



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

TO: Interested Parties / Applicant

DATE: January 24, 2013

RE: Xtreme Contractors, LLC / 181-32184-00048

FROM: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

Notice of Decision: Approval - Effective Immediately

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 13-15-5-3, this permit is effective immediately, unless a petition for stay of effectiveness is filed and granted according to IC 13-15-6-3, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

If you wish to challenge this decision, IC 4-21.5-3 and IC 13-15-6-1 require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Suite N 501E, Indianapolis, IN 46204, **within eighteen (18) calendar days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

- (1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
- (2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
- (3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

- (1) the name and address of the person making the request;
- (2) the interest of the person making the request;
- (3) identification of any persons represented by the person making the request;
- (4) the reasons, with particularity, for the request;
- (5) the issues, with particularity, proposed for considerations at any hearing; and
- (6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

Enclosures
FNPER.dot12/03/07



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**Federally Enforceable State Operating Permit
Renewal
OFFICE OF AIR QUALITY**

**Xtreme Contractors, LLC
348 East U.S. Highway 24
Reynolds, Indiana 47980**

(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.

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.

Operation Permit No.: F181-32184-00048	
Issued by:  Iryn Calilung, Section Chief Permits Branch Office of Air Quality	Issuance Date: January 24, 2013 Expiration Date: January 24, 2023

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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 hot mix asphalt batch plant.

Source Address:	348 East U.S. Highway 24, Reynolds, Indiana 47980
General Source Phone Number:	(219) 984 5144
SIC Code:	2951 (Asphalt Paving Mixtures and Blocks)
County Location:	White
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) aggregate dryer, identified as 03172, constructed prior to June 11, 1973, with a maximum capacity of 60.0 tons per hour, equipped with one (1) No. 2 off-road diesel-fired aggregate dryer/burner with a maximum rated capacity of 27 million (MM) Btu per hour, using a cyclone and a wet washer (scrubber) in sequence for air pollution control, exhausting to one (1) stack, identified as Stack SV1;
- (b) One (1) cold aggregate belt conveyor;
- (c) One (1) cold aggregate elevator;
- (d) One (1) hot aggregate enclosed elevator; and
- (e) Four (4) cold aggregate feeder bins.

Note: This stationary hot mix asphalt batch plant does not use blast furnace or electric arc furnace steel slag in the aggregate mix. This source does not use asphalt shingles in the aggregate mix. This source does not produce cold mix asphalt. This source does not have a diesel generator.

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) No. 2 distillate oil fired hot oil heater, with a maximum rated capacity of 1.2 MMBtu per hour;
- (b) Paved roads and parking lots with public access [326 IAC 6-4][326 IAC 6-5];
- (c) Three (3) No. 2 distillate fuel oil storage tanks, identified as T1, T2, and T3, constructed in 2000, 1983, and 1988 respectively, each with a maximum storage capacity of 6000

gallons, exhausting at three (3) tube/vents, identified as T1, T2, and T3 respectively;

- (d) One (1) No. 2 distillate fuel oil storage tank, identified as T4, constructed in 1983, with a maximum storage capacity of 1000 gallons, exhausting at one (1) tube/vent, identified as T4;
- (e) One (1) liquid asphalt storage tank, identified as T5, constructed in 1988, with a maximum storage capacity of 18,000 gallons, exhausting at one (1) tube/vent, identified as T5;
- (f) One (1) sealcoat storage tank, identified as T7, with a maximum storage capacity of 6000 gallons, exhausting at one (1) tube/vent, identified as T7.

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).

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, F181-32184-00048, 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:

- (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.

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

- (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.

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).

- (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 F181-32184-00048 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.

**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 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) and (c) 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

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)(1) and (c). 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)(1) and (c).

- (b) **Emission Trades [326 IAC 2-8-15(b)]**
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(b).
- (c) **Alternative Operating Scenarios [326 IAC 2-8-15(c)]**
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;
- (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.

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 100 pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 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.

- (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 demolition 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).

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.

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.
- (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

- (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. Support information includes the following:
- (AA) All calibration and maintenance records.
 - (BB) All original strip chart recordings for continuous monitoring instrumentation.
 - (CC) Copies of all reports required by the FESOP.
- Records of required monitoring information include the following:
- (AA) The date, place, as defined in this permit, and time of sampling or measurements.
 - (BB) The dates analyses were performed.
 - (CC) The company or entity that performed the analyses.
 - (DD) The analytical techniques or methods used.
 - (EE) The results of such analyses.
 - (FF) The operating conditions as existing at the time of sampling or measurement.

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. Proper notice submittal under Section B –Emergency Provisions satisfies the reporting requirements of this paragraph. 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.

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.

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (a) One (1) aggregate dryer, identified as 03172, constructed prior to June 11, 1973, with a maximum capacity of 60.0 tons per hour, equipped with one (1) No. 2 off-road diesel-fired aggregate dryer/burner with a maximum rated capacity of 27 million (MM) Btu per hour, using a cyclone and a wet washer (scrubber) in sequence for air pollution control, exhausting to one (1) stack, identified as Stack SV1;
- (b) One (1) cold aggregate belt conveyor;
- (c) One (1) cold aggregate elevator;
- (d) One (1) hot aggregate enclosed elevator; and
- (e) Four (4) cold aggregate feeder bins.

Note: This stationary hot mix asphalt batch plant does not use blast furnace or electric arc furnace steel slag in the aggregate mix. This source does not use asphalt shingles in the aggregate mix. This source does not produce cold mix asphalt. This source does not have a diesel generator.

(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 Particulate Matter [326 IAC 6-3-2]

- (a) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable PM emission rate from the aggregate mixing and drying operation shall not exceed 46.3 pounds per hour when operating at a process weight rate of 60 tons per hour. The pound per hour limitation was calculated using the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of 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 (Particulate Emission Limitations for Manufacturing Processes), the allowable PM emission rate from the material handling shall not exceed 45.8 pounds per hour when operating at a process weight rate of 57 tons per hour. The pound per hour limitation was calculated using 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:

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

D.1.2 FESOP Limits [326 IAC 2-8-4]

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

- (a) The amount of asphalt produced shall not exceed 100,000 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 1.5 pounds per ton of asphalt processed.
- (c) The CO emissions from the dryer/mixer shall not exceed 0.4 pounds per ton of asphalt processed.

Compliance with these limits, combined with limited potential to emit PM10 and CO from all other emission units, shall limit source-wide total potential to emit of PM10 and CO to less than one hundred (100) tons per twelve (12) consecutive month period, and render 326 IAC 2-7 (Part 70) not applicable.

D.1.3 Sulfur Dioxide (SO₂) [326 IAC 7-1.1][326 IAC 7-2-1]

- (a) Pursuant to 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations), sulfur dioxide (SO₂) emissions from the 27.0 million Btu per hour burner for the aggregate dryer shall not exceed five tenths (0.5) pounds per MMBtu when using distillate oil.

Note: No. 2 off-road diesel fuel oil is considered distillate oil.

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

D.1.4 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan is required for this facility and its control device. 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.1.5 Particulate Matter

In order to comply with Conditions D.1.1 and D.1.2, the cyclone and wet scrubber in series for particulate control shall be in operation and control emissions from the batch mix dryer/burner at all times that the batch mix dryer/burner is in operation.

D.1.6 Testing Requirements [326 IAC 2-8-5(a)(1), (4)][326 IAC 2-1.1-11]

In order to demonstrate compliance with Conditions D.1.1 and D.1.2, the Permittee shall perform PM and PM10 testing on the aggregate mixing and drying operation utilizing methods as approved by the Commissioner. PM10 includes filterable and condensable PM10. This test shall be repeated at least once every five (5) years from the date of the previous 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.

D.1.7 Sulfur Dioxide Emissions and Sulfur Content

Pursuant to 326 IAC 2-8-4 and 326 IAC 3-7-4, compliance with the fuel limitations established in Condition D.1.3 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.

- (a) Providing vendor analysis of fuel delivered, if accompanied by a vendor certification; or

- (b) Analyzing the oil sample to determine the sulfur content of the oil via the procedures in 40 CFR 60, Appendix A, Method 19.
 - (1) Oil samples may be collected from the fuel tank immediately after the fuel tank is filled and before any oil is combusted; and
 - (2) If a partially empty fuel tank is refilled, a new sample and analysis would be required upon filling.
- (c) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the 27 MMBtu per hour burner for the aggregate dryer, 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 (a) or (b) 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.1.8 Visible Emissions Notations

- (a) Visible emission notations of the batch mix dryer/burner cyclone/wet scrubber stack exhaust, conveyors, and transfer points shall be performed once per day during normal 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. Failure to take response steps shall be considered a deviation from this permit.

D.1.9 Parametric Monitoring

The Permittee shall record the scrubbing liquid (water) flow rate across the wet scrubber used in conjunction with the aggregate mixing and dryer/burner at least once per day when the aggregate mixing/drying facility is in operation. When for any one reading, the water flow rate is less than 40 gallons per minute, or a value established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A flow rate that is less than the 40 gallons per minute, or a value established during the latest stack test, is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a violation of this permit.

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

D.1.10 Cyclone/ Wet Scrubber Failure Detection

In the event that a cyclone or wet scrubber failure has been observed:

Failed units and the associated process will be shut down immediately until the failed units have 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).

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

D.1.11 Record Keeping Requirements

- (a) To document the compliance status with Condition D.1.2, the Permittee shall maintain records of the amount of asphalt produced.

- (b) To document the compliance status with Conditions D.1.3 and D.1.7, the Permittee shall maintain records in accordance with (1) and (2) below.
 - (1) Calendar dates covered in the compliance determination period;
 - (2) 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

If the fuel supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:

 - (A) fuel supplier certifications.
 - (B) the name of the fuel supplier; and
 - (C) a statement from the fuel supplier that certifies the sulfur content of the fuel oil.

The Permittee shall retain records of all recording/monitoring data and support information for a period of five (5) years, or longer if specified elsewhere in this permit, from the date of the monitoring sample, measurement, or report. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit.

- (c) To document the compliance status with Condition D.1.8, the Permittee shall maintain records of the once per day visible emission notations of the batch mix dryer/burner cyclone/wet scrubber stack exhaust, conveyors, and transfer points. 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).

- (d) To document the compliance status with Condition D.1.9, the Permittee shall maintain weekly records of the once per day scrubbing liquid (water) flow rate readings during normal operation. The Permittee shall include in its daily record when a scrubbing liquid (water) flow rate reading is not taken and the reason for the lack of a pressure drop reading (e.g., the process did not operate that day).

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

D.1.12 Reporting Requirements

A quarterly summary of the information to document the compliance status with Condition D.1.2 shall be submitted using the reporting form located at the end of this permit, or its equivalent, 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 an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (a) One (1) No. 2 distillate oil fired hot oil heater, with a maximum rated capacity of 1.2 MMBtu per hour;

(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 Particulate Matter [326 IAC 6-2]

Pursuant to 326 IAC 6-2-4, the PM emissions from the 1.2 MMBtu per hour hot oil heater shall not exceed 0.6 lb/MMBtu.

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

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

Source Name: Xtreme Contractors, LLC
Source Address: 348 East U.S. Highway 24, Reynolds, Indiana 47980
FESOP Permit No.: F181-32184-00048

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:

**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: Xtreme Contractors, LLC
Source Address: 348 East U.S. Highway 24, Reynolds, Indiana 47980
FESOP Permit No.: F181-32184-00048

This form consists of 2 pages

Page 1 of 2

- This is an emergency as defined in 326 IAC 2-7-1(12)
- 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:

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: _____

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

FESOP Quarterly Report

Source Name: Xtreme Contractors, LLC
Source Address: 348 East U.S. Highway 24, Reynolds, Indiana 47980
FESOP Permit No.: F181-32184-00048
Facility: one (1) aggregate drying and mixing operation exhausting through a cyclone and wet washer (scrubber) at Stack SV1
Parameter: asphalt production
Limit: 100,000 tons per twelve (12) consecutive month period

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
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: _____

**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: Xtreme Contractors, LLC
 Source Address: 348 East U.S. Highway 24, Reynolds, Indiana 47980
 FESOP Permit No.: F181-32184-00048

Months: _____ **to** _____ **Year:** _____

This report shall be submitted quarterly based on a calendar year. Proper notice submittal under Section B –Emergency Provisions satisfies the reporting requirements of paragraph (a) of Section C- General Reporting. 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".	
<input type="checkbox"/> NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.	
<input type="checkbox"/> 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:	

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: _____

**Federally Enforceable State Operating Permit Renewal
OFFICE OF AIR QUALITY**

Xtreme Contractors, LLC

348 East U.S. Highway 24, Reynolds, Indiana 47980

Attachment A

**HOT-MIX ASPHALT PLANT
FUGITIVE DUST CONTROL PLAN**

Permit No. F181-32184-00048

ATTACHMENT A

ASPHALT PLANT SITE FUGITIVE DUST CONTROL PLAN

Fugitive particulate matter emissions from paved roads, unpaved roads, and parking lots shall be controlled by one or more of the following methods:

Paved roads and parking lots:

- (1) cleaning by vacuum sweeping on an as needed basis (monthly at a minimum);
- (2) power brooming while wet either from rain or application of water.

Fugitive particulate matter emissions from aggregate stockpiles shall be controlled by one or more of the following methods on an as needed basis:

- (1) maintaining minimum size and number of aggregate stock piles;
- (2) treating around the stockpile area with emulsified asphalt;
- (3) treating around the stockpile area with water;
- (4) treating the stockpiles with water.

Fugitive particulate matter emissions from outdoor conveying of aggregates shall be controlled by the following method on an as needed basis:

- (1) applying water at the feed and the intermediate points.

Fugitive particulate matter emissions from the transfer of aggregates shall be controlled by one of the following methods:

- (1) minimizing the vehicular distance between transfer points;
- (2) enclosing the transfer points;
- (3) applying water to transfer points on an as needed basis.

Fugitive particulate matter emissions from transportation of aggregate by truck, front end loader, etc. shall be controlled by one of the following methods:

- (1) tarping the aggregate hauling vehicles;
- (2) maintaining vehicle bodies in a condition to prevent leakage;
- (3) spraying the aggregates with water;
- (4) maintaining a 10 MPH speed limit in the yard.

Fugitive particulate matter emissions from the loading and unloading of aggregate shall be controlled by one of the following methods:

- (1) reducing free fall distance to a minimum;
- (2) reducing the rate of discharge of the aggregate;
- (3) spraying the aggregate with water on an as needed basis.

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a
Federally Enforceable State Operating Permit Renewal

Source Background and Description

Source Name:	Xtreme Contractors, LLC
Source Location:	348 East U.S. Highway 24, Reynolds, Indiana 47980
County:	White
SIC Code:	2951 (Asphalt Paving Mixtures and Blocks)
Permit Renewal No.:	F181-32184-00048
Permit Reviewer:	Sarah Street

The Office of Air Quality (OAQ) has reviewed the operating permit renewal application from Xtreme Contractors, LLC, relating to the continued operation of a stationary hot mix asphalt batch plant. On August 6, 2012, Xtreme Contractors, LLC submitted an application to the OAQ requesting to renew its operating permit. Xtreme Contractors, LLC was issued its first FESOP Renewal F181-24537-00048 on May 8, 2008.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units:

- (a) One (1) aggregate dryer, identified as 03172, constructed prior to June 11, 1973, with a maximum capacity of 60.0 tons per hour, equipped with one (1) No. 2 off-road diesel-fired aggregate dryer/burner with a maximum rated capacity of 27 million (MM) Btu per hour, using a cyclone and a wet washer (scrubber) in sequence for air pollution control, exhausting to one (1) stack, identified as Stack SV1;
- (b) One (1) cold aggregate belt conveyor;
- (c) One (1) cold aggregate elevator;
- (d) One (1) hot aggregate enclosed elevator; and
- (e) Four (4) cold aggregate feeder bins.

Note: This stationary hot mix asphalt batch plant does not use blast furnace or electric arc furnace steel slag in the aggregate mix. This source does not use asphalt shingles in the aggregate mix. This source does not produce cold mix asphalt. This source does not have a diesel generator.

Emission Units and Pollution Control Equipment Removed From the Source

The source has removed the following insignificant activities:

- (a) One (1) propane storage tank, identified as T6, with a maximum storage capacity of 1000 gallons, exhausting at one (1) tube/vent, identified as T6;
- (b) One (1) gasoline storage tank, identified as T8, with a maximum storage capacity of 250 gallons, exhausting at one (1) tube/vent, identified as T8.

Insignificant Activities

The source also consists of the following insignificant activities:

- (a) One (1) No. 2 distillate oil fired hot oil heater, with a maximum rated capacity of 1.2 MMBtu per hour;

Note: The source had indicated this hot oil heater has an approximate construction year of 1988.
- (b) Paved roads and parking lots with public access [326 IAC 6-4][326 IAC 6-5];
- (c) Three (3) No. 2 distillate fuel oil storage tanks, identified as T1, T2, and T3, constructed in 2000, 1983, and 1988 respectively, each with a maximum storage capacity of 6000 gallons, exhausting at three (3) tube/vents, identified as T1, T2, and T3 respectively;
- (d) One (1) No. 2 distillate fuel oil storage tank, identified as T4, constructed in 1983, with a maximum storage capacity of 1000 gallons, exhausting at one (1) tube/vent, identified as T4;
- (e) One (1) liquid asphalt storage tank, identified as T5, constructed in 1988, with a maximum storage capacity of 18,000 gallons, exhausting at one (1) tube/vent, identified as T5;
- (f) One (1) sealcoat storage tank, identified as T7, with a maximum storage capacity of 6000 gallons, exhausting at one (1) tube/vent, identified as T7;

Existing Approvals

Since the issuance of the FESOP Renewal F181-24537-00048 on May 8, 2008, the source has constructed or has been operating under the following additional approvals:

- (a) Administrative Amendment No. F181-27234-00048 issued on December 11, 2008.

All terms and conditions of previous permits issued pursuant to permitting programs approved into the State Implementation Plan have been either incorporated as originally stated, revised, or deleted by this permit. All previous registrations and permits are superseded by this permit.

Enforcement Issue

There are no enforcement actions pending.

Emission Calculations

See Appendix A.1 and Appendix A.2 of this document for detailed emission calculations.

County Attainment Status

The source is located in White County.

Pollutant	Designation
SO ₂	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O ₃	Unclassifiable or attainment effective June 15, 2004, for the 8-hour ozone standard. ¹
PM ₁₀	Unclassifiable effective November 15, 1990.
NO ₂	Cannot be classified or better than national standards.
Pb	Not designated.
¹ Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005. Unclassifiable or attainment effective April 5, 2005, for PM _{2.5} .	

- (a) **Ozone Standards**
 Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) 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 NOx emissions are considered when evaluating the rule applicability relating to ozone. White County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (b) **PM_{2.5}**
 White County has been classified as attainment for PM_{2.5}. On May 8, 2008 U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for PM_{2.5} emissions. These rules became effective on July 15, 2008. On May 4, 2011 the air pollution control board issued an emergency rule establishing the direct PM_{2.5} significant level at ten (10) tons per year. This rule became effective, June 28, 2011. Therefore, direct PM_{2.5} and SO₂ emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability – Entire Source section.
- (c) **Other Criteria Pollutants**
 White County has been classified as attainment or unclassifiable in Indiana for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2, 326 IAC 2-3, or 326 IAC 2-7, and there is no applicable New Source Performance Standard that was in effect on August 7, 1980, fugitive emissions are not counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability.

Note: This source is not subject to the New Source Performance Standard for Hot Mix Asphalt Facilities (40 CFR Part 60, Subpart I), because this stationary hot mix asphalt batch plant was constructed prior to June 11, 1973. See Federal Rule Applicability section below.

Unrestricted Potential Emissions

This table reflects the unrestricted potential emissions of the source. Note that fugitive emissions are not included in the table below (see Fugitive Emissions section above). See Appendix A.1 for PTE from fugitive emissions.

Unrestricted Potential Emissions	
Pollutant	Tons/year
PM	8,409.68
PM ₁₀	1,182.72
PM _{2.5}	71.08
SO ₂	62.64
NO _x	32.29
VOC	2.16
CO	105.31
GHGs as CO ₂ e	20,142.74
Single HAP	0.71 (xylenes)
Total HAP	2.01

Appendix A.1 of this TSD reflects the unrestricted potential emissions of the source.

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of PM10 and CO is equal to or greater than 100 tons per year. However, the Permittee has agreed to limit the source's PM10 and CO emissions to less than Title V levels, therefore the Permittee will be issued a FESOP Renewal.
- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of all other criteria pollutants are less than 100 tons per year.
- (c) The potential to emit (as defined in 326 IAC 2-7-1(29)) of GHGs is less than one hundred thousand (100,000) tons of CO₂ equivalent emissions (CO₂e) per year.
- (d) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is less than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination of HAPs is less than twenty-five (25) tons per year.

Potential to Emit After Issuance

The source has opted to remain a FESOP source. The table below summarizes the potential to emit, reflecting all limits of the emission units. Any control equipment is considered enforceable only after issuance of this FESOP and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

Process/ Emission Unit	Potential To Emit of the Entire Source After Issuance of FESOP Renewal (tons/year)									
	PM	PM ₁₀ *	PM _{2.5} **	SO ₂	NO _x	VOC	CO	GHGs*** as CO ₂ e	Total HAPs	Worst Single HAP
Ducted Emissions										
Dryer Fuel Combustion (worst case)	1.69	2.79	2.79	58.78	16.89	0.17	4.22	19,091.54	0.06	0.05 (formaldehyde)
Dryer/Mixer and Batch Tower (Process)	202.79****	75.00	13.50	4.40	6.00	0.41	20.00	1,857.77	0.38	0.14 (xylenes)
Dryer/Mixer Slag Processing (worst case)	0	0	0	0	0	0	0	0	0	0
Hot Oil Heater Fuel Combustion/Process (worst case)	0.08	0.12	0.12	2.67	0.75	0.01	0.19	1,051.20	0.00	0.002 (formaldehyde)
Worst Case Emissions	202.87	75.12	13.62	61.44	17.65	0.42	20.19	20,142.74	0.38	0.14 (xylenes)
Fugitive Emissions										
Asphalt Load-Out, Silo Filling, and On-Site Yard	0.06	0.06	0.06	0	0	0.86	0.14	0	0.01	0.004 (formaldehyde)
Material Storage Piles	0.08	0.03	0.03	0	0	0	0	0	0	0
Material Processing and Handling	0.32	0.15	0.02	0	0	0	0	0	0	0
Material Crushing, Screening, and Conveying	1.59	0.58	0.58	0	0	0	0	0	0	0
Unpaved and Paved Roads (worst case)	2.57	0.66	0.07	0	0	0	0	0	0	0
Volatile Organic Liquid Storage Vessels	0	0	0	0	0	negl	0	0	negl	negl
Total Fugitive Emissions	4.61	1.47	0.75	0	0	0.86	0.14	0.00	0.01	0.004 (formaldehyde)
Total Limited/Controlled Emissions	207.48	76.59	14.37	61.44	17.65	1.27	20.33	20,142.74	0.40	0.14 (xylenes)
Title V Major Source Thresholds	NA	100	100	100	100	100	100	100,000	25	10
PSD Major Source Thresholds	250	250	250	250	250	250	250	100,000	N/A	N/A
Emission Offset/Nonattainment NSR Major Source Thresholds	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
negl = negligible NA = Not applicable *Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant". **PM _{2.5} listed is direct PM _{2.5} . ***The 100,000 CO ₂ e threshold represents the Title V and PSD subject to regulation thresholds for GHGs in order to determine whether a source's emissions are a regulated NSR pollutant under Title V and PSD. ****The PM emissions from the Dryer/Mixer and Batch Tower (Process) are limited by 326 IAC 6-3-2 to 46.3 lbs/hr of PM, which is equivalent to 202.79 tons/year of PM.										

(a) **FESOP Status**

This new source is not a Title V major stationary source, because the potential to emit criteria pollutants from the entire source will be limited to less than the Title V major source threshold levels. In addition, this new source is not a major source of HAPs, as defined in 40 CFR 63.41, because the potential to emit HAPs is less than ten (10) tons per year for a single HAP and twenty-five (25) tons per year of total HAPs. Therefore, this source is an area source under Section 112 of the Clean Air Act and is subject to the provisions of 326 IAC 2-8 (FESOP).

In order to comply with the requirements of 326 IAC 2-8-4 (FESOP), the source shall comply with the following:

- (1) The amount of hot-mix asphalt processed shall not exceed 100,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (2) The PM10 emissions from the dryer/mixer shall not exceed 1.5 pounds per ton of asphalt processed.
- (3) The CO emissions from the dryer/mixer shall not exceed 0.4 pounds per ton of asphalt processed.

Note 1: Limits (1) and (2) are existing FESOP limits. The source has requested no changes to these limits with this renewal. Since the CO emissions are greater than the Part 70 threshold, Limit (3) is being added with this renewal. This change is a Title I change.

Note 2: A pound per ton limit for PM2.5 is not needed for the source to maintain its FESOP status.

(4) Fuel Content Limit

When combusting No. 2 fuel oil in the dryer/mixer burner the calendar month average sulfur content of the No. 2 fuel oil shall not exceed 0.5 percent by weight, with compliance determined at the end of each month.

Note 4: A No.2 fuel oil usage limit in the dryer/mixer is not required for the source to continue to comply with its FESOP limits.

Note 5: This stationary hot mix asphalt batch plant does not use blast furnace or electric arc furnace steel slag in the aggregate mix. This source does not use asphalt shingles in the aggregate mix. This source does not produce cold mix asphalt. This source does not have a diesel generator.

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

(b) **PSD Minor Source**

With this renewal, this source is still not subject to the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) because construction of the source commenced prior to the applicability date of January 6, 1975.

Federal Rule Applicability

New Source Performance Standards (NSPS)

- (a) Standards of Performance for Small Industrial/Commercial/Institutional Steam Generating Units (40 CFR 60, Subpart Dc)

The requirements of the New Source Performance Standard for Small Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60, Subpart Dc (326 IAC 12), are not included in the permit, because the one (1) hot oil heater, with maximum rated heat input capacity of 1.2 MMBtu/hr, has a maximum design heat input capacity of less than the applicability threshold of ten (10) MMBtu/hr.

- (b) Standards of Performance for Hot Mix Asphalt Facilities (40 CFR Part 60, Subpart I)
While this source meets the definition of a hot-mix asphalt facility pursuant to 40 CFR 60.90(a), this source was constructed prior to June 11, 1973. Therefore, pursuant to 40 CFR 60.90(b), this source is not subject to the requirements of NSPS Subpart I.

- (c) Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984 (40 CFR 60, Subpart Ka)

The requirements of the New Source Performance Standard for Volatile Organic Liquid Storage Vessels, 40 CFR 60, Subpart Ka (326 IAC 12), are not included in the permit renewal.

- (1) Pursuant to 40 CFR 60.110a(a), the two (2) distillate fuel oil storage tanks known as T2 and T4, both constructed in 1983, are not subject to NSPS Subpart Kb because each storage vessel is less than 40,000 gallons. Tank T2 has a capacity of 6,000 gallons, and tank T4 has a capacity of 1,000 gallons.
- (2) Pursuant to 40 CFR 60.110a(a), the one (1) 18,000 gallon liquid asphalt storage tank, constructed in 1988 and identified as T5, the one (1) sealcoat storage tank, identified as T7, and the two (2) distillate fuel oil storage tanks known as T1 and T3, constructed in 2000 and 1988 respectively, are not subject to NSPS Subpart Ka because each tank was constructed after July 23, 1984

- (d) Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984 (40 CFR 60, Subpart Kb)

The requirements of the New Source Performance Standard for Volatile Organic Liquid Storage Vessels, 40 CFR 60, Subpart Kb (326 IAC 12), are not included in the permit renewal.

- (1) Pursuant to 40 CFR 60.110b(a), the one (1) 18,000 gallon liquid asphalt storage tank, constructed in 1988 and identified as T5, the one (1) sealcoat storage tank, identified as T7, and the two (2) distillate fuel oil storage tanks known as T1 and T3, constructed in 2000 and 1988 respectively, are not subject to NSPS Subpart Kb because the capacity of each tank is less than 75 m³ (19,800 gal).
- (2) Pursuant to 40 CFR 60.110b(a), the two (2) distillate fuel oil storage tanks known as T2 and T4, both constructed in 1983, are not subject to NSPS Subpart Kb because the construction of the storage vessels commenced before July 23, 1984.

Note: The one (1) propane storage tank, identified as T6, and the one (1) gasoline storage tank, identified as T8 have been removed with this renewal.

- (e) Standards of Performance for Asphalt Processing and Asphalt Roofing Manufacture (40 CFR 60, Subpart UU)
The requirements of the New Source Performance Standard for Asphalt Processing and Asphalt Roofing Manufacture, 40 CFR 60, Subpart UU (2U) (326 IAC 12), are not included in the permit, because the stationary hot mix asphalt batch plant still does not meet the definition of an asphalt processing plant (since it does not blow asphalt) or an asphalt roofing plant (since it does not produce asphalt roofing products); and, finally, pursuant to 40 CFR 60.101(a), the stationary hot mix asphalt batch plant is not a petroleum refinery since it is not engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants, or other products through distillation of petroleum or through redistillation, cracking or reforming of unfinished petroleum derivatives.
- (f) Standards of Performance for Calciners and Dryers in Mineral Industries (40 CFR 60, Subpart UUU)
The requirements of the New Source Performance Standard for Calciners and Dryers in Mineral Industries, 40 CFR 60, Subpart UUU (3U) (326 IAC 12), are not included in the permit, because the stationary hot mix asphalt batch plant still does not meet the definition of a mineral processing plant, since it does not process or produce any of the following minerals, their concentrates or any mixture of which the majority (>50 percent) is any of the following minerals or a combination of these minerals: alumina, ball clay, bentonite, diatomite, feldspar, fire clay, fuller's earth, gypsum, industrial sand, kaolin, lightweight aggregate, magnesium compounds, perlite, roofing granules, talc, titanium dioxide, and vermiculite.
- (g) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR 60) included in the renewal.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

- (h) National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Asphalt Processing and Asphalt Roofing Manufacturing (40 CFR 63, Subpart LLLLL)
The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Asphalt Processing and Asphalt Roofing Manufacturing, 40 CFR 63, Subpart LLLLL (5L) (326 IAC 20-71), are not included in the permit, because the stationary hot mix asphalt batch plant still does not meet the definition of an asphalt processing plant or an asphalt roofing manufacturing facility, since it does not engage in the preparation of asphalt flux or asphalt roofing materials. Additionally, it is not a major source of HAPs, and is not located at nor is it a part of a major source of HAP emissions.
- (i) National Emission Standards for Hazardous Air Pollutants (NESHAPs) for the Source Category Identified as Gasoline Dispensing Facilities (GDF) (40 CFR 63, Subpart CCCCC)
The requirements of this National Emission Standards for Hazardous Air Pollutants (NESHAP) for the Source Category Identified as Gasoline Dispensing Facilities (GDF), 40 CFR 63.11110, Subpart CCCCC (6C) (326 IAC 20), are not included in the permit, because this stationary hot mix asphalt batch plant still has no gasoline dispensing facilities.
- (j) National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Industrial, Commercial, and Institutional Boilers Area Sources (40 CFR 63, Subpart JJJJJ)
- (1) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Industrial, Commercial, and Institutional Boilers Area Sources, 40 CFR 63, Subpart JJJJJ (6J), are not included in the permit for the dryer/mixer burner, because although this existing source is an area source of hazardous air pollutants (HAP), as defined in 40 CFR 63.2, the dryer/mixer burner is a direct-fired process unit and not a boiler, as defined in 40 CFR 63.11237.
 - (2) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Industrial, Commercial, and Institutional Boilers Area Sources,

40 CFR 63, Subpart JJJJJJ (6J), are not included in the permit for the No. 2 distillate fuel oil fired hot oil heater, because although this existing source is an area source of hazardous air pollutants (HAP), as defined in 40 CFR 63.2, and the hot oil heater fires No. 2 distillate fuel oil, it does not meet the definition of a boiler, as defined in 40 CFR 63.11237, since heat transfer oil and not water is used as the indirect heating media.

- (k) 40 CFR 63, Subpart AAAAAA - NESHAP for Area Sources: Asphalt Processing and Asphalt Roofing Manufacturing
The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Area Sources: Asphalt Processing and Asphalt Roofing Manufacturing, 40 CFR 63, Subpart AAAAAA (7A) (326 IAC 20), are not included in the permit, because although the stationary hot mix asphalt batch plant is an area source of hazardous air pollutant (HAP) emissions, as defined in 40 CFR 63.2, it does not meet the definition of an asphalt processing operation or an asphalt roofing manufacturing operation, as defined in 40 CFR 63.11566, since it does not engage in the preparation of asphalt flux or asphalt roofing materials.
- (l) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included in the renewal.

Compliance Assurance Monitoring (CAM)

- (m) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is not included in the permit, because the potential to emit of the source is limited to less than the Title V major source thresholds and the source is not required to obtain a Part 70 or Part 71 permit.

State Rule Applicability - Entire Source

The following state rules are applicable to the source:

- (a) 326 IAC 2-8-4 (FESOP)
FESOP applicability is discussed under the PTE of the Entire Source After Issuance of the FESOP section above.
- (b) 326 IAC 2-2 (Prevention of Significant Deterioration(PSD))
PSD applicability is discussed under the PTE of the Entire Source After Issuance of the FESOP section above.

Note: PM and PM10 emissions are greater than 250 tons/year; However, since construction of the source commenced prior to the applicability date of January 6, 1975, this source is not subject to PSD.

However, note that due to the annual asphalt production limitation, PM emissions are limited to less than 250 tons/year and PM10 emissions are limited to less than 100 tons/year. See Appendix A.2 for limited PTE.

- (c) 326 IAC 1-6-3 (Preventive Maintenance Plan)
Any person responsible for operating any facility required to obtain a permit under the Federally Enforceable State Operating Permit Program, 326 IAC 2-8, shall prepare and maintain a preventive maintenance plan in accordance with 326 IAC 1-6-3(a), whenever a control device is required for compliance with any applicable emission limitations and/or air pollution control regulations. The dryer/mixer process requires the use of a control device to limit the particulate emissions of PM10 to less than PSD and Title V thresholds. Therefore a PMP is still required for these units and their associated control devices.

- (d) 326 IAC 1-7 (Stack Height)
The requirements of 326 IAC 1-7 (Stack Height) are not included in the permit because although the unlimited and uncontrolled PM10 and SO2 emissions from this existing source, are each greater than one hundred (100) tons per year, asphalt concrete plants are specifically exempted from the requirements of this rule, pursuant to 326 IAC 1-7-5(c).
- (e) 326 IAC 2-6 (Emission Reporting)
Pursuant to 326 IAC 2-6-1, this source is not subject to this rule, because it is not required to have an operating permit under 326 IAC 2-7 (Part 70), it is not located in Lake, Porter, or LaPorte County, and it does not emit lead into the ambient air at levels equal to or greater than 5 tons per year. Therefore, 326 IAC 2-6 does not apply.
- (f) 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.
- (g) 326 IAC 6-4 (Fugitive Dust Emissions Limitations)
The source is subject to the requirements of 326 IAC 6-4, because the asphalt load-out and on-site yard, material storage piles, material processing and handling, screening, and conveying, and unpaved roads, each, have the potential to emit fugitive particulate emissions. 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.
- (h) 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)
The source is subject to the requirements of 326 IAC 6-5. Pursuant to 326 IAC 6-5, fugitive particulate matter emissions shall be controlled according to the Fugitive Dust Control Plan, which is included as Attachment A to the permit.
- (i) 326 IAC 12 (New Source Performance Standards)
See Federal Rule Applicability Section of this TSD.
- (j) 326 IAC 20 (Hazardous Air Pollutants)
See Federal Rule Applicability Section of this TSD.

State Rule Applicability – Individual Facilities

Hot Mix Asphalt Batch Plant

- (a) 326 IAC 6-2 (Particulate Emissions from Indirect Heating Units)
The dryer/burner is not a source of indirect heating, as defined in 326 IAC 1-2-19 “combustion for indirect heating”. Therefore, the requirements of 326 IAC 6-2 do not apply, and are not included in the permit for this unit.
- (b) 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable PM emission rate from the aggregate mixing and drying operation shall not exceed 46.3

pounds per hour when operating at a process weight rate of 60 tons per hour. The pound per hour limitation was calculated using 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:

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

The cyclone and wet scrubber shall be in operation at all times the aggregate dryer is in operation in order to enable the source to comply with this limit.

The PM limit of 46.3 pounds/hr is equivalent to 202.79 tons per year of PM

$$46.3 \text{ lb/hr} * 8760 \text{ hr/yr} * 1/(2,000 \text{ lb/ton}) = 202.79 \text{ tons per year of PM}$$

Note: This is an existing requirement.

(c) 326 IAC 7-1.1 (Sulfur Dioxide Emissions Limitations)

The dryer burner is subject to 326 IAC 7-1.1 because its potential to emit SO₂ is equal to or greater than twenty-five (25) tons/year, or ten (10) pounds/hour. Therefore, pursuant to this rule, sulfur dioxide emissions from the dryer burner shall continue to be limited to five-tenths (0.5) pounds per million Btu heat input for distillate oil combustion.

This equates to a fuel oil sulfur content limit of 0.49%, based upon the following calculation:

$$\text{SO}_2 = 0.5 \text{ lb/MMBtu Limit} * 27 \text{ MMBtu/hr Max. Fuel Input} = 13.5 \text{ lb/hour SO}_2 \text{ emissions} \\ \text{SO}_2 = 13.5 \text{ lbs/hour} * 8760 \text{ hours/year} * 1/2,000 \text{ lb/ton} = 59.13 \text{ tons/year SO}_2 \text{ emissions}$$

$$\text{Limited Sulfur Content (\%)} = 59.13 \text{ tons/year SO}_2 * 2,000 \text{ lb/ton} * 1,000 \text{ gal/kgal} * \\ 1/(\text{No.2 fuel usage (1,689,429 gal/yr)}) * 1/(142 \text{ lb/kgal SO}_2 \text{ emission factor})$$

$$\text{Limited Sulfur Content (\%)} = 0.49\%$$

Therefore, the sulfur content of the fuel must be less than or equal to 0.49% in order to comply with this rule (see Appendix A of the TSD for detailed calculations).

See Compliance Determination and Monitoring requirements below for requirements to demonstrate compliance with this limit.

Note 1: No. 2 off-road diesel fuel oil is considered distillate oil. This source is only permitted to combust No. 2 fuel oil.

Note 2: This is an existing requirement.

(d) 326 IAC 7-2-1 (Sulfur Dioxide Reporting Requirements)

Pursuant to 326 IAC 7-2-1(c), the source shall submit reports of calendar month average sulfur content, heat content, fuel consumption, and sulfur dioxide emission rate (pounds SO₂ per MMBtu), to the OAQ upon request.

(e) 326 IAC 8-1-6 (VOC rules: General Reduction Requirements for New Facilities)

The unlimited potential VOC emissions from the dryer/mixer less than twenty-five (25) tons per year; therefore, the requirements of 326 IAC 8-1-6 Best Available Control Technology (BACT) are not applicable.

- (f) 326 IAC 8-5-2 (Asphalt paving rules)
This source was existing as of January 1, 1980, but is not located in Clark, Elkhart, Floyd, Lake, Marion, Porter, or St. Joseph Counties. Pursuant to 326 IAC 8-5-1, the requirements of 326 IAC 8-5-2 do not apply to this source.
- (g) There are no 326 IAC 8 Rules (VOCs) that are applicable to the stationary hot mix asphalt plant.
- (h) 326 IAC 9-1 (Carbon Monoxide Emission Limits)
This stationary hot mix asphalt plant is not one of the source types listed in 326 IAC 9-1-2. Therefore, the requirements of 326 IAC 9-1 do not apply and are not included in the permit.
- (i) 326 IAC 10-3 (Nitrogen Oxide Reduction Program for Specific Source Category)
The one (1) 27.0 MMBtu/hr dryer burner does not meet the definition of an affected facility, as defined in 326 IAC 10-3-1(a), because it still has a maximum a heat input of less than two hundred fifty million (250,000,000) British thermal units per hour (MMBtu/hr); therefore, it is not subject to this rule and the requirements are not included in the permit.
- (j) 326 IAC 10-5 (Nitrogen Oxide Reduction Program for Internal Combustion Engines (ICE))
The 27.0 MMBtu/hr dryer burner still does not meet the definition of an affected facility, as defined in 326 IAC 10-5-2(1), because it is an external combustion unit and not an internal combustion engine.

Hot Oil Heater

- (k) 326 IAC 6-2 (Particulate Emissions from Indirect Heating Units)
Pursuant to 326 IAC 1-2-19, the No. 2 distillate oil fired hot oil heater meets the definition of an indirect heating unit since it combusts fuel to produce usable heat that is to be transferred through a heat-conducting materials barrier or by a heat storage medium to a material to be heated so that the material being heated is not contacted by, and adds no substance to the products of combustion. This unit is not subject to a particulate limit under 326 IAC 12 (NSPS) (see Federal Rule Applicability section above) or a particulate limit under 326 IAC 6.5 or 326 IAC 6.8.

The source has indicated this No. 2 distillate oil fired hot oil heater was constructed around 1988; therefore this emission unit was not in operation prior to September 21, 1983 and 326 IAC 6-2-4 applies.

Pursuant to 326 IAC 6-2-4, particulate emissions shall be limited as follows:

If $Q < 10$ MMBtu/hr, Pt shall not exceed 0.6 lb/MMBtu

Where:

Pt = pounds of particulate matter emitted per million Btu (lb/MMBtu) heat input.

Q = Total source maximum operating capacity in MMBtu/hr heat input. Maximum operating capacity is defined as the maximum capacity at which the unit is operated or the nameplate capacity, whichever is specified in the permit application, except when a lower limitation is contained in the facility's operating permit.

The No. 2 distillate oil fired hot oil heater has a Q of 1.2 MMBtu/hr; therefore the PM emissions shall not exceed 0.6 lb/MMBtu.

This is equivalent to 3.15 tons/year of PM:

$$PM = 1.2 \text{ MMBtu/hr} * 0.6 \text{ lb/MMBtu} = 0.72 \text{ lb/hr of PM}$$

$$PM = 0.72 \text{ lb/hr of PM} * 8,760 \text{ hrs/yr} * 1 \text{ ton}/2,000 \text{ lbs} = 3.15 \text{ tons/year of PM}$$

Based on Appendix A.1, the unlimited potential to emit from the hot oil heater is 0.08 tons/year of PM. Therefore, the hot oil heater is able to meet the requirements of 326 IAC 6-2-4.

Note: The inclusion of the 326 IAC 6-2 particulate limitation for the hot oil heater is new with this renewal. This change is a Title I change.

- (l) 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)
The hot oil heater is exempt from the requirements of 326 IAC 6-3, because, pursuant to 326 IAC 1-2-59, liquid and gaseous fuels and combustion air are not considered as part of the process weight.
- (m) 326 IAC 7-1.1 (Sulfur Dioxide Emissions Limitations)
This hot oil heater is not subject to 326 IAC 7-1.1-1 (Sulfur Dioxide Emission Limitations) because the potential to emit sulfur dioxide from the hot oil heater is less than twenty-five (25) tons per year and ten (10) pounds per hour.
- (n) 326 IAC 8-1-6 (New Facilities; General Reduction Requirements)
The hot oil heater is not subject to the requirements of 326 IAC 8-1-6, since the unlimited VOC potential emissions from the hot oil heater are less than twenty-five (25) tons per year.

Storage Tanks

- (o) 326 IAC 8-4-3 (Petroleum Liquid Storage Facilities)
Each storage tank has a storage capacity less than thirty-nine thousand (39,000) gallons; therefore, each tank is not subject to the requirements of 326 IAC 8-4-3.
- (p) 326 IAC 8-9 (Volatile Organic Liquid Storage Vessels)
This source is not located in Clark or Floyd County; therefore the storage tanks are not subject to the requirements of 326 IAC 8-9.

Material Handling

- (m) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable PM emission rate from the material handling shall not exceed 45.8 pounds per hour when operating at a process weight rate of 57 tons per hour.

According to Appendix A.1, the maximum material handling is 499,320 tons/yr. This is equivalent to 57.0 tons/hour.

$$57.0 \text{ tons/hour} = (499,320 \text{ tons/yr}) / (8,760 \text{ hours/yr})$$

The pound per hour limitation was calculated using 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:

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

According to Appendix A.1, the unlimited potential to emit of PM from the material handling is:

$$\begin{aligned} &\text{Material Processing and Handling + Material Crushing, Screening, and Conveying} \\ &PM = 1.70 \text{ tons/yr of PM} + 8.34 \text{ tons/yr of PM} \\ &PM = 10.04 \text{ tons/yr of PM} \end{aligned}$$

$$2.29 \text{ pounds/hour of PM} = (10.04 \text{ tons/yr} * 2,000 \text{ pound/ton}) / (8,760 \text{ hours/yr})$$

Therefore, the source is able to comply with the requirements of this rule.

Note: The requirements of 326 IAC 6-3-2 are being added to the permit for the material handling operations at the source with this renewal. This change is a Title I change.

Compliance Determination and Monitoring Requirements

Permits issued under 326 IAC 2-8 are required to ensure that sources can demonstrate compliance with all applicable state and federal rules on a continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a continuous demonstration. When this occurs, IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-8-4. As a result, Compliance Determination Requirements are included in the permit. The Compliance Determination Requirements in Section D of the permit are those conditions that are found directly within state and federal rules and the violation of which serves as grounds for enforcement action.

If the Compliance Determination Requirements are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also in Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

- (a) The compliance determination requirements applicable to this source are as follows:
 - (1) In order to comply with the PM10 limitations in the permit, the the cyclone and wet scrubber in series for the batch mix dryer/burner shall continue to be in operation and control emissions from the batch mix dryer/burner at all times when the batch mix dryer/burner is in operation.
 - (2) The annual hot-mix asphalt production rate will be used to verify compliance with the FESOP limitation for PM10 and CO emissions.
 - (3) In order to demonstrate compliance for sulfur dioxide emissions and sulfur content:
 - (a) Pursuant to 326 IAC 3-7-4, the Permittee shall demonstrate that the sulfur dioxide emissions do not exceed five-tenths (0.5) pounds per million Btu heat input by:
 - (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.
 - (A) Oil samples may be collected from the fuel tank immediately after the fuel tank is filled and before any oil is combusted; and
 - (B) If a partially empty fuel tank is refilled, a new sample and analysis would be required upon filling.
 - (b) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the 27 MMBtu per hour burner for the aggregate dryer, 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 (a) or (b) above shall not be refuted by evidence of compliance pursuant to the other method.

(b) The compliance monitoring requirements applicable to this source are as follows:

Emission Unit & Control Device	Parameter	Frequency	Range	Excursions and Exceedances
Stack exhaust from the cyclone and wet scrubber in series, controlling the batch mix dryer/burner	Visible Emissions	Once per day	normal/abnormal	Response Steps
	Pressure Drop	Once per day	normal/abnormal	Response Steps
	Liquid flowrate	Once per day	normal/abnormal	Response Steps
Conveyors, screens, and material transfer points	Visible Emissions	Once per day	normal/abnormal	Response Steps

These monitoring conditions continue to be necessary because the cyclone and wet scrubber used in conjunction with the batch mix dryer/burner must operate properly to ensure compliance with 326 IAC 2-8 (FESOP), and the limits that render 326 IAC 2-2 (PSD), and 326 IAC 2-7 (Part 70 Permit Program) not applicable.

(c) The compliance testing requirements applicable to this source are as follows:

Emission Unit	Control Device	Pollutant	Timeframe for Testing	Frequency of Testing
Dryer/mixer	cyclone and wet scrubber in series	PM and PM10	From (5) years of most recent valid compliance test	Once every five (5) years

Note: The most recent valid stack test was completed on May 21, 2008. Therefore, the next test shall be performed by May 21, 2013.

Recommendation

The staff recommends to the Commissioner that the FESOP Renewal be approved. This recommendation is based on the following facts and conditions:

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 August 6, 2012. Additional information was received on October 8, 2012 and on November 15, 2012.

Conclusion

The operation of this stationary hot mix asphalt batch plant shall be subject to the conditions of the attached FESOP Renewal No. F181-32184-00048.

IDEM Contact

- (a) Questions regarding this proposed permit can be directed to Sarah Street at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCM 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 232-8427 or toll free at 1-800-451-6027 extension 2-8427.
- (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's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov

**Appendix A.1: Unlimited Emissions Calculations
Entire Source - Batch Mix**

Company Name: Xtreme Contractors, LLC
Source Address: 348 East U.S. Highway 24, Reynolds, Indiana 47980
Permit Number: F181-32184-00048
Reviewer: Sarah Street

Asphalt Plant Maximum Capacity - Batch Mix

Maximum Hourly Asphalt Production =	60	ton/hr										
Maximum Annual Asphalt Production =	525,600	ton/yr										
Maximum Annual Blast Furnace Slag Usage =	0	ton/yr		0	% sulfur							
Maximum Annual Steel Slag Usage =	0	ton/yr		0	% sulfur							
Maximum Dryer Fuel Input Rate =	27.0	MMBtu/hr										
Natural Gas Usage =	0	MMCF/yr										
No. 2 Fuel Oil Usage =	1,689,429	gal/yr, and		0.50	% sulfur							
No. 4 Fuel Oil Usage =	0	gal/yr, and		0	% sulfur							
Residual (No. 5 or No. 6) Fuel Oil Usage =	0	gal/yr, and		0	% 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 =	0	gal/yr, and		0	% sulfur		0	% ash	0	% chlorine,	0	% lead
Diesel Fuel Usage - Generator < 600 HP =	0	gal/yr, and										
Diesel Fuel Usage - Generator > 600 HP =	0	gal/yr		0	% sulfur							
Unlimited PM Dryer/Mixer Emission Factor =	32.0	lb/ton of asphalt production										
Unlimited PM10 Dryer/Mixer Emission Factor =	4.5	lb/ton of asphalt production										
Unlimited PM2.5 Dryer/Mixer Emission Factor =	0.27	lb/ton of asphalt production										
Unlimited VOC Dryer/Mixer Emission Factor =	0.0082	lb/ton of asphalt production										
Unlimited CO Dryer/Mixer Emission Factor =	0.4	lb/ton of asphalt production										
Unlimited Blast Furnace Slag SO2 Dryer/Mixer Emission Factor =	0	lb/ton of slag processed										
Unlimited Steel Slag SO2 Dryer/Mixer Emission Factor =	0	lb/ton of slag processed										

Unlimited/Uncontrolled Emissions

Process Description	Unlimited/Uncontrolled Potential to Emit (tons/year)									
	Criteria Pollutants							Greenhouse Gas Pollutants	Hazardous Air Pollutants	
	PM	PM10	PM2.5	SO2	NOx	VOC	CO	CO ₂ e	Total HAPs	Worst Case HAP
Ducted Emissions										
Dryer Fuel Combustion (worst case)	1.69	2.79	2.79	59.97	16.89	0.17	4.22	19,091.54	0.06	0.05 (formaldehyde)
Dryer/Mixer and Batch Tower (Process)	8,409.60	1,182.60	70.96	23.13	31.54	2.15	105.12	9,764.44	2.01	0.71 (xylenes)
Dryer/Mixer Slag Processing (worst case)	0	0	0	0.00	0	0	0	0.00	0	0
Hot Oil Heater Fuel Combustion/Process (worst case)	0.08	0.12	0.12	2.67	0.75	0.01	0.19	1,051.20	0.003	0.002 (formaldehyde)
Worst Case Emissions*	8,409.68	1,182.72	71.08	62.64	32.29	2.16	105.31	20,142.74	2.01	0.71 (xylenes)
Fugitive Emissions										
Asphalt Load-Out, Silo Filling, On-Site Yard	0.29	0.29	0.29	0	0	4.50	0.76	0	0.08	0.02 (formaldehyde)
Material Storage Piles	0.08	0.03	0.03	0	0	0	0	0	0	0
Material Processing and Handling	1.70	0.80	0.12	0	0	0	0	0	0	0
Material Crushing, Screening, and Conveying	8.34	3.05	3.05	0	0	0	0	0	0	0
Unpaved and Paved Roads (worst case)	13.40	3.42	0.34	0	0	0	0	0	0	0
Volatile Organic Liquid Storage Vessels	0	0	0	0	0	negl	0	0	negl	0
Total Fugitive Emissions	23.80	7.58	3.83	0.00	0.00	4.50	0.76	0.00	0.08	0.02 (formaldehyde)
Totals Unlimited/Uncontrolled PTE	8,433.48	1,190.31	74.91	62.64	32.29	6.66	106.06	20,142.74	2.08	0.71 (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 + Worst Case Emissions From Dryer/Mixer Slag Processing + Worst Case Emissions from Hot Oil Heater Fuel Combustion and Hot Oil Heating System

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: Xtreme Contractors, LLC
Source Address: 348 East U.S. Highway 24, Reynolds, Indiana 47980
Permit Number: F181-32184-00048
Reviewer: Sarah Street

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 Fuel Input Rate =	27	MMBtu/hr
Natural Gas Usage =	0	MMCF/yr
No. 2 Fuel Oil Usage =	1,689,429	gal/yr, and 0.50 % sulfur
No. 4 Fuel Oil Usage =	0	gal/yr, and 0.00 % sulfur
Residual (No. 5 or No. 6) Fuel Oil Usage =	0	gal/yr, and 0.00 % sulfur
Propane Usage =	0	gal/yr, and 0.00 gr/100 ft3 sulfur
Butane Usage =	0	gal/yr, and 0.00 gr/100 ft3 sulfur
Used/Waste Oil Usage =	0	gal/yr, and 0.00 % sulfur, 0.00 % ash, 0.000 % chlorine, 0.000 % 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)	Residual (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)	Residual (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	3.22	0.5	0.6	0.0	0	1.69	0	0	0	0	0	1.69
PM10/PM2.5	7.6	3.3	8.3	4.72	0.5	0.6	0	0	2.79	0	0	0	0	0	2.79
SO2	0.6	71.0	0.0	0.0	0.000	0.000	0.0	0	59.97	0	0	0	0	0	59.97
NOx	100	20.0	20.0	55.0	13.0	15.0	19.0	0	16.89	0	0	0	0	0	16.89
VOC	5.5	0.20	0.20	0.28	1.00	1.10	1.0	0	0.17	0	0	0	0	0	0.17
CO	84	5.0	5.0	5.0	7.5	8.4	5.0	0	4.22	0	0	0	0	0	4.22
Hazardous Air Pollutant															
HCl							0.0							0	0.00
Antimony			5.25E-03	5.25E-03			negl			0	0			negl	0.0E+00
Arsenic	2.0E-04	5.6E-04	1.32E-03	1.32E-03			1.1E-01	0	4.73E-04	0	0			0	4.7E-04
Beryllium	1.2E-05	4.2E-04	2.78E-05	2.78E-05			negl	0	3.55E-04	0	0			negl	3.5E-04
Cadmium	1.1E-03	4.2E-04	3.98E-04	3.98E-04			9.3E-03	0	3.55E-04	0	0			0	3.5E-04
Chromium	1.4E-03	4.2E-04	8.45E-04	8.45E-04			2.0E-02	0	3.55E-04	0	0			0	3.5E-04
Cobalt	8.4E-05		6.02E-03	6.02E-03			2.1E-04	0		0	0			0	0.0E+00
Lead	5.0E-04	1.3E-03	1.51E-03	1.51E-03			0	0	1.06E-03	0	0			0	0.00
Manganese	3.8E-04	8.4E-04	3.00E-03	3.00E-03			6.8E-02	0	7.10E-04	0	0			0	0.00
Mercury	2.6E-04	4.2E-04	1.13E-04	1.13E-04				0	3.55E-04	0	0				3.5E-04
Nickel	2.1E-03	4.2E-04	8.45E-02	8.45E-02			1.1E-02	0	3.55E-04	0	0			0	0.000
Selenium	2.4E-05	2.1E-03	6.83E-04	6.83E-04			negl	0	1.77E-03	0	0			negl	1.8E-03
1,1,1-Trichloroethane			2.36E-04	2.36E-04						0	0				0.0E+00
1,3-Butadiene															0.0E+00
Acetaldehyde															0.0E+00
Acrolein															0.0E+00
Benzene	2.1E-03		2.14E-04	2.14E-04				0.0E+00		0	0				0.0E+00
Bis(2-ethylhexyl)phthalate							2.2E-03							0	0.0E+00
Dichlorobenzene	1.2E-03						8.0E-07	0.0E+00						0	0.0E+00
Ethylbenzene			6.36E-05	6.36E-05						0	0				0.0E+00
Formaldehyde	7.5E-02	6.10E-02	3.30E-02	3.30E-02				0.0E+00	5.15E-02	0	0				0.052
Hexane	1.8E+00							0.00							0.000
Phenol							2.4E-03							0	0.0E+00
Toluene	3.4E-03		6.20E-03	6.20E-03				0.0E+00		0	0				0.0E+00
Total PAH Haps	negl		1.13E-03	1.13E-03			3.9E-02	negl		0	0			0	0.0E+00
Polycyclic Organic Matter		3.30E-03							2.79E-03						2.8E-03
Xylene			1.09E-04	1.09E-04						0	0				0.0E+00
Total HAPs								0.00	0.06	0.00	0.00	0	0	0.00	0.06

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 5/10), 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

*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 = 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 the
Dryer/Mixer Fuel Combustion with Maximum Capacity < 100 MMBtu/hr**

Company Name: Xtreme Contractors, LLC
Source Address: 348 East U.S. Highway 24, Reynolds, Indiana 47980
Permit Number: F181-32184-00048
Reviewer: Sarah Street

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 Fuel Input Rate =	27	MMBtu/hr								
Natural Gas Usage =	0	MMCF/yr								
No. 2 Fuel Oil Usage =	1,689,429	gal/yr, and	0.50	% sulfur						
No. 4 Fuel Oil Usage =	0	gal/yr, and	0.00	% sulfur						
Residual (No. 5 or No. 6) Fuel Oil Usage =	0	gal/yr, and	0.00	% sulfur						
Propane Usage =	0	gal/yr, and	0.00	gr/100 ft3 sulfur						
Butane Usage =	0	gal/yr, and	0.00	gr/100 ft3 sulfur						
Used/Waste Oil Usage =	0	gal/yr, and	0.00	% sulfur	0.00	% ash	0.000	% chlorine,	0.000	% lead

Unlimited/Uncontrolled Emissions

CO ₂ e Fraction	Emission Factor (units)							Global Warming Potentials (GWP)		
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil (lb/kgal)	Residual (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
CO ₂	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
CH ₄	2.49	0.91	0.97	1.00	0.60	0.67	0.89	Methane	CH ₄	21
N ₂ O	2.2	0.26	0.19	0.53	0.9	0.9	0.18	Nitrous oxide	N ₂ O	310

CO ₂ e Fraction	Unlimited/Uncontrolled Potential to Emit (tons/yr)						
	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Residual (No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/ Waste Oil (tons/yr)
CO ₂	0	19,007.26	0	0	0	0	0
CH ₄	0	0.77	0	0	0	0	0
N ₂ O	0	0.22	0	0	0	0	0
Total	0	19,008.25	0	0	0	0	0

CO₂e for Worst Case Fuel* (tons/yr)
19,091.54

CO ₂ e Equivalent Emissions (tons/yr)	0	19,091.54	0	0	0	0	0
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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]
 Global 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.)

Abbreviations

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

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, No. 4, and Residual (No. 5 or No. 6) 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 5/10), 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).

**Appendix A.1: Unlimited Emissions Calculations
Dryer/Mixer and Batch Tower - Process Emissions**

**Company Name: Xtreme Contractors, LLC
Source Address: 348 East U.S. Highway 24, Reynolds, Indiana 47980
Permit Number: F181-32184-00048
Reviewer: Sarah Street**

The following calculations determine the unlimited/uncontrolled emissions from the aggregate drying/mixing and the batch tower.

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
	Batch-Mix Plant (dryer, hot screens, and mixer)			Batch-Mix Plant (dryer, hot screens, and mixer)			
	Natural Gas	No. 2 Fuel Oil	Waste Oil	Natural Gas	No. 2 Fuel Oil	Waste Oil	
PM*	32	32	32	0	8409.6	0	8409.6
PM10*	4.5	4.5	4.5	0	1182.6	0	1182.6
PM2.5*	0.27	0.27	0.27	0	70.956	0	71.0
SO2**	0.0046	0.088	0.088	0	23.1	0	23.1
NOx**	0.025	0.12	0.12	0	31.5	0	31.5
VOC**	0.0082	0.0082	0.036	0	2.2	0	2.2
CO***	0.4	0.4	0.4	0	105.1	0	105.1
Hazardous Air Pollutant							
Arsenic	4.60E-07	4.60E-07	4.60E-07	0	1.21E-04	0	1.21E-04
Beryllium	1.50E-07	1.50E-07	1.50E-07	0	3.94E-05	0	3.94E-05
Cadmium	6.10E-07	6.10E-07	6.10E-07	0	1.60E-04	0	1.60E-04
Chromium	5.70E-07	5.70E-07	5.70E-07	0	1.50E-04	0	1.50E-04
Lead	8.90E-07	8.90E-07	1.00E-05	0	2.34E-04	0	2.34E-04
Manganese	6.90E-06	6.90E-06	6.90E-06	0	1.81E-03	0	1.81E-03
Mercury	4.10E-07	4.10E-07	4.10E-07	0	1.08E-04	0	1.08E-04
Nickel	3.00E-06	3.00E-06	3.00E-06	0	7.88E-04	0	7.88E-04
Selenium	4.90E-07	4.90E-07	4.90E-07	0	1.29E-04	0	1.29E-04
Acetaldehyde	3.20E-04	3.20E-04	3.20E-04	0	0.08	0	0.08
Benzene	2.80E-04	2.80E-04	2.80E-04	0	0.07	0	0.07
Ethylbenzene	2.20E-03	2.20E-03	2.20E-03	0	0.58	0	0.58
Formaldehyde	7.40E-04	7.40E-04	7.40E-04	0	0.19	0	0.19
Quinone	2.70E-04	2.70E-04	2.70E-04	0	0.07	0	0.07
Toluene	1.00E-03	1.00E-03	1.00E-03	0	0.26	0	0.26
Total PAH Haps	1.10E-04	1.10E-04	2.30E-04	0	0.03	0	0.03
Xylene	2.70E-03	2.70E-03	2.70E-03	0	0.71	0	0.71

Total HAPs 2.01
Worst Single HAP 0.71 (xylene)

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 11.1-1, 11.1-2, 11.1-5, 11.1-6, 11.1-19, and 11.1-11

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

PM = Particulate Matter SO2 = Sulfur Dioxide CO = Carbon Monoxide PAH = Polyaromatic Hydrocarbon
PM10 = Particulate Matter (<10 um) NOx = Nitrous Oxides HAP = Hazardous Air Pollutant
PM2.5 = Particulate Matter (< 2.5 um) VOC = Volatile Organic Compounds HCl = Hydrogen Chloride

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

Company Name: Xtreme Contractors, LLC
Source Address: 348 East U.S. Highway 24, Reynolds, Indiana 47980
Permit Number: F181-32184-00048
Reviewer: Sarah Street

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

Maximum Hourly Asphalt Production = 60 ton/hr
 Maximum Annual Asphalt Production = 525,600 ton/yr

Criteria Pollutant	Emission Factor (lb/ton) Batch-Mix Plant (dryer/mixer)			Global Warming Potentials (GWP)	Unlimited/Uncontrolled Potential to Emit (tons/yr) Batch-Mix Plant (dryer/mixer)			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	37	37	37	1	0	9,723.60	0	9,764.44
CH ₄	0.0074	0.0074	0.0074	21	0	1.94	0	
N ₂ O				310	0	0	0	
Total					0	9,725.54	0	
					CO₂e Equivalent Emissions (tons/yr)			
					0	9,764.44	0	

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: Xtreme Contractors, LLC
Source Address: 348 East U.S. Highway 24, Reynolds, Indiana 47980
Permit Number: F181-32184-00048
Reviewer: Sarah Street

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

Maximum Annual Blast Furnace Slag Usage = ton/yr % sulfur
 Maximum Annual Steel Slag Usage = ton/yr % sulfur

Type of Slag	SO2 Emission Factor (lb/ton)	Unlimited Potential to Emit SO2 (tons/yr)
Blast Furnace Slag*	0	0
Steel Slag**	0	0

Methodology

The maximum annual slag usage was provided by the source.

* 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. The source has requested a safety factor of 0.20 lb/ton be added to the tested value for use at this location to allow for a sulfur content up to 1.5%.

** 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: Xtreme Contractors, LLC
Source Location: 348 East U.S. Highway 24, Reynolds, Indiana 47980
Permit Number: F181-32184-00048
Reviewer: Sarah Street

Maximum Hot Oil Heater Fuel Input Rate = 1.20 MMBtu/hr
 Natural Gas Usage = 0 MMCF/yr
 No. 2 Fuel Oil Usage = 75,086 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	0.000	0.075	0.08
PM10/PM2.5	7.6	3.3	0.000	0.124	0.12
SO2	0.6	71.0	0.000	2.666	2.67
NOx	100	20.0	0.000	0.751	0.75
VOC	5.5	0.20	0.000	0.008	0.01
CO	84	5.0	0.000	0.188	0.19
Hazardous Air Pollutant					
Arsenic	2.0E-04	5.6E-04	0.0E+00	2.10E-05	2.1E-05
Beryllium	1.2E-05	4.2E-04	0.0E+00	1.58E-05	1.6E-05
Cadmium	1.1E-03	4.2E-04	0.0E+00	1.58E-05	1.6E-05
Chromium	1.4E-03	4.2E-04	0.0E+00	1.58E-05	1.6E-05
Cobalt	8.4E-05		0.0E+00		0.0E+00
Lead	5.0E-04	1.3E-03	0.0E+00	4.73E-05	4.7E-05
Manganese	3.8E-04	8.4E-04	0.0E+00	3.15E-05	3.2E-05
Mercury	2.6E-04	4.2E-04	0.0E+00	1.58E-05	1.6E-05
Nickel	2.1E-03	4.2E-04	0.0E+00	1.58E-05	1.6E-05
Selenium	2.4E-05	2.1E-03	0.0E+00	7.88E-05	7.9E-05
Benzene	2.1E-03		0.0E+00		0.0E+00
Dichlorobenzene	1.2E-03		0.0E+00		0.0E+00
Ethylbenzene					0.0E+00
Formaldehyde	7.5E-02	6.10E-02	0.0E+00	2.29E-03	2.3E-03
Hexane	1.8E+00		0.00		0.0E+00
Phenol					0.0E+00
Toluene	3.4E-03		0.0E+00		0.0E+00
Total PAH Haps	negl		negl		0.0E+00
Polycyclic Organic Matter		3.30E-03		1.24E-04	1.2E-04
Total HAPs =			0E+00	2.7E-03	0.003
Worst Single HAP =			0E+00	2.3E-03	2.3E-03
			(Hexane)	(Formaldehyde)	(Formaldehyde)

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 5/10), 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)
 PM2.5 = Particulate Matter (<2.5 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
Hot Oil Heater Fuel Combustion with Maximum Capacity < 100 MMBtu/hr**

Company Name: Xtreme Contractors, LLC
Source Address: 348 East U.S. Highway 24, Reynolds, Indiana 47980
Permit Number: F181-32184-00048
Reviewer: Sarah Street

Maximum Hot Oil Heater Fuel Input Rate = 1.20 MMBtu/hr
 Natural Gas Usage = 0 MMCF/yr
 No. 2 Fuel Oil Usage = 75,085.71 gal/yr, 0.50 % sulfur

Unlimited/Uncontrolled Emissions

Criteria Pollutant	Emission Factor (units)		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)
CO2	120,161.84	22,501.41	1	0.00	844.77
CH4	2.49	0.91	21	0.00	0.03
N2O	2.2	0.26	310	0.00	0.01
				0.00	844.81

Worse Case CO2e Emissions (tons/yr)
848.51

CO2e Equivalent Emissions (tons/yr)	0.00	848.51
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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), 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 5/10), 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)] * [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).

Abbreviations

CO2 = Carbon Dioxide
 CH4 = Methane

N2O = Nitrogen Dioxide
 PTE = Potential to Emit

**Appendix A.1: Unlimited Emissions Calculations
Hot Oil Heating System - Process Emissions**

Company Name: Xtreme Contractors, LLC
Source Address: 348 East U.S. Highway 24, Reynolds, Indiana 47980
Permit Number: F181-32184-00048
Reviewer: Sarah Street

The following calculations determine the unlimited/uncontrolled emissions from the combustion of natural gas and No. 2 fuel oil in the hot oil heating system, which is used to heat a specially designed transfer oil. The hot transfer oil is then pumped through a piping system that passes through the asphalt cement storage tanks, in order to keep the asphalt cement at the correct temperature.

Maximum Fuel Input Rate To Hot Oil Heater = 1.20 MMBtu/hr
 Natural Gas Usage = 0 MMCF/yr, and
 No. 2 Fuel Oil Usage = 75,085.71 gal/yr

Criteria Pollutant	Emission Factors		Unlimited/Uncontrolled Potential to Emit (tons/yr)		Worse Case PTE
	Natural Gas (lb/ft3)	No. 2 Fuel Oil (lb/gal)	Natural Gas	No. 2 Fuel Oil	
VOC	2.60E-08	2.65E-05	0.00E+00	0.001	0.001
CO	8.90E-06	0.0012	0.000	0.045	0.045
Greenhouse Gas as CO2e*					
CO2	0.20	28.00	0.00	1051.20	1051.20
Hazardous Air Pollutant					
Formaldehyde	2.60E-08	3.50E-06	0.00E+00	1.31E-04	1.31E-04
Acenaphthene		5.30E-07		1.99E-05	1.99E-05
Acenaphthylene		2.00E-07		7.51E-06	7.51E-06
Anthracene		1.80E-07		6.76E-06	6.76E-06
Benzo(b)fluoranthene		1.00E-07		3.75E-06	3.75E-06
Fluoranthene		4.40E-08		1.65E-06	1.65E-06
Fluorene		3.20E-08		1.20E-06	1.20E-06
Naphthalene		1.70E-05		6.38E-04	6.38E-04
Phenanthrene		4.90E-06		1.84E-04	1.84E-04
Pyrene		3.20E-08		1.20E-06	1.20E-06
Total HAPs					9.96E-04
Worst Single HAP					6.38E-04 (Naphthalene)

Methodology

Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 MMCF/1,000 MMBtu]
 No. 2 Fuel Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.140 MMBtu]
 Natural Gas: Potential to Emit (tons/yr) = (Natural Gas Usage (MMCF/yr))*(Emission Factor (lb/CF))*(1000000 CF/MMCF)*(ton/2000 lbs)
 No. 2 Fuel Oil: Potential to Emit (tons/yr) = (No. 2 Fuel Oil Usage (gals/yr))*(Emission Factor (lb/gal))*(ton/2000 lbs)
 Unlimited Potential to Emit CO2e (tons/yr) = Unlimited Potential to Emit CO2 (ton/yr) x CO2 GWP (1)
 1 gallon of No. 2 Fuel Oil has a heating value of 140,000 Btu
 Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Table 11.1-13

*Note: There are no emission factors for CH4 and N2O available in either 40 CFR 98, Subpart C or AP-42 Chapter 11.1. Therefore, it is assumed that there are no CH4 and N2O emission anticipated from this process.

Abbreviations

CO = Carbon Monoxide VOC = Volatile Organic Compound CO2 = Carbon Dioxide

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

Company Name: Xtreme Contractors, LLC
Source Address: 348 East U.S. Highway 24, Reynolds, Indiana 47980
Permit Number: F181-32184-00048
Reviewer: Sarah Street

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 =	525,600	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	0.14	0.15	NA	0.29
Organic PM	3.4E-04	2.5E-04	NA	0.09	0.067	NA	0.16
TOC	0.004	0.012	0.001	1.09	3.20	0.289	4.6
CO	0.001	0.001	3.5E-04	0.35	0.310	0.093	0.76

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

PM/HAPs	0.006	0.008	0	0.014
VOC/HAPs	0.016	0.041	0.004	0.061
non-VOC/HAPs	8.4E-05	8.6E-06	2.2E-05	1.2E-04
non-VOC/non-HAPs	0.08	0.05	0.02	0.15

Total VOCs	1.03	3.20	0.3	4.5
Total HAPs	0.02	0.05	0.004	0.08
Worst Single HAP				0.023
				(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: Xtreme Contractors, LLC
 Source Address: 348 East U.S. Highway 24, Reynolds, Indiana 47980
 Permit Number: F181-32184-00048
 Reviewer: Sarah Street

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%	2.3E-04	3.1E-04	NA	5.5E-04
Acenaphthylene	208-96-8	PM/HAP	POM	Organic PM	0.028%	0.014%	2.5E-05	9.3E-06	NA	3.4E-05
Anthracene	120-12-7	PM/HAP	POM	Organic PM	0.07%	0.13%	6.3E-05	8.7E-05	NA	1.5E-04
Benzo(a)anthracene	56-55-3	PM/HAP	POM	Organic PM	0.019%	0.056%	1.7E-05	3.7E-05	NA	5.4E-05
Benzo(b)fluoranthene	205-99-2	PM/HAP	POM	Organic PM	0.0076%	0	6.8E-06	0	NA	6.8E-06
Benzo(k)fluoranthene	207-08-9	PM/HAP	POM	Organic PM	0.0022%	0	2.0E-06	0	NA	2.0E-06
Benzo(g,h,i)perylene	191-24-2	PM/HAP	POM	Organic PM	0.0019%	0	1.7E-06	0	NA	1.7E-06
Benzo(a)pyrene	50-32-8	PM/HAP	POM	Organic PM	0.0023%	0	2.1E-06	0	NA	2.1E-06
Benzo(e)pyrene	192-97-2	PM/HAP	POM	Organic PM	0.0078%	0.0095%	7.0E-06	6.3E-06	NA	1.3E-05
Chrysene	218-01-9	PM/HAP	POM	Organic PM	0.103%	0.21%	9.2E-05	1.4E-04	NA	2.3E-04
Dibenz(a,h)anthracene	53-70-3	PM/HAP	POM	Organic PM	0.00037%	0	3.3E-07	0	NA	3.3E-07
Fluoranthene	206-44-0	PM/HAP	POM	Organic PM	0.05%	0.15%	4.5E-05		NA	4.5E-05
Fluorene	86-73-7	PM/HAP	POM	Organic PM	0.77%	1.01%	6.9E-04	6.7E-04	NA	1.4E-03
Indeno(1,2,3-cd)pyrene	193-39-5	PM/HAP	POM	Organic PM	0.00047%	0	4.2E-07	0	NA	4.2E-07
2-Methylnaphthalene	91-57-6	PM/HAP	POM	Organic PM	2.38%	5.27%	2.1E-03	3.5E-03	NA	0.006
Naphthalene	91-20-3	PM/HAP	POM	Organic PM	1.25%	1.82%	1.1E-03	1.2E-03	NA	2.3E-03
Perylene	198-55-0	PM/HAP	POM	Organic PM	0.022%	0.03%	2.0E-05	2.0E-05	NA	4.0E-05
Phenanthrene	85-01-8	PM/HAP	POM	Organic PM	0.81%	1.80%	7.3E-04	1.2E-03	NA	1.9E-03
Pyrene	129-00-0	PM/HAP	POM	Organic PM	0.15%	0.44%	1.3E-04	2.9E-04	NA	4.3E-04
Total PAH HAPs							0.005	0.008	NA	0.013
Other semi-volatile HAPs										
Phenol		PM/HAP	---	Organic PM	1.18%	0	1.1E-03	0	0	1.1E-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%	1.03	3.20	0.27	4.50
non-VOC/non-HAPS										
Methane	74-82-8	non-VOC/non-HAP	---	TOC	6.50%	0.26%	7.1E-02	8.3E-03	1.9E-02	0.098
Acetone	67-64-1	non-VOC/non-HAP	---	TOC	0.046%	0.055%	5.0E-04	1.8E-03	1.3E-04	0.002
Ethylene	74-85-1	non-VOC/non-HAP	---	TOC	0.71%	1.10%	7.8E-03	3.5E-02	2.1E-03	0.045
Total non-VOC/non-HAPS					7.30%	1.40%	0.080	0.045	0.021	0.15
Volatile organic HAPs										
Benzene	71-43-2	VOC/HAP	---	TOC	0.052%	0.032%	5.7E-04	1.0E-03	1.5E-04	1.7E-03
Bromomethane	74-83-9	VOC/HAP	---	TOC	0.0096%	0.0049%	1.0E-04	1.6E-04	2.8E-05	2.9E-04
2-Butanone	78-93-3	VOC/HAP	---	TOC	0.049%	0.039%	5.4E-04	1.2E-03	1.4E-04	1.9E-03
Carbon Disulfide	75-15-0	VOC/HAP	---	TOC	0.013%	0.016%	1.4E-04	5.1E-04	3.8E-05	6.9E-04
Chloroethane	75-00-3	VOC/HAP	---	TOC	0.00021%	0.004%	2.3E-06	1.3E-04	6.1E-07	1.3E-04
Chloromethane	74-87-3	VOC/HAP	---	TOC	0.015%	0.023%	1.6E-04	7.4E-04	4.3E-05	9.4E-04
Cumene	92-82-8	VOC/HAP	---	TOC	0.11%	0	1.2E-03	0	3.2E-04	1.5E-03
Ethylbenzene	100-41-4	VOC/HAP	---	TOC	0.28%	0.038%	3.1E-03	1.2E-03	8.1E-04	0.005
Formaldehyde	50-00-0	VOC/HAP	---	TOC	0.088%	0.69%	9.6E-04	2.2E-02	2.5E-04	0.023
n-Hexane	100-54-3	VOC/HAP	---	TOC	0.15%	0.10%	1.6E-03	3.2E-03	4.3E-04	0.005
Isooctane	540-84-1	VOC/HAP	---	TOC	0.0018%	0.00031%	2.0E-05	9.9E-06	5.2E-06	3.5E-05
Methylene Chloride	75-09-2	non-VOC/HAP	---	TOC	0	0.00027%	0	8.6E-06	0	8.6E-06
MTBE	1634-04-4	VOC/HAP	---	TOC	0	0	0	0	0	0
Styrene	100-42-5	VOC/HAP	---	TOC	0.0073%	0.0054%	8.0E-05	1.7E-04	2.1E-05	2.7E-04
Tetrachloroethene	127-18-4	non-VOC/HAP	---	TOC	0.0077%	0	8.4E-05	0	2.2E-05	1.1E-04
Toluene	100-88-3	VOC/HAP	---	TOC	0.21%	0.062%	2.3E-03	2.0E-03	6.1E-04	0.005
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	1.4E-05	0	3.8E-06	1.8E-05
m-/p-Xylene	1330-20-7	VOC/HAP	---	TOC	0.41%	0.20%	4.5E-03	6.4E-03	1.2E-03	0.012
o-Xylene	95-47-6	VOC/HAP	---	TOC	0.08%	0.057%	8.7E-04	1.8E-03	2.3E-04	2.9E-03
Total volatile organic HAPs					1.50%	1.30%	0.016	0.042	0.004	0.062

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: Xtreme Contractors, LLC
Source Address: 348 East U.S. Highway 24, Reynolds, Indiana 47980
Permit Number: F181-32184-00048
Reviewer: Sarah Street

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.

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

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	0.0625	0.034	0.012
Limestone	1.6	1.85	0.125	0.042	0.015
RAP	0.5	0.58	0.00	0.000	0.000
Gravel	1.6	1.85	0.00	0.000	0.000
Shingles	0.5	0.58	0.00	0.000	0.000
Slag	3.8	4.40	0.00	0.000	0.000
Totals				0.08	0.03

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

RAP - recycled asphalt pavement

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
Material Processing, Handling, Crushing, Screening, and Conveying**

Company Name: Xtreme Contractors, LLC
Source Address: 348 East U.S. Highway 24, Reynolds, Indiana 47980
Permit Number: F181-32184-00048
Reviewer: Sarah Street

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.

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

where: E_f = Emission factor (lb/ton)

k (PM) =	0.74	= particle size multiplier (0.74 assumed for aerodynamic diameter ≤ 100 μ m)
k (PM10) =	0.35	= particle size multiplier (0.35 assumed for aerodynamic diameter ≤ 10 μ m)
k (PM2.5) =	0.053	= particle size multiplier (0.053 assumed for aerodynamic diameter ≤ 2.5 μ m)
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 =	525,600	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	499,320	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	0.57	0.27	0.04
Front-end loader dumping of materials into feeder bins	0.57	0.27	0.04
Conveyor dropping material into dryer/mixer or batch tower	0.57	0.27	0.04
Total (tons/yr)	1.70	0.80	0.12

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	1.35	0.60
Screening	0.025	0.0087	6.24	2.17
Conveying	0.003	0.0011	0.75	0.27
Unlimited Potential to Emit (tons/yr) =			8.34	3.05

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 μ m)
 PM2.5 = Particulate matter (< 2.5 μ m)
 PTE = Potential to Emit

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

Company Name: Xtreme Contractors, LLC
Source Address: 348 East U.S. Highway 24, Reynolds, Indiana 47980
Permit Number: F181-32184-00048
Reviewer: Sarah Street

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 =	525,600	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	499,320	tons/yr
Maximum Asphalt Cement/Binder Throughput =	26,280	tons/yr
Maximum No. 2 Fuel Oil Usage =	1,689,429	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)	14.00	23.25	37.25	2.1E+04	8.0E+05	235	0.045	955.9
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	14.00	0.00	14.0	2.1E+04	3.0E+05	235	0.045	955.9
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	20.00	22.00	42.0	1.2E+03	5.0E+04	235	0.045	53.2
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	20.00	0.00	20.0	1.2E+03	2.4E+04	235	0.045	53.2
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	20.00	22.00	42.0	2.6E+02	1.1E+04	235	0.045	11.6
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	20.00	0.00	20.0	2.6E+02	5.2E+03	235	0.045	11.6
Aggregate/RAP Loader Full	Front-end loader (3 CY)	17.43	5.00	22.4	1.0E+05	2.2E+06	235	0.045	4444.7
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	17.43	0.00	17.4	1.0E+05	1.7E+06	235	0.045	4444.7
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	14.18	23.25	37.4	2.3E+04	8.5E+05	235	0.045	1006.2
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	14.18	0.00	14.2	2.3E+04	3.2E+05	235	0.045	1006.2
Total					2.9E+05	6.3E+06			1.3E+04

Average Vehicle Weight Per Trip =	21.8	tons/trip
Average Miles Per Trip =	0.045	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 =	21.8	21.8	21.8	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, $E_f =$	6.30	1.61	0.16	lb/mile
Mitigated Emission Factor, $E_{ext} =$	4.14	1.06	0.11	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)	3.01	0.77	0.08	1.98	0.50	0.05	0.99	0.25	0.03
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	3.01	0.77	0.08	1.98	0.50	0.05	0.99	0.25	0.03
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.167	0.043	0.00	0.110	0.028	0.00	0.055	0.014	0.00
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.167	0.043	0.00	0.110	0.028	0.00	0.055	0.014	0.00
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0.036	0.009	0.00	0.024	0.006	0.00	0.012	0.003	0.00
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0.036	0.009	0.00	0.024	0.006	0.00	0.012	0.003	0.00
Aggregate/RAP Loader Full	Front-end loader (3 CY)	14.00	3.57	0.36	9.20	2.35	0.23	4.60	1.17	0.12
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	14.00	3.57	0.36	9.20	2.35	0.23	4.60	1.17	0.12
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	3.17	0.81	0.08	2.08	0.53	0.05	1.04	0.27	0.03
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	3.17	0.81	0.08	2.08	0.53	0.05	1.04	0.27	0.03
Totals		40.76	10.39	1.04	26.80	6.83	0.68	13.40	3.42	0.34

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) PTE = Potential to Emit

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

Company Name: Xtreme Contractors, LLC
Source Address: 348 East U.S. Highway 24, Reynolds, Indiana 47980
Permit Number: F181-32184-00048
Reviewer: Sarah Street

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 =	525,600	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	499,320	tons/yr
Maximum Asphalt Cement/Binder Throughput =	26,280	tons/yr
Maximum No. 2 Fuel Oil Usage =	1,689,429	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)	14.00	23.25	37.25	2.1E+04	8.0E+05	800	0.152	3254.0
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	14.00	0.00	14.00	2.1E+04	3.0E+05	800	0.152	3254.0
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	20.00	22.00	42.00	1.2E+03	5.0E+04	800	0.152	181.0
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	20.00	0.00	20.00	1.2E+03	2.4E+04	800	0.152	181.0
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	20.00	22.00	42.00	2.6E+02	1.1E+04	800	0.152	39.3
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	20.00	0.00	20.00	2.6E+02	5.2E+03	800	0.152	39.3
Aggregate/RAP Loader Full	Front-end loader (3 CY)	17.43	5.00	22.43	1.0E+05	2.2E+06	800	0.152	15130.9
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	17.43	0.00	17.43	1.0E+05	1.7E+06	800	0.152	15130.9
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	14.18	23.25	37.43	2.3E+04	8.5E+05	800	0.152	3425.2
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	14.18	0.00	14.18	2.3E+04	3.2E+05	800	0.152	3425.2
Total					2.9E+05	6.3E+06			4.4E+04

Average Vehicle Weight Per Trip =	21.8	tons/trip
Average Miles Per Trip =	0.152	miles/trip

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

	PM	PM10	PM2.5	
where k =	0.011	0.0022	0.00054	lb/mi = particle size multiplier (AP-42 Table 13.2.1-1)
W =	21.8	21.8	21.8	tons = average vehicle weight (provided by source)
sL =	0.6	0.6	0.6	g/m ² = Ubitiguous 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, $E_{ext} = E_f * [1 - (p/4N)]$

Mitigated Emission Factor, $E_{ext} =$	$E_f * [1 - (p/4N)]$
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, $E_f =$	0.16	0.03	0.01	lb/mile
Mitigated Emission Factor, $E_{ext} =$	0.15	0.03	0.01	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)	0.26	0.05	0.01	0.24	0.05	0.01	0.12	0.02	0.01
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	0.26	0.05	0.01	0.24	0.05	0.01	0.12	0.02	0.01
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.014	0.003	7.1E-04	0.013	0.003	6.5E-04	0.007	1.3E-03	3.3E-04
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.014	0.003	7.1E-04	0.013	0.003	6.5E-04	0.007	1.3E-03	3.3E-04
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	3.1E-03	6.3E-04	1.5E-04	2.9E-03	5.8E-04	1.4E-04	1.4E-03	2.9E-04	7.1E-05
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	3.1E-03	6.3E-04	1.5E-04	2.9E-03	5.8E-04	1.4E-04	1.4E-03	2.9E-04	7.1E-05
Aggregate/RAP Loader Full	Front-end loader (3 CY)	1.21	0.24	0.06	1.11	0.22	0.05	0.55	0.11	0.03
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	1.21	0.24	0.06	1.11	0.22	0.05	0.55	0.11	0.03
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	0.27	0.05	0.01	0.25	0.05	0.01	0.13	0.03	0.01
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	0.27	0.05	0.01	0.25	0.05	0.01	0.13	0.03	0.01
Totals		3.53	0.71	0.17	3.23	0.65	0.16	1.61	0.32	0.08

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) PTE = Potential to Emit

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

Company Name: Xtreme Contractors, LLC
 Source Address: 348 East U.S. Highway 24, Reynolds, Indiana 47980
 Permit Number: F181-32184-00048
 Reviewer: Sarah Street

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.

Fuel Limitations

Maximum Fuel Input Rate =	27	MMBtu/hr	
Natural Gas Limitation =	0	MMCF/yr	
No. 2 Fuel Oil Limitation =	1,689,429	gal/yr, and	0.49 % sulfur
No. 4 Fuel Oil Limitation =	0	gal/yr, and	0.00 % sulfur
Residual (No. 5 or No. 6) Fuel Oil Limitation =	0	gal/yr, and	0.00 % sulfur
Propane Limitation =	0	gal/yr, and	0.00 gr/100 ft3 sulfur
Butane Limitation =	0	gal/yr, and	0.00 gr/100 ft3 sulfur
Used/Waste Oil Limitation =	0	gal/yr, and	0.00 % sulfur 0.00 % ash 0.000 % chlorine, 0.000 % lead

Limited Emissions

Criteria Pollutant	Emission Factor (units)							Limited Potential to Emit (tons/yr)							Worst Case Fuel (tons/yr)	
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil* (lb/kgal)	Residual (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)	Residual (No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/Waste Oil (tons/yr)		
PM	1.9	2.0	7.0	3.22	0.5	0.6	0.0	0	1.69	0	0	0	0	0	0	1.69
PM10/PM2.5	7.6	3.3	8.3	4.72	0.5	0.6	0	0	2.79	0	0	0	0	0	0	2.79
SO2	0.6	69.6	0.0	0.0	0.00	0.00	0.0	0	58.78	0	0	0	0	0	0	58.78
NOx	100	20.0	20.0	55.0	13.0	15.0	19.0	0	16.89	0	0	0	0	0	0	16.89
VOC	5.5	0.20	0.20	0.28	1.0	1.10	1.0	0	0.17	0	0	0	0	0	0	0.17
CO	84	5.0	5.0	5.0	7.5	8.4	5.0	0	4.22	0	0	0	0	0	0	4.22
Hazardous Air Pollutant																
HCl							0.0									0.00
Antimony			5.25E-03	5.25E-03			negl			0	0				0	0.0E+00
Arsenic	2.0E-04	5.6E-04	1.32E-03	1.32E-03			1.1E-01	0	4.73E-04	0	0				0	4.7E-04
Beryllium	1.2E-05	4.2E-04	2.78E-05	2.78E-05			negl	0	3.55E-04	0	0			negl	0	3.5E-04
Cadmium	1.1E-03	4.2E-04	3.98E-04	3.98E-04			9.3E-03	0	3.55E-04	0	0			0	0	3.5E-04
Chromium	1.4E-03	4.2E-04	8.45E-04	8.45E-04			2.0E-02	0	3.55E-04	0	0			0	0	3.5E-04
Cobalt	8.4E-05		6.02E-03	6.02E-03			2.1E-04	0		0	0			0	0	0.0E+00
Lead	5.0E-04	1.3E-03	1.51E-03	1.51E-03			0	0	1.06E-03	0	0			0	0	0.00
Manganese	3.8E-04	8.4E-04	3.00E-03	3.00E-03			6.8E-02	0	7.10E-04	0	0			0	0	0.00
Mercury	2.6E-04	4.2E-04	1.13E-04	1.13E-04			0	0	3.55E-04	0	0			0	0	3.5E-04
Nickel	2.1E-03	4.2E-04	8.45E-02	8.45E-02			1.1E-02	0	3.55E-04	0	0			0	0	0.000
Selenium	2.4E-05	2.1E-03	6.83E-04	6.83E-04			negl	0	1.77E-03	0	0			negl	0	1.8E-03
1,1,1-Trichloroethane			2.36E-04	2.36E-04						0	0					0.0E+00
1,3-Butadiene																0.0E+00
Acetaldehyde																0.0E+00
Acrolein																0.0E+00
Benzene	2.1E-03		2.14E-04	2.14E-04				0		0	0					0.0E+00
Bis(2-ethylhexyl)phthalate							2.2E-03							0	0	0.0E+00
Dichlorobenzene	1.2E-03						8.0E-07	0						0	0	0.0E+00
Ethylbenzene			6.36E-05	6.36E-05						0	0					0.0E+00
Formaldehyde	7.5E-02	6.10E-02	3.30E-02	3.30E-02				0	5.15E-02	0	0					0.052
Hexane	1.8E+00							0								0.000
Phenol							2.4E-03							0	0	0.0E+00
Toluene	3.4E-03		6.20E-03	6.20E-03				0		0	0			0	0	0.0E+00
Total PAH Haps	negl		1.13E-03	1.13E-03			3.9E-02	negl		0	0			0	0	0.0E+00
Polycyclic Organic Matter		3.30E-03							2.79E-03	0	0					2.8E-03
Xylene			1.09E-04	1.09E-04												0.0E+00
Total HAPs								0.00	0.06	0.00	0.00	0	0	0.00	0.06	

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 5/10), 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

*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 = Nitrous Oxides
- VOC = Volatile Organic Compounds
- CO = Carbon Monoxide
- HAP = Hazardous Air Pollutant
- HCl = Hydrogen Chloride
- PAH = Polyaromatic Hydrocarbon

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

Company Name: Xtreme Contractors, LLC
Source Address: 348 East U.S. Highway 24, Reynolds, Indiana 47980
Permit Number: F181-32184-00048
Reviewer: Sarah Street

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 at the source.

Fuel Limitations

Maximum Fuel Input Rate =	27	MMBtu/hr								
Natural Gas Limitation =	0	MMCF/yr								
No. 2 Fuel Oil Limitation =	1,689,429	gal/yr, and	0.49	% sulfur						
No. 4 Fuel Oil Limitation =	0	gal/yr, and	0.00	% sulfur						
Residual (No. 5 or No. 6) Fuel Oil Limitation =	0	gal/yr, and	0.00	% sulfur						
Propane Limitation =	0	gal/yr, and	0.00	gr/100 ft3 sulfur						
Butane Limitation =	0	gal/yr, and	0.00	gr/100 ft3 sulfur						
Used/Waste Oil Limitation =	0	gal/yr, and	0.00	% sulfur	0.00	% ash	0.000	% chlorine,	0.000	% lead

Limited Emissions

CO2e Fraction	Emission Factor (units)							Global Warming Potentials (GWP)		
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil (lb/kgal)	Residual (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)	Residual (No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/Waste Oil (tons/yr)
CO2	0	19,007.27	0	0	0	0	0
CH4	0	0.77	0	0	0	0	0
N2O	0	0.22	0	0	0	0	0
Total	0	19,008.26	0	0	0	0	0

CO2e for Worst Case Fuel* (tons/yr)
19,091.54

Methodology

Fuel Limitations from TSD Appendix A.2, page 1 of 15.

Global 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, No. 4, and Residual (No. 5 or No. 6) Fuel 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 5/10), 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 Summary
Dryer/Mixer and Batch Tower - Process Emissions**

Company Name: Xtreme Contractors, LLC
Source Address: 348 East U.S. Highway 24, Reynolds, Indiana 47980
Permit Number: F181-32184-00048
Reviewer: Sarah Street

The following calculations determine the limited emissions from the aggregate drying/mixing and the batch tower.

Maximum Hourly Asphalt Production =	60	ton/hr
Annual Asphalt Production Limitation =	100,000	ton/yr
PM Dryer/Mixer Limitation =	32,000	lb/ton of asphalt production
PM10 Dryer/Mixer Limitation =	1,500	lb/ton of asphalt production
PM2.5 Dryer/Mixer Limitation =	0,270	lb/ton of asphalt production
CO Dryer/Mixer Limitation =	0,400	lb/ton of asphalt production
VOC Dryer/Mixer Limitation =	0,008	lb/ton of asphalt production

Criteria Pollutant	Emission Factor or Limitation (lb/ton)			Limited/Controlled Potential to Emit (tons/yr)			
	Batch-Mix Plant (dryer, hot screens, and mixer)			Batch-Mix Plant (dryer, hot screens, and mixer)			
	Natural Gas	No. 2 Fuel Oil	Waste Oil	Natural Gas	No. 2 Fuel Oil	Waste Oil	Worst Case PTE
PM	32.000	32.000	32.000	0	1600.0	0	1600.0
PM10	1.500	1.500	1.500	0	75.0	0	75.0
PM2.5	0.270	0.270	0.270	0	13.5	0	13.5
SO2*	0.0046	0.088	0.088	0	4.4	0	4.4
NOx*	0.025	0.12	0.12	0	6.0	0	6.0
VOC	0.008	0.008	0.008	0	0.4	0	0.4
CO**	0.400	0.400	0.400	0	20.0	0	20.0
Hazardous Air Pollutant							
Arsenic	4.60E-07	4.60E-07	4.60E-07	0	2.30E-05	0	2.30E-05
Beryllium	1.50E-07	1.50E-07	1.50E-07	0	7.50E-06	0	7.50E-06
Cadmium	6.10E-07	6.10E-07	6.10E-07	0	3.05E-05	0	3.05E-05
Chromium	5.70E-07	5.70E-07	5.70E-07	0	2.85E-05	0	2.85E-05
Lead	8.90E-07	8.90E-07	1.00E-05	0	4.45E-05	0	4.45E-05
Manganese	6.90E-06	6.90E-06	6.90E-06	0	3.45E-04	0	3.45E-04
Mercury	4.10E-07	4.10E-07	4.10E-07	0	2.05E-05	0	2.05E-05
Nickel	3.00E-06	3.00E-06	3.00E-06	0	1.50E-04	0	1.50E-04
Selenium	4.90E-07	4.90E-07	4.90E-07	0	2.45E-05	0	2.45E-05
Acetaldehyde	3.20E-04	3.20E-04	3.20E-04	0	0.02	0	0.02
Benzene	2.80E-04	2.80E-04	2.80E-04	0	0.01	0	0.01
Ethylbenzene	2.20E-03	2.20E-03	2.20E-03	0	0.11	0	0.11
Formaldehyde	7.40E-04	7.40E-04	7.40E-04	0	0.04	0	0.04
Quinone	2.70E-04	2.70E-04	2.70E-04	0	0.01	0	0.01
Toluene	1.00E-03	1.00E-03	1.00E-03	0	0.05	0	0.05
Total PAH Haps	1.10E-04	1.10E-04	2.30E-04	0	0.01	0	0.01
Xylene	2.70E-03	2.70E-03	2.70E-03	0	0.14	0	0.14
Total HAPs							0.38
Worst Single HAP							0.14 (xylene)

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 11.1-1, 11.1-2, 11.1-5, 11.1-6, 11.1-19, and 11.1-11

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.

* SO2 and NOx 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 batch mix dryer fired with natural gas, No. 6 fuel oil, and No. 2 fuel oil to develop single CO emission factor.

Abbreviations

PM = Particulate Matter	SO2 = Sulfur Dioxide	CO = Carbon Monoxide	PAH = Polyaromatic Hydrocarbon
PM10 = Particulate Matter (<10 um)	NOx = Nitrous Oxides	HAP = Hazardous Air Pollutant	
PM2.5 = Particulate Matter (< 2.5 um)	VOC - Volatile Organic Compounds	HCl = Hydrogen Chloride	

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

Company Name: Xtreme Contractors, LLC
Source Address: 348 East U.S. Highway 24, Reynolds, Indiana 47980
Permit Number: F181-32184-00048
Reviewer: Sarah Street

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

Maximum Hourly Asphalt Production =

60	ton/hr
----	--------

 Annual Asphalt Production Limitation =

100,000	ton/yr
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Criteria Pollutant	Emission Factor (lb/ton) Batch-Mix Plant (dryer/mixer)			Global Warming Potentials (GWP)	Limited Potential to Emit (tons/yr) Batch-Mix Plant (dryer/mixer)			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	37	37	37	1	0	1,850.00	0	1,857.77
CH ₄	0.0074	0.0074	0.0074	21	0	0.37	0	
N ₂ O				310	0	0	0	
Total					0	1,850.37	0	
CO₂e Equivalent Emissions (tons/yr)					0	1,857.77	0	

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 Summary
Dryer/Mixer Slag Processing**

Company Name: Xtreme Contractors, LLC
Source Address: 348 East U.S. Highway 24, Reynolds, Indiana 47980
Permit Number: F181-32184-00048
Reviewer: Sarah Street

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

Limited Blast Furnace Slag Usage = ton/yr % sulfur
 Limited Annual Steel Slag Usage = ton/yr % sulfur

Type of Slag	SO2 Emission Factor (lb/ton)	Limited Potential to Emit SO2 (tons/yr)
Blast Furnace Slag*	0.0000	0.0
Steel Slag**	0.0000	0.00

Methodology

* 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. The source has requested a safety factor of 0.20 lb/ton be added to the tested value for use at this location to allow for a sulfur content up to 1.5%.

** 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) = [(Limited Slag Usage (ton/yr)] * [Emission Factor (lb/ton)] * [ton/2000 lbs]

Abbreviations

SO2 = Sulfur Dioxide

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

Company Name: Xtreme Contractors, LLC
Source Location: 348 East U.S. Highway 24, Reynolds, Indiana 47980
Permit Number: F181-32184-00048
Reviewer: Sarah Street

Maximum Hot Oil Heater Fuel Input Rate = 1.20 MMBtu/hr
 Natural Gas Usage = 0 MMCF/yr
 No. 2 Fuel Oil Usage = 75,086 gal/yr, and 0.49 % 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	0.075	0.08
PM10/PM2.5	7.6	3.3	0	0.124	0.12
SO2	0.6	71.0	0	2.666	2.67
NOx	100	20.0	0	0.751	0.75
VOC	5.5	0.20	0	0.008	0.01
CO	84	5.0	0	0.188	0.19
Hazardous Air Pollutant					
Arsenic	2.0E-04	5.6E-04	0	2.10E-05	2.1E-05
Beryllium	1.2E-05	4.2E-04	0	1.58E-05	1.6E-05
Cadmium	1.1E-03	4.2E-04	0	1.58E-05	1.6E-05
Chromium	1.4E-03	4.2E-04	0	1.58E-05	1.6E-05
Cobalt	8.4E-05		0		0.0E+00
Lead	5.0E-04	1.3E-03	0	4.73E-05	4.7E-05
Manganese	3.8E-04	8.4E-04	0	3.15E-05	3.2E-05
Mercury	2.6E-04	4.2E-04	0	1.58E-05	1.6E-05
Nickel	2.1E-03	4.2E-04	0	1.58E-05	1.6E-05
Selenium	2.4E-05	2.1E-03	0	7.88E-05	7.9E-05
Benzene	2.1E-03		0		0.0E+00
Dichlorobenzene	1.2E-03		0		0.0E+00
Ethylbenzene					0
Formaldehyde	7.5E-02	6.10E-02	0	2.29E-03	0.002
Hexane	1.8E+00		0		0.000
Phenol					0
Toluene	3.4E-03		0		0.0E+00
Total PAH Haps	negl		negl		0
Polycyclic Organic Matter		3.30E-03		1.24E-04	1.2E-04

Total HAPs = 0 2.7E-03 0.003
Worst Single HAP = 0 2.3E-03 2.3E-03

Methodology

(Hexane) (Formaldehyde) (Hexane)

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 5/10), 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	CO = Carbon Monoxide
PM10 = Particulate Matter (<10 um)	HAP = Hazardous Air Pollutant
PM2.5 = Particulate Matter (<2.5 um)	HCl = Hydrogen Chloride
SO2 = Sulfur Dioxide	PAH = Polyaromatic Hydrocarbon
NOx = Nitrous Oxides	
VOC = Volatile Organic Compounds	

**Appendix A.2: Limited Emissions Summary
Greenhouse Gas (CO₂e) Emissions from
Hot Oil Heater Fuel Combustion with Maximum Capacity < 100 MMBtu/hr**

Company Name: Xtreme Contractors, LLC
Source Address: 348 East U.S. Highway 24, Reynolds, Indiana 47980
Permit Number: F181-32184-00048
Reviewer: Sarah Street

Maximum Hot Oil Heater Fuel Input Rate = 1.20 MMBtu/hr
 Natural Gas Usage = 0 MMCF/yr
 No. 2 Fuel Oil Usage = 75,085.71 gal/yr, 0.49 % sulfur

Unlimited/Uncontrolled Emissions

Criteria Pollutant	Emission Factor (units)		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	0	844.77
CH ₄	2.49	0.91	21	0	3.43E-02
N ₂ O	2.20	0.26	310	0	9.76E-03
			Total	0	844.81

Worse Case CO₂e Emissions (tons/yr)
848.51

CO ₂ e Equivalent Emissions (tons/yr)	0	848.51
--	---	--------

Methodology

Global 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 5/10), 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)]

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]

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

CH₄ = Methane

N₂O = Nitrogen Dioxide

CO₂ = Carbon Dioxide

PTE = Potential to Emit

**Appendix A.2: Limited Emissions Summary
Hot Oil Heating System - Process Emissions**

Company Name: Xtreme Contractors, LLC
Source Address: 348 East U.S. Highway 24, Reynolds, Indiana 47980
Permit Number: F181-32184-00048
Reviewer: Sarah Street

The following calculations determine the unlimited/uncontrolled emissions from the combustion of natural gas and No. 2 fuel oil in the hot oil heating system, which is used to heat a specially designed transfer oil. The hot transfer oil is then pumped through a piping system that passes through the asphalt cement storage tanks, in order to keep the asphalt cement at the correct temperature.

Maximum Fuel Input Rate To Hot Oil Heater = 1.20 MMBtu/hr
 Natural Gas Usage = 0 MMCF/yr, and
 No. 2 Fuel Oil Usage = 75,085.71 gal/yr

Criteria Pollutant	Emission Factors		Unlimited/Uncontrolled Potential to Emit (tons/yr)		Worse Case PTE
	Natural Gas (lb/ft3)	No. 2 Fuel Oil (lb/gal)	Natural Gas	No. 2 Fuel Oil	
VOC	2.60E-08	2.65E-05	0	0.001	0.001
CO	8.90E-06	0.0012	0	0.045	0.045
Greenhouse Gas as CO2e*					
CO2	0.20	28.00	0	1051.20	1,051.20
Hazardous Air Pollutant					
Formaldehyde	2.60E-08	3.50E-06	0	1.31E-04	1.31E-04
Acenaphthene		5.30E-07		1.99E-05	1.99E-05
Acenaphthylene		2.00E-07		7.51E-06	7.51E-06
Anthracene		1.80E-07		6.76E-06	6.76E-06
Benzo(b)fluoranthene		1.00E-07		3.75E-06	3.75E-06
Fluoranthene		4.40E-08		1.65E-06	1.65E-06
Fluorene		3.20E-08		1.20E-06	1.20E-06
Naphthalene		1.70E-05		6.38E-04	6.38E-04
Phenanthrene		4.90E-06		1.84E-04	1.84E-04
Pyrene		3.20E-08		1.20E-06	1.20E-06

Total HAPs 9.96E-04
Worst Single HAP 6.38E-04 (Naphthalene)

Methodology

Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 MMCF/1,000 MMBtu]
 No. 2 Fuel Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.140 MMBtu]
 Natural Gas: Potential to Emit (tons/yr) = (Natural Gas Usage (MMCF/yr))*(Emission Factor (lb/CF))*(1000000 CF/MMCF)*(ton/2000 lbs)
 No. 2 Fuel Oil: Potential to Emit (tons/yr) = (No. 2 Fuel Oil Usage (gals/yr))*(Emission Factor (lb/gal))*(ton/2000 lbs)
 Unlimited Potential to Emit CO2e (tons/yr) = Unlimited Potential to Emit CO2 (ton/yr) x CO2 GWP (1)
 1 gallon of No. 2 Fuel Oil has a heating value of 140,000 Btu
 Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Table 11.1-13

*Note: There are no emission factors for CH4 and N2O available in either 40 CFR 98, Subpart C or AP-42 Chapter 11.1. Therefore, it is assumed that there are no CH4 and N2O emission anticipated from this process.

Abbreviations

CO = Carbon Monoxide VOC = Volatile Organic Compound CO2 = Carbon Dioxide

**Appendix A.2: Limited Emissions Summary
Asphalt Load-Out, Silo Filling, and Yard Emissions**

Company Name: Xtreme Contractors, LLC
Source Address: 348 East U.S. Highway 24, Reynolds, Indiana 47980
Permit Number: F181-32184-00048
Reviewer: Sarah Street

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 =	100,000	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	0.03	0.03	NA	0.06
Organic PM	3.4E-04	2.5E-04	NA	0.02	0.013	NA	0.03
TOC	0.004	0.012	0.001	0.21	0.61	0.055	0.9
CO	0.001	0.001	3.5E-04	0.07	0.059	0.018	0.14

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

PM/HAPs	0.001	0.001	0	0.003
VOC/HAPs	0.003	0.008	0.001	0.012
non-VOC/HAPs	1.6E-05	1.6E-06	4.2E-06	2.2E-05
non-VOC/non-HAPs	0.02	0.01	0.00	0.03

Total VOCs	0.20	0.61	0.1	0.9
Total HAPs	0.00	0.01	0.001	0.01
	Worst Single HAP			0.004
				(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)::

Total PM/PM10 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.2: Limited Emissions Summary
Asphalt Load-Out, Silo Filling, and Yard Emissions (continued)**

Company Name: Xtreme Contractors, LLC
 Source Address: 348 East U.S. Highway 24, Reynolds, Indiana 47980
 Permit Number: F181-32184-00048
 Reviewer: Sarah Street

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%	4.4E-05	6.0E-05	NA	1.0E-04
Acenaphthylene	208-96-8	PM/HAP	POM	Organic PM	0.028%	0.014%	4.8E-06	1.8E-06	NA	6.6E-06
Anthracene	120-12-7	PM/HAP	POM	Organic PM	0.07%	0.13%	1.2E-05	1.7E-05	NA	2.8E-05
Benzo(a)anthracene	56-55-3	PM/HAP	POM	Organic PM	0.019%	0.056%	3.2E-06	7.1E-06	NA	1.0E-05
Benzo(b)fluoranthene	205-99-2	PM/HAP	POM	Organic PM	0.0076%	0	1.3E-06	0	NA	1.3E-06
Benzo(k)fluoranthene	207-08-9	PM/HAP	POM	Organic PM	0.0022%	0	3.8E-07	0	NA	3.8E-07
Benzo(g,h,i)perylene	191-24-2	PM/HAP	POM	Organic PM	0.0019%	0	3.2E-07	0	NA	3.2E-07
Benzo(a)pyrene	50-32-8	PM/HAP	POM	Organic PM	0.0023%	0	3.9E-07	0	NA	3.9E-07
Benzo(e)pyrene	192-97-2	PM/HAP	POM	Organic PM	0.0078%	0.0095%	1.3E-06	1.2E-06	NA	2.5E-06
Chrysene	218-01-9	PM/HAP	POM	Organic PM	0.103%	0.21%	1.8E-05	2.7E-05	NA	4.4E-05
Dibenz(a,h)anthracene	53-70-3	PM/HAP	POM	Organic PM	0.00037%	0	6.3E-08	0	NA	6.3E-08
Fluoranthene	206-44-0	PM/HAP	POM	Organic PM	0.05%	0.15%	8.5E-06	1.9E-05	NA	2.8E-05
Fluorene	86-73-7	PM/HAP	POM	Organic PM	0.77%	1.01%	1.3E-04	1.3E-04	NA	2.6E-04
Indeno(1,2,3-cd)pyrene	193-39-5	PM/HAP	POM	Organic PM	0.00047%	0	8.0E-08	0	NA	8.0E-08
2-Methylnaphthalene	91-57-6	PM/HAP	POM	Organic PM	2.38%	5.27%	4.1E-04	6.7E-04	NA	0.001
Naphthalene	91-20-3	PM/HAP	POM	Organic PM	1.25%	1.82%	2.1E-04	2.3E-04	NA	4.4E-04
Perylene	198-55-0	PM/HAP	POM	Organic PM	0.022%	0.03%	3.8E-06	3.8E-06	NA	7.6E-06
Phenanthrene	85-01-8	PM/HAP	POM	Organic PM	0.81%	1.80%	1.4E-04	2.3E-04	NA	3.7E-04
Pyrene	129-00-0	PM/HAP	POM	Organic PM	0.15%	0.44%	2.6E-05	5.6E-05	NA	8.1E-05
Total PAH HAPs							0.001	0.001	NA	0.002
Other semi-volatile HAPs										
Phenol		PM/HAP	---	Organic PM	1.18%	0	2.0E-04	0	0	2.0E-04

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 Summary
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		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%	0.20	0.61	0.05	0.86
non-VOC/non-HAPS										
Methane	74-82-8	non-VOC/non-HAP	---	TOC	6.50%	0.26%	1.4E-02	1.6E-03	3.6E-03	0.019
Acetone	67-64-1	non-VOC/non-HAP	---	TOC	0.046%	0.055%	9.6E-05	3.4E-04	2.5E-05	0.000
Ethylene	74-85-1	non-VOC/non-HAP	---	TOC	0.71%	1.10%	1.5E-03	6.7E-03	3.9E-04	0.009
Total non-VOC/non-HAPS					7.30%	1.40%	0.015	0.009	0.004	0.03
Volatile organic HAPs										
Benzene	71-43-2	VOC/HAP	---	TOC	0.052%	0.032%	1.1E-04	1.9E-04	2.9E-05	3.3E-04
Bromomethane	74-83-9	VOC/HAP	---	TOC	0.0096%	0.0049%	2.0E-05	3.0E-05	5.3E-06	5.5E-05
2-Butanone	78-93-3	VOC/HAP	---	TOC	0.049%	0.039%	1.0E-04	2.4E-04	2.7E-05	3.7E-04
Carbon Disulfide	75-15-0	VOC/HAP	---	TOC	0.013%	0.016%	2.7E-05	9.7E-05	7.2E-06	1.3E-04
Chloroethane	75-00-3	VOC/HAP	---	TOC	0.00021%	0.004%	4.4E-07	2.4E-05	1.2E-07	2.5E-05
Chloromethane	74-87-3	VOC/HAP	---	TOC	0.015%	0.023%	3.1E-05	1.4E-04	8.3E-06	1.8E-04
Cumene	92-82-8	VOC/HAP	---	TOC	0.11%	0	2.3E-04	0	6.1E-05	2.9E-04
Ethylbenzene	100-41-4	VOC/HAP	---	TOC	0.28%	0.038%	5.8E-04	2.3E-04	1.5E-04	0.001
Formaldehyde	50-00-0	VOC/HAP	---	TOC	0.088%	0.69%	1.8E-04	4.2E-03	4.8E-05	0.004
n-Hexane	100-54-3	VOC/HAP	---	TOC	0.15%	0.10%	3.1E-04	6.1E-04	8.3E-05	0.001
Isooctane	540-84-1	VOC/HAP	---	TOC	0.0018%	0.00031%	3.7E-06	1.9E-06	9.9E-07	6.6E-06
Methylene Chloride	75-09-2	non-VOC/HAP	---	TOC	0	0.00027%	0	1.6E-06	0	1.6E-06
MTBE	1634-04-4	VOC/HAP	---	TOC	0	0	0	0	0	0
Styrene	100-42-5	VOC/HAP	---	TOC	0.0073%	0.0054%	1.5E-05	3.3E-05	4.0E-06	5.2E-05
Tetrachloroethene	127-18-4	non-VOC/HAP	---	TOC	0.0077%	0	1.6E-05	0	4.2E-06	2.0E-05
Toluene	100-88-3	VOC/HAP	---	TOC	0.21%	0.062%	4.4E-04	3.8E-04	1.2E-04	0.001
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	2.7E-06	0	7.2E-07	3.4E-06
m-/p-Xylene	1330-20-7	VOC/HAP	---	TOC	0.41%	0.20%	8.5E-04	1.2E-03	2.3E-04	0.002
o-Xylene	95-47-6	VOC/HAP	---	TOC	0.08%	0.057%	1.7E-04	3.5E-04	4.4E-05	5.6E-04
Total volatile organic HAPs					1.50%	1.30%	0.003	0.008	0.001	0.012

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

**Appendix A.2: Limited Emissions Summary
Material Storage Piles**

Company Name: Xtreme Contractors, LLC
Source Address: 348 East U.S. Highway 24, Reynolds, Indiana 47980
Permit Number: F181-32184-00048
Reviewer: Sarah Street

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.

$$E_f = 1.7 \cdot (s/1.5)^3 \cdot (365-p)/235 \cdot (f/15)$$

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	0.0625	0.034	0.012
Limestone	1.6	1.85	0.125	0.042	0.015
RAP	0.5	0.58	0.00	0.000	0.000
Gravel	1.6	1.85	0.00	0.000	0.000
Shingles	0.5	0.58	0.00	0.000	0.000
Slag	3.8	4.40	0.00	0.000	0.000
Totals				0.08	0.03

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

RAP = recycled asphalt pavement

PM = Particulate Matter

PM10 = Particulate Matter (<10 um)

PM2.5 = Particulate Matter (<2.5 um)

PTE = Potential to Emit

Appendix A.2: Limited Emissions Summary
Material Processing, Handling, Crushing, Screening, and Conveying

Company Name: Xtreme Contractors, LLC
Source Address: 348 East U.S. Highway 24, Reynolds, Indiana 47980
Permit Number: F181-32184-00048
Reviewer: Sarah Street

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.

$E_f = k \cdot (0.0032) \cdot (U/5)^{1.3} / (M/2)^{1.4}$
 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 =	100,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	95,000	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	0.11	0.05	0.01
Front-end loader dumping of materials into feeder bins	0.11	0.05	0.01
Conveyor dropping material into dryer/mixer or batch tower	0.11	0.05	0.01
Total (tons/yr)	0.32	0.15	0.02

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 (wt)]
 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	0.26	0.11
Screening	0.025	0.0087	1.19	0.41
Conveying	0.003	0.0011	0.14	0.05
Limited Potential to Emit (tons/yr) =			1.59	0.58

Methodology

Maximum Material Handling Throughput (tons/yr) = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (wt)]
 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 Summary
Unpaved Roads**

Company Name: Xtreme Contractors, LLC
 Source Address: 348 East U.S. Highway 24, Reynolds, Indiana 47980
 Permit Number: F181-32184-00048
 Reviewer: Sarah Street

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 =	100,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	95,000	tons/yr
Maximum Asphalt Cement/Binder Throughput =	5,000	tons/yr
No. 2 Fuel Oil Limitation =	1,689,429	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)	14.00	23.25	37.25	4.1E+03	1.5E+05	235	0.045	181.9
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	14.00	0.00	14.0	4.1E+03	5.7E+04	235	0.045	181.9
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	20.00	22.00	42.0	2.3E+02	9.5E+03	235	0.045	10.1
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	20.00	0.00	20.0	2.3E+02	4.5E+03	235	0.045	10.1
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	20.00	22.00	42.0	2.6E+02	1.1E+04	235	0.045	11.6
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	20.00	0.00	20.0	2.6E+02	5.2E+03	235	0.045	11.6
Aggregate/RAP Loader Full	Front-end loader (3 CY)	17.43	5.00	22.4	1.9E+04	4.3E+05	235	0.045	845.6
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	17.43	0.00	17.4	1.9E+04	3.3E+05	235	0.045	845.6
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	14.18	23.25	37.4	4.3E+03	1.6E+05	235	0.045	191.4
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	14.18	0.00	14.2	4.3E+03	6.1E+04	235	0.045	191.4
Total					5.6E+04	1.2E+06			2.5E+03

Average Vehicle Weight Per Trip =	21.9	tons/trip
Average Miles Per Trip =	0.045	miles/trip

Unmitigated Emission Factor, Ef = $k[(s/12)^a][(W/3)^b]$ (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 =	21.9	21.9	21.9	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 = $E * [(365 - P)/365]$

Mitigated Emission Factor, Eext = $E * [(365 - P)/365]$
 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 =	6.31	1.61	0.16	lb/mile
Mitigated Emission Factor, Eext =	4.15	1.06	0.11	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)	0.57	0.15	0.01	0.38	0.10	0.01	0.19	0.05	0.00
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	0.57	0.15	0.01	0.38	0.10	0.01	0.19	0.05	0.00
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.032	0.008	0.00	0.021	0.005	5.3E-04	0.010	0.003	2.7E-04
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.032	0.008	0.00	0.021	0.005	5.3E-04	0.010	0.003	2.7E-04
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0.036	0.009	9.3E-04	0.024	0.006	6.1E-04	0.012	0.003	3.1E-04
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0.036	0.009	9.3E-04	0.024	0.006	6.1E-04	0.012	0.003	3.1E-04
Aggregate/RAP Loader Full	Front-end loader (3 CY)	2.67	0.68	0.07	1.75	0.45	0.04	0.88	0.22	0.02
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	2.67	0.68	0.07	1.75	0.45	0.04	0.88	0.22	0.02
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	0.60	0.15	0.02	0.40	0.10	0.01	0.20	0.05	0.01
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	0.60	0.15	0.02	0.40	0.10	0.01	0.20	0.05	0.01
Totals		7.82	1.99	0.20	5.14	1.31	0.13	2.57	0.66	0.07

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) PTE = Potential to Emit

**Appendix A.2: Limited Emissions Summary
Paved Roads**

Company Name: Xtreme Contractors, LLC
Source Address: 348 East U.S. Highway 24, Reynolds, Indiana 47980
Permit Number: F181-32184-00048
Reviewer: Sarah Street

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 =	100,000	tons/yr
Percent Asphalt Cement/Binder (weight %)	5.0%	
Maximum Material Handling Throughput =	95,000	tons/yr
Maximum Asphalt Cement/Binder Throughput =	5,000	tons/yr
No. 2 Fuel Oil Limitation =	1,689,429	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)	14.00	23.25	37.25	4.1E+03	1.5E+05	800	0.152	619.1
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	14.00	0.00	14.00	4.1E+03	5.7E+04	800	0.152	619.1
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	20.00	22.00	42.00	2.3E+02	9.5E+03	800	0.152	34.4
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	20.00	0.00	20.00	2.3E+02	4.5E+03	800	0.152	34.4
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	20.00	22.00	42.00	2.6E+02	1.1E+04	800	0.152	39.3
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	20.00	0.00	20.00	2.6E+02	5.2E+03	800	0.152	39.3
Aggregate/RAP Loader Full	Front-end loader (3 CY)	17.43	5.00	22.43	1.9E+04	4.3E+05	800	0.152	2878.8
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	17.43	0.00	17.43	1.9E+04	3.3E+05	800	0.152	2878.8
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	14.18	23.25	37.43	4.3E+03	1.6E+05	800	0.152	651.7
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	14.18	0.00	14.18	4.3E+03	6.1E+04	800	0.152	651.7
Total					5.6E+04	1.2E+06			8.4E+03

Average Vehicle Weight Per Trip =	21.9	tons/trip
Average Miles Per Trip =	0.152	miles/trip

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

	PM	PM10	PM2.5
where k =	0.011	0.0022	0.00054
W =	21.9	21.9	21.9
sL =	0.6	0.6	0.6

lb/mi = particle size multiplier (AP-42 Table 13.2.1-1)

tons = average vehicle weight (provided by source)

g/m² = 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, $E_{ext} = E_f * [1 - (p/4N)]$

Mitigated Emission Factor, $E_{ext} = E_f * [1 - (p/4N)]$			
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	lb/mile
Unmitigated Emission Factor, $E_f =$	0.16	0.03	0.01	lb/mile
Mitigated Emission Factor, $E_{ext} =$	0.15	0.03	0.01	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)	0.05	0.01	0.00	0.05	0.01	0.00	0.02	0.00	0.00
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	0.05	0.01	0.00	0.05	0.01	0.00	0.02	0.00	0.00
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.003	0.001	1.4E-04	0.003	0.001	1.2E-04	0.001	2.5E-04	6.2E-05
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.003	0.001	1.4E-04	0.003	0.001	1.2E-04	0.001	2.5E-04	6.2E-05
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	3.2E-03	6.3E-04	1.6E-04	2.9E-03	5.8E-04	1.4E-04	1.4E-03	2.9E-04	7.1E-05
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	3.2E-03	6.3E-04	1.6E-04	2.9E-03	5.8E-04	1.4E-04	1.4E-03	2.9E-04	7.1E-05
Aggregate/RAP Loader Full	Front-end loader (3 CY)	0.23	0.05	0.01	0.21	0.04	0.01	0.11	0.02	0.01
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	0.23	0.05	0.01	0.21	0.04	0.01	0.11	0.02	0.01
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	0.05	0.01	0.00	0.05	0.01	0.00	0.02	0.00	0.00
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	0.05	0.01	0.00	0.05	0.01	0.00	0.02	0.00	0.00
Totals		0.68	0.14	0.03	0.62	0.12	0.03	0.31	0.06	0.02

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) PTE = Potential to Emit



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

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Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

SENT VIA U.S. MAIL: CONFIRMED DELIVERY AND SIGNATURE REQUESTED

TO: Tara Wilson
Xtreme Contractors, LLC
348 E US Hwy 24
Reynolds IN 47980

DATE: January 24, 2013

FROM: Matt Stuckey, Branch Chief
Permits Branch
Office of Air Quality

SUBJECT: Final Decision
FESOP
181-32184-00084

Enclosed is the final decision and supporting materials for the air permit application referenced above. Please note that this packet contains the original, signed, permit documents.

The final decision is being sent to you because 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.

A copy of the final decision and supporting materials has also been sent via standard mail to:
Rebecca Kesler, Responsible Official
Julie Delp, Consultant
OAQ Permits Branch Interested Parties List

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178, or toll-free at 1-800-451-6027 (ext. 3-0178), and ask to speak to the permit reviewer who prepared the permit. If you think you have received this document in error, please contact Joanne Smiddie-Brush of my staff at 1-800-451-6027 (ext 3-0185), or via e-mail at jbrush@idem.IN.gov.

Final Applicant Cover letter.dot 11/30/07



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

TO: Monticello Union Township Public Library

From: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

Subject: **Important Information for Display Regarding a Final Determination**

Applicant Name: Xtreme Contractors, LLC
Permit Number: 181-32184-00048

You previously received information to make available to the public during the public comment period of a draft permit. Enclosed is a copy of the final decision and supporting materials for the same project. Please place the enclosed information along with the information you previously received. To ensure that your patrons have ample opportunity to review the enclosed permit, **we ask that you retain this document for at least 60 days.**

The applicant is responsible for placing a copy of the application in your library. If the permit application is not on file, or 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.

Enclosures
Final Library.dot 11/30/07

Mail Code 61-53

IDEM Staff	DPABST 1/24/2013 Xtreme Contractors, LLC 181-32184-00048 (Final)		Type of Mail: CERTIFICATE OF MAILING ONLY	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		

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handling 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		Tara Wilson Xtreme Contractors, LLC 348 E US Hwy 24 Reynolds IN 47980 (Source CAATS) (CONFIRM DELIVERY)									
2		Rebecca S. Kesler Owner Xtreme Contractors, LLC 348 E US Hwy 24 Reynolds IN 47980 (RO CAATS)									
3		Mr. Harry D. DuVall P.O. Box 147 Idaville IN 47950 (Affected Party)									
4		White County Commissioners P.O. Box 260 Monticello IN 47960-0260 (Local Official)									
5		Monticello Union Township Public Library 321 Broadway St Monticello IN 47690 (Library)									
6		Ms. Magie Read P.O. Box 248 Battle Ground IN 47920 (Affected Party)									
7		Mr. Robert Kelley 2555 S 30th Street Lafayette IN 44909 (Affected Party)									
8		Reynolds Town Council P.O. Box 214 Reynolds IN 47980 (Local Official)									
9		White County Health Department 315 N Illinois St Monticello IN 47960 (Health Department)									
10		Julie Delp Wilcox Environmental Engineering, Inc. 5757 West 74th Street Indianapolis IN 46278 (Consultant)									
11											
12											
13											
14											
15											

Total number of pieces Listed by Sender	Total number of Pieces Received at Post Office	Postmaster, Per (Name of Receiving employee)	The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstructing insurance is \$50,000 per piece subject to a limit of \$50, 000 per occurrence. The maximum indemnity payable on Express mil merchandise insurance is \$500. The maximum indemnity payable is \$25,000 for registered mail, sent with optional postal insurance. See Domestic Mail Manual R900, S913, and S921 for limitations of coverage on inured and COD mail. See International Mail Manual for limitations o coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.
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