adam Watts E & B Paving LLC 8032 N SR 9 Greenfield IN 46140 (Source CAATS)										
2		Daniel & Sandy Trimmer 15021 Yellow River Road Columbia City IN 46725 (Affected Party)										
3		Duane & Deborah Clark Clark Farms 6973 E. 500 S. Columbia City IN 46725 (Affected Party)										
4		Fort Wayne City Council and Mayors Office 200 E Berry Street Ste 120 Fort Wayne IN 46802 (Local Official)										
5		Mr. Jeff Coburn Plumbers & Steamfitters, Local 166 2930 W Ludwig Rd Fort Wayne IN 46818-1328 (Affected Party)										
6		Roanoke Town Council P.O. Box 328 Roanoke IN 46783 (Local Official)										
7		Allen Co. Board of Commissioners 200 E Berry Street Ste 410 Fort Wayne IN 46802 (Local Official)										
8		Fort Wayne-Allen County Health Department 200 E Berry St Suite 360 Fort Wayne IN 46802 (Health Department)										
9		Allen County Public Library - Aboite Branch 5630 Coventry Ln Fort Wayne IN 46804 (Library)										
10		Lisa Green The Journal Gazette 600 W Main St Fort Wayne IN 46802 (Affected Party)										
11		Douglas E Ruhlin Resource Management Associates PO Box 188 Toms River NJ 08754 (Consultant)										
12												
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