

217/782-2113

CONSTRUCTION PERMIT - NSPS SOURCE

PERMITTEE

Builders Asphalt, LLC
Attn: Mr. Mark J. Tubay
4401 West Roosevelt Road
Hillside, Illinois 60162

Application No.: 05110052

I.D. No.: 089810AAJ

Applicant's Designation: BUILDERSASP

Date Received: November 21, 2005

Subject: Drum-Mix Asphalt and Crushing Plants

Date Issued: January 19, 2006

Location: 451 West 371 Main Street, Kaneville, Illinois 60144

Permit is hereby granted to the above-designated Permittee to CONSTRUCT emission source(s) and/or air pollution control equipment consisting of a drum-mix asphalt plant with a baghouse, up to eight (8) asphalt storage silos, up to twelve (12) storage tanks, up to five (5) asphalt tank heaters and boilers (14 mmBtu/hour total maximum firing rate of all units combined), hot mix asphalt silos with truck loadout and a crushing plant up to three (3) crushers, up to nine (9) screens, and up to thirty (30) conveyors with associated transfer points, as described in the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

1. Equipment at this facility shall not exceed:
 - a. One (1) asphalt drum mixer and one (1) drum dryer with a baghouse;
 - b. Eight (8) asphalt storage silos with truck loadout;
 - c. Twelve (12) storage tanks each with capacities less than:
 - i. 19,815 gallons for tanks used to store gasoline; or
 - ii. 39,889 gallons for tanks used to store materials with a vapor pressure less than 2.17 psi (e.g., asphalt cement, asphalt oil, fuel oils, etc.).
 - d. Five (5) asphalt tank heaters and boilers (10 mmBtu/hr maximum firing rate per individual unit and a total of 14 mmBtu/hr maximum firing for all such units);
 - e. Recycled asphalt pavement (RAP)/recycled concrete crushing plant comprised of:
 - i. Three (3) crushers;
 - ii. Nine (9) screens; and
 - iii. Thirty (30) conveyors associated with the crushing plant.

2. This permit imposes conditions on activities at the affected drum-mix asphalt plant to assure compliance with applicable requirements of:
 - a. 40 CFR Part 60 Subparts A, I, and 000;
 - b. 35 IAC Part 212, Subparts B, E, K, and L;
 - c. 35 IAC Part 214, Subparts B and K; and/or
 - d. 35 IAC Part 215, Subparts B, K, and Y; 35 IAC Part 218 Subparts B, G, and Y; or 35 IAC Part 219 Subparts B, G, and Y.

- 3a. The drum-mix asphalt plant is subject to the requirements of the New Source Performance Standards (NSPS) for Hot Mix Asphalt Facilities, 40 CFR 60, Subparts A and I. The Illinois EPA is administering these standards in Illinois on behalf of the United States EPA under a delegation agreement. Pursuant to 40 CFR 60.92, no owner or operator subject to the provisions of this subpart shall discharge or cause the discharge into the atmosphere from any affected facility any gases which:
 - i. Contain particulate matter in excess of 90 mg/dscm (0.04 gr/dscf); or
 - ii. Exhibit 20 percent opacity, or greater.

- b. The Permittee shall maintain and operate the affected drum-mix asphalt plant, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions pursuant to 40 CFR 60.11(d).

- c. The baghouse shall be in operation at all times when the associated drum dryer is in operation and emitting air contaminants.

- d. The Permittee shall follow good operating practices for the baghouse, including periodic inspection, routine maintenance and prompt repair of defects. Inspections of the drum-mix asphalt plant and control systems equipment and operations shall be performed, as necessary, but at least once per week when the affected drum-mix asphalt plant is in operation, to confirm compliance with the requirements of this permit.

- e. The Permittee shall perform all applicable monitoring for the drum-mix asphalt plant, as specified in 40 CFR 60.13.

- f. The drum mixer and drum dryer shall only be operated with natural gas, liquefied petroleum gas (LPG), distillate fuel oil grades No. 1 and 2 (i.e., diesel) or residual fuel oil grades No. 4, 5, and 6 as the fuels. The use of waste oil for fuel in the drum mixer and drum dryer is authorized by this permit only if the owner or operator of the affected drum-mix asphalt plant has received prior approval from the Illinois EPA and has performed stack testing to verify compliance with all applicable requirements.

- g. The boilers and tank heaters shall only be operated with natural gas, liquefied petroleum gas (LPG), distillate fuel oil grades No. 1 and 2 (i.e., diesel) or residual fuel oil grades No. 4, 5, 6 and as the fuels.
- h. At the above location, the Permittee shall not keep, store, or utilize in the affected drum-mix asphalt plant:
 - i. Distillate fuel oil (Grade No. 1 and 2) with a sulfur content greater than the larger of the following two values:
 - A. 0.28 weight percent, or
 - B. The wt. percent given by the formula: Maximum wt. percent sulfur = $(0.000015) \times (\text{Gross heating value of oil, Btu/lb})$.
 - ii. Residual fuel oil (Grade No. 4, 5 and 6) with a sulfur content greater than that given by the formula:

Maximum weight percent sulfur = $(0.00004) \times (\text{Gross heating value of oil, Btu/lb})$.
 - iii. Organic liquid by-products or waste materials shall not be used in an affected drum-mix asphalt plant without written approval from the Illinois EPA.
 - iv. The Illinois EPA shall be allowed to sample all fuels stored at the above location.
- 4a. Pursuant to 40 CFR 60.8(a), within 60 days after achieving the maximum production rate at which the asphalt plant will be operated, but not later than 180 days after initial startup, the particulate matter concentration in its effluent stream shall be measured by an approved independent testing service, during conditions which are representative of the maximum performance. During these tests, observations to determine opacity of the effluent stream shall also be conducted.
- b. This testing shall be conducted and data collected in accordance with the test methods and procedures specified in 40 CFR 60.8, 60.11 and 60.93.
- c. At least 60 days prior to the actual date of testing, the Permittee shall submit a written test plan to the Illinois EPA for review and approval. This plan shall include as a minimum:
 - i. The name (or other identification) of the emission unit(s) to be tested and the name and address of the facility at which they are located;
 - ii. The name and address of the independent testing service(s) performing the tests, with the names of the individuals who may be performing sampling and analysis and their experience with similar tests;

- iii. The specific determinations of emissions and/or performance which are intended to be made, including the site(s) in the ductwork or stack at which sampling will occur;
 - iv. The specific conditions under which testing will be performed, including a discussion of why these conditions will be representative of maximum emissions and minimum control performance, the values of operating parameters for the emission unit, including associated control equipment, at or within which compliance is intended to be shown, and the means by which the operating parameters will be determined;
- d.
- i. The Permittee shall provide the Illinois EPA with written notification of testing at least thirty (30) days prior to testing to enable the Illinois EPA to have an observer present. This notification shall include the name of emission unit(s) to be tested, scheduled date and time, and contact person with telephone number.
 - ii. If testing is delayed, the Permittee shall promptly notify the Illinois EPA by facsimile, at least 5 days prior to the scheduled date of testing or immediately, if the delay occurs in the 5 days prior to the scheduled date. This notification shall also include the new date and time for testing, if set, or a separate notification shall be sent with this information when it is set.
- e. The Permittee shall submit the Test Report for this testing, accompanied by a cover letter stating whether or not compliance was shown, to the Illinois EPA without delay, within 30 days after the results are compiled, but no later than sixty (60) days after the date of testing or sampling. The Test Report shall include as a minimum:
- i. General information describing the test, including the name and identification of the emission source which was tested, date of test, names of personnel performing the tests, and Illinois EPA observers, if any;
 - ii. A summary of results;
 - iii. Description of test procedures, including description of sampling points, test equipment, and test schedule;
 - iv. Detailed description of test conditions, including:
 - A. Process information, i.e., process rate, aggregate type, fuel type, and firing rate.
 - B. Control equipment information, i.e., equipment condition and operating parameters during testing.
 - v. Data and calculations, including copies of all raw data sheets and records of laboratory analyses, sample calculations, and data on equipment calibration.

5a. Crushers and grinding mills that commence construction, reconstruction, or modification after August 31, 1983 at an affected drum-mix asphalt plant that reduce the size of nonmetallic minerals embedded in recycled asphalt pavement and subsequent affected facilities up to, but not including, the first storage silo or bin are subject to the provisions of the New Source Performance Standards (NSPS) for Nonmetallic Mineral Processing Plants, 40 CFR 60 Subparts A and 000.

i. Pursuant to 40 CFR 60.672(b), no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any transfer point on belt conveyors or from any other affected facility any fugitive emissions which exhibit greater than 10 percent opacity, except as provided in 40 CFR 60.672(c), (d), and (e).

ii. Pursuant to 40 CFR 60.672(c), no owner or operator shall cause to be discharged into the atmosphere from any crusher, at which a capture system is not used, fugitive emissions which exhibit greater than 15 percent opacity.

iii. Pursuant to 40 CFR 60.672(d), truck dumping of nonmetallic minerals into any screening operation, feed hopper, or crusher is exempt from the requirements of 40 CFR 60.672.

b. The surface moisture content of the aggregate to be processed in the crushing plant associated with the affected drum-mix asphalt plant shall be at least 1.5% by weight.

6a. Within 60 days after achieving the maximum production rate at which the crushing plant will be operated, but not later than 180 days after initial startup, NSPS opacity testing shall be conducted during conditions which are representative of maximum emissions. The Illinois EPA may provide additional time for the performance of this testing upon request from the Permittee which shows that it is not feasible to perform representative testing within 180 days.

b. The following methods and procedures shall be used for testing of emissions. Refer to 40 CFR 60, Appendix A for USEPA test methods.

Opacity

USEPA Method 9

c. Testing shall be performed by a certified observer.

d. The Illinois EPA shall be notified prior to these tests to enable the Illinois EPA to observe these tests. Notification for the expected date of testing shall be submitted a minimum of thirty (30) days prior to the expected date. Notification of the actual date and expected time of testing shall be submitted a minimum of five (5) working days prior to the actual date of the tests. The Illinois EPA may, at its discretion, accept notification with shorter advance notice provided that the Illinois EPA will not accept such notifications if it interferes with the Illinois EPA's ability to observe the testing.

7. Emission Limitations

a. Emissions and operation of the affected drum-mix asphalt plant shall not exceed the following limits:

i. Asphalt Production Limits:

<u>(Tons/Month)</u>	<u>(Tons/Year)</u>
167,000	1,000,000

ii. Emissions from Drum Mixer/Dryer:

<u>Pollutant</u>	<u>Emission Factor (Lbs/Ton)</u>	<u>Emissions</u>	
		<u>(Tons/Month)</u>	<u>(Tons/Year)</u>
CO	0.13	10.86	65.00
NO _x	0.055	4.59	27.50
PM	0.033	2.76	16.50
PM ₁₀	0.023	1.92	11.50
SO ₂	0.058	4.84	29.00
VOM	0.032	2.67	16.00

iii. Emissions from Asphalt Silo Loading and Truck Loadout:

<u>Pollutant</u>	<u>Emission Factor (Lbs/Ton)</u>	<u>Emissions</u>	
		<u>(Lbs/Month)</u>	<u>(Tons/Year)</u>
CO	0.0007	116.90	0.35
PM	0.0007	116.90	0.35
PM ₁₀	0.0007	116.90	0.35
VOM	0.0048	801.60	2.40

iv. These limits are based on maximum asphalt production and standard AP-42 emission factors.

b. Emissions and operation of the asphalt tank heaters and boilers shall not exceed the following limits:

i. Maximum firing rate of any individual unit: 10 mmBtu/hour

ii. Total maximum firing rate for all asphalt tank heaters and boilers: 14 mmBtu/hour

iii. Emissions from asphalt heaters and boilers:

<u>Pollutant</u>	<u>Emission Factor (Lbs/mmBtu)</u>	<u>Emissions</u>	
		<u>(Lbs/Hour)</u>	<u>(Tons/Year)</u>
CO	0.084	1.18	5.15
NO _x	0.143	2.00	8.77
PM	0.014	0.20	0.86
SO ₂	0.304	4.26	18.64
VOM	0.006	0.08	0.37

- iv. These limits are based on maximum fuel usage and standard AP-42 emission factors.
- c. Emissions of VOM from the twelve (12) storage tanks shall not exceed 1.0 tons/month and 6.0 tons/year, combined. This limit is based on a maximum throughput of 350,000 gallons/year of gasoline.
- d. Emissions and operation of the crushing plant shall not exceed the following limits:
 - i. Total Reclaimed Asphalt Pavement (RAP) and recycled concrete throughput:

<u>(Tons/Month)</u>	<u>(Tons/Year)</u>
55,000	425,000

- ii. Particulate Matter Emissions from the Crushing Plant:

<u>Item of Equipment</u>	<u>Emission Factor</u> <u>(Lb/Ton)</u>	<u>Emissions</u>	
		<u>(Tons/Month)</u>	<u>(Tons/Year)</u>
3 Crushers	0.0012	0.10	0.77
9 Screens	0.0022	0.54	4.21
30 Conveyors	0.00014	0.12	0.89

- iii. These limits are based on maximum aggregate throughput and standard, controlled AP-42 emission factors.
- e. This permit is issued based on the potential to emit (PTE) for hazardous air pollutants (HAPs) as listed in Section 112(b) of the Clean Air Act being less than 10 tons/year of any single HAP or 25 tons/year of any combination of such HAPs, or such lesser quantity as USEPA may establish by rule which would require the Permittee to obtain a Clean Air Act Permit Program (CAAPP) permit from the Illinois EPA. As a result of this condition, this permit is issued based on the emissions of all HAPs from this source not triggering Section 112(g) of the Clean Air Act.
- f. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).
- 8a. The Permittee shall maintain monthly records of the following:
 - i. Asphalt production (tons/month and tons/year);
 - ii. Aggregate throughput for the crushing plant (tons/month and tons/year);
 - iii. Fuel Usage Records:

- A. Total natural gas usage (Mft³/month and Mft³/year);
 - B. Total liquefied petroleum gas (LPG) usage (gallons/month and gallons/year);
 - C. Total fuel oil usage (gallons/month and gallons/year) and type of fuel oil used;
 - D. The sulfur content of the fuel oil used in the affected drum-mix asphalt plant (% by weight), this shall be recorded for each shipment of oil delivered to the source.
- iv. Total throughput of each material stored in the tanks present at the source (gallons/month and gallons/year).
- b. Annual CO, NO_x, PM, SO₂, and VOM emissions from the affected drum-mix asphalt plant shall be maintained, based on asphalt production, fuel consumption, crushing plant throughput, and storage tank throughput and the applicable emission factors, with supporting calculations.
- 9a. No person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit other than those emission units subject to the requirements of 35 IAC 212.122, pursuant to 35 IAC 212.123(a), except as allowed by 35 IAC 212.123(b) and 212.124.
- b. Asphalt tank heaters and boilers associated with an affected drum-mix asphalt plant which combust liquid fuels are subject to 35 IAC 212.206, which provides that:
- No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period to exceed 0.15 kg of particulate matter per MW-hr of actual heat input from any fuel combustion emission unit using liquid fuel exclusively (0.10 lbs/mmBtu).
- c. No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit which, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.321 [35 IAC 212.321(a)].
10. No person shall cause or allow the emission of fugitive particulate matter from any process, including any material handling or storage activity, that is visible by an observer looking generally overhead at a point beyond the property line of the source unless the wind speed is greater than 40.2 kilometers per hour (25 miles per hour), pursuant to 35 IAC 212.301 and 212.314.

- 11a. Asphalt tank heaters and boilers associated with an affected drum-mix asphalt plant which combust liquid fuels are subject to 35 IAC 214.122(b), which provides that:

No person shall cause or allow the emission of sulfur dioxide into the atmosphere in any one hour period from any new fuel combustion source with actual heat input smaller than, or equal to, 73.2 MW (250 mmBtu/hour), burning liquid fuel exclusively

- i. To exceed 1.55 kg of sulfur dioxide per MW-hour of actual heat input when residual fuel oil is burned (0.8 lbs/mmBtu) [35 IAC 214.122(b)(1)]; and
 - ii. To exceed 0.46 kg of sulfur dioxide per MW-hOUR of actual heat input when distillate fuel oil is burned (0.3 lbs/mmBtu) [35 IAC 214,122(b)(2)].
- b. No person shall cause or allow the emission of sulfur dioxide into the atmosphere from any process emission unit to exceed 2000 ppm [35 IAC 214.301].
12. This permit does not exempt the Permittee from obtaining a Construction and/or Operating Permit for any additional emission units in excess of those units specified in Condition 1, unless such emission units or operations are already exempted from permitting requirements pursuant to 35 IAC 201.146 and does not affect the source's status with respect to the applicability of Section 39.5 of the Illinois Environmental Protection Act.
13. In the event that the operation of this source results in an odor nuisance, the Permittee shall take appropriate and necessary actions to minimize odors, including but not limited to, changes in raw material or installation of controls, in order to eliminate the nuisance.
14. No person shall cause or allow the discharge of more than 8.0 lbs/hour of organic material into the atmosphere from any emission unit, pursuant to 35 IAC 218.301. If no odor nuisance exists, this limitation shall only apply to photo-chemically reactive material, as defined in 35 IAC 211.4690.
15. The assembly of this plant at a new location will require a construction permit. This permit must be obtained prior to commencing construction at the new location. For this purpose, a new location is defined as a location in Illinois at which the plant does not have a valid operating permit or authorization letter.
16. The Permitted shall notify the Illinois EPA in writing 5 days in advance of either disassembling or reassembling the plant at the source location identified in an authorization letter.
17. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least five (5) years after the date of entry and shall be made available for inspection and

copying by the Illinois EPA or USEPA upon request. Any records retained in an electronic format (e.g., computer storage device) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to the Illinois EPA or USEPA request for records during the course of a source inspection.

18. If there is an exceedance of the requirements of this permit as determined by the records required by this permit, the Permittee shall submit a report to the Illinois EPA's Compliance Section in Springfield, Illinois within 30 days after the exceedance. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the exceedance or violation and efforts to reduce emissions and future occurrences.
19. Two (2) copies of required reports and notifications shall be sent to:

Illinois Environmental Protection Agency
Division of Air Pollution Control
Compliance Section (#40)
P.O. Box 19276
Springfield, Illinois 62794-9276

and one (1) copy shall be sent to the Illinois EPA's regional office at the following address unless otherwise indicated:

Illinois Environmental Protection Agency
Division of Air Pollution Control
9511 West Harrison
Des Plaines, Illinois 60016

If you have any questions on this, please call Jim Kallmeyer at 217/782-2113.

Donald E. Sutton, P.E.
Manager, Permit Section
Division of Air Pollution Control

DES:JDK:psj

cc: Region 1