

217/782-2113

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT - REVISED
- NSPS SOURCE -

PERMITTEE

Plote Construction Inc.
Attn: Greg Rohlf
1100 Brandt Drive
Elgin, Illinois 60120

Application No.: 82040024

I.D. No.: 031123AAE

Applicant's Designation: AAHILLSIDE

Date Received: May 7, 2003

Subject: Asphalt Plant

Date Issued: April 28, 2004

Expiration Date: November 9, 2004

Location: 4105 West Harrison Street, Hillside

This permit is hereby granted to the above-designated Permittee to OPERATE emission unit(s) and/or air pollution control equipment consisting of

Natural Gas Fired Drum Mix Asphalt Plant (300 Ultra Gencor) with Baghouse
3 Asphalt Storage Tanks (20,000-gallons, each)
5 Hot Mix Silos
Asphalt Tank Heater (2.0 mmBtu/hr)
Recycled Asphalt Pavement (RAP) Processing Plant Consisting of 3 Conveyors,
Crusher, and Screen

pursuant to the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

1. This federally enforceable state operating permit is issued to limit the emissions of air pollutants from the source to less than major source thresholds (e.g., Carbon Monoxide (CO) to less than 100 tons/yr and Volatile Organic Material (VOM) to less than 25 tons/yr). As a result the source is excluded from the requirement to obtain a Clean Air Act Permit Program (CAAPP) permit. The maximum emissions of this source, as limited by the conditions of this permit, are described in Attachment A.
- 2a. The drum mix asphalt plant is subject to New Source Performance Standards (NSPS), 40 CFR 60, Subparts A and I. The Illinois EPA is administering this NSPS in Illinois on behalf of the United States EPA under a delegation agreement.
- b. The emissions from the asphalt plant shall not contain particulate matter in excess of 0.04 gr/dscf and shall not exhibit 20% opacity or greater, pursuant to 40 CFR 60.92.
- c. At all times, the Permittee shall also maintain and operate the 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).

- 3a. The RAP processing plant is subject to NSPS, 40 CFR 60, Subparts A and 000. The Illinois EPA is administering this NSPS in Illinois on behalf of the United States EPA under a delegation agreement.
- b.
 - i. Fugitive emissions of particulate matter from the crushers (except from truck dumping) shall not exceed 15 percent opacity, (40 CFR 60.672(c) and (d)).
 - ii. Fugitive emissions of particulate matter from other operations in the RAP processing plant including screens (except from truck dumping) and belt conveyors shall not exceed 10 percent opacity, (40 CFR 60.672(b) and (d)).
- c. At all times the Permittee shall maintain and operate the RAP processing 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).
- 4a
 - i. The maximum rated capacity of the asphalt plant shall not exceed 300 Tons/hr of asphalt production.
 - ii. The RAP content of the asphalt product shall not exceed 50% by weight.
 - iii. Production of asphalt shall not exceed the following:
 - A. 50,000 Tons/month; and
 - B. 250,000 Tons/year.
- b. Emissions of the asphalt plant shall not exceed the following limits:

<u>Equipment</u>	<u>Pollutant</u>	<u>Emission Factor (Lb/Ton)</u>	<u>Emissions (Lb/Mo)</u>	<u>(Ton/Yr)</u>
Natural Gas Fired Drum-Mix Asphalt	PM	0.033	1,650	4.13
	CO	0.26*	13,000	32.50
	NO _x	0.026	1,300	3.25
	SO ₂	0.0034	170	0.43
	VOM	0.025*	1,250	3.13
5 Hot Mix Silos (Filling and Loadout)	PM	0.0007	35	0.09
	CO	0.0007	35	0.09
	(Total) VOM	0.0048	240	0.60

* Emission Factors from the stack test on July 21, 2003

These limits are based on plant stack tests or USEPA emission factors (Compilation of Air Pollutant Emission Factors, AP-42) and the use of natural gas as the only fuel fired.

- c. Compliance with the above annual limits shall be determined from a running total of 12 months of data.
- 5a
 - i. The maximum rated capacity of the RAP processing plant shall not exceed 300 tons/hour of RAP and shall only use natural gas as the only fuel fired in the burner.
 - ii. RAP Processing shall not exceed the following:
 - A. 20,000 Tons/month; and
 - B. 100,000 Tons/year.
- b. Emissions of the RAP processing plant shall not exceed the following limits:

<u>Equipment</u>	<u>PM Emission Factors</u>		<u>PM Emissions</u>	
	<u>(Lb/Ton)</u>	<u>(Lb/Mo)</u>	<u>(Tons/Yr)</u>	
Crusher	0.0012	24	0.06	
Screen	0.00176	35.2	0.09	
3 Conveyors	0.0001	6	0.02	

These limits are based on USEPA emission factors (Compilation of Air Pollutant Emission Factors, AP-42).

- c. Compliance with annual limits shall be determined from a running total of 12 months of data.
- 6a. The maximum firing rate of the asphalt tank heater shall not exceed 2.0 mmBtu/hr and shall only use natural gas as the only fuel fired in the burner.
- b. Emissions of the asphalt tank heater shall not exceed the following limits:

<u>Equipment</u>	<u>Pollutant</u>	<u>Emission Factor</u>	<u>Emissions</u>	
		<u>(Lb/mmscf)</u>	<u>(Lb/Hr)</u>	<u>(Tons/Yr)</u>
Asphalt Tank Heater	PM	7.6	0.02	0.07
	CO	84	0.17	0.72
	NO _x	100	0.20	0.86
	SO ₂	0.6	0.01	0.01
	VOM	5.5	0.02	0.05

These limits are based on USEPA emission factors (Compilation of Air Pollutant Emission Factors, AP-42) and 8,760 hours of operation.

- c. Compliance with annual limits shall be determined from a running total of 12 months of data.

7. This permit is issued based on negligible emissions of volatile organic material (VOM) from 3 liquid asphalt storage tanks. For this purpose emissions from each tank, shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 tons/year.
- 8a. This source is subject to 35 Ill. Adm. Code 212.301, which provides that no person shall cause or allow any visible emissions of fugitive particulate matter from any process, including any material handling or storage activity, that is visible by an observer looking toward the zenith beyond the property line of the source, except when the wind speed is 25 miles per hour or more.
- b. This source is subject to 35 Ill. Adm. Code 212.307, which provides that all unloading and transporting operations of materials collected by pollution control equipment shall be enclosed or shall utilize spraying, pelletizing, screw conveying or other equivalent methods.
- c. This source is subject to 35 Ill. Adm. Code 212.308, which provides that crushers, screening operations, conveyor transfer points, conveyors, storage bins, and fine product truck loading operations shall be sprayed with water or a surfactant solution, utilize choke-feeding or be treated by an equivalent method in accordance with an operating program.
- 9a. The Permittee shall, in accordance with the manufacturer(s) and/or vendor(s) recommendations, perform periodic inspections and maintenance on the pollution control equipment covered under this permit such that the pollution control equipment be kept in proper working condition and not cause a violation of the Environmental Protection Act, applicable state and federal air pollution control regulations, and the requirements of this permit.
- b. The Permittee shall maintain copies of the applicable manufacturer and vendor recommendations for these activities at the source. These records shall be retained for at least 3 years after they are superseded by new material.
10. 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 odor nuisance.
- 11a. Within 90 days of a written request from the Illinois EPA, the Permittee shall have the emissions and opacity of the exhaust from the asphalt plant measured by an approved qualified independent testing service, during conditions which are representative of the maximum operating rate, maximum RAP content, and other representative operating conditions. 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 90 days.

- b. i. The following methods and procedures shall be used for testing of emissions. Refer to 40 CFR 60.93, 40 CFR 60, Appendix A and 40 CFR 51 Appendix M for USEPA test methods.

Location of Sample Points	USEPA Method 1
Gas Flow and Velocity	USEPA Method 2
Particulate Matter	USEPA Methods 5 and 202
Sulfur Monoxide	USEPA Method 6
Nitrogen Oxide	USEPA Method 7
Opacity	USEPA Method 9
Carbon Monoxide	USEPA Method 10
Volatile Organic Material	USEPA Method 25

- ii. A test shall consist of three separate runs each at least 60 minutes in duration. Compliance shall be determined from the average of the runs provided that the Illinois EPA may accept the arithmetic mean of the two runs in circumstances described in 40 CFR 60.8(f).
- c. At least 60 days prior to the actual date of testing a written test plan shall be submitted to the Illinois EPA for review and approval. This plan shall describe the specific procedures for testing, including:
 - i. The person(s) who will be performing sampling and analysis and their experience with similar tests.
 - ii. The conditions under which testing will be performed, including a discussion of why these conditions will be representative of the maximum operating rate, the levels of operating parameters at or within which compliance is intended to be shown, if applicable, and the means by which the operating parameters for the process and any control equipment will be determined.
- 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 30 days prior to the expected date. Notification of the actual date and expected time of testing shall be submitted a minimum of 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.
- e. The Final Report(s) for the emission tests shall be submitted within 30 days after the date of the test and/or observation. The Final 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, observation locations, test equipment, and test schedule;
 - iv. Detailed description of test conditions, including:
 - A. Process information, i.e., process rate, material composition, fuel type, and firing rate, etc.
 - 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.
- 12a. Upon written request from the Illinois EPA, pursuant to 35 Ill. Adm. Code 212.110(c), the Permittee shall have observations of opacity from the RAP Processing Plant or any other emission units by an independent certified observer. This testing shall be measured during representative operating conditions.
- b. The following methods and procedures shall be used for testing of Opacity. Refer to 40 CFR 60.675 and 40 CFR 60, Appendix A for USEPA test methods.

Opacity

USEPA Method 9

- c. A person planning to conduct observations for opacity. The Permittee shall give written notice to the Illinois EPA of that intent, pursuant to 35 Ill. Adm. Code 212.110(d). Such notification shall be given at least 30 days prior to the initiation of the test unless the Illinois EPA agrees to a shorter period. Such notification shall state the specific test methods that will be used.
- d. The Final Report(s) for all observations shall be submitted within 30 days after the date of the observation(s). The Final Report shall include as a minimum:
 - i. General information describing the test, including the name and identification of the emission unit(s) that were observed, date of test, names of personnel performing the tests with copy of certification, and Illinois EPA observers, if any;
 - ii. A summary of results;
 - iii. Description of test procedures, including description of, observation location(s), and test schedule;
 - iv. Detailed description of test conditions, including:

- A. Process information, i.e., process rate and material composition.
 - B. Control equipment information, i.e., equipment condition and operating parameters.
 - v. Copies of all raw data sheets.
- 13a. The Permittee shall install, operate, and maintain continuous monitors for the temperature inside the aggregate drying and asphalt mixing sections of the asphalt plant drum.
- b. While the drum is operating these monitoring systems shall record measured data at least every 6 minutes.
 - c. The Permittee shall keep logs for the operation and maintenance of these monitoring systems.
- 14a. The Permittee shall keep a file that contains the following:
- i. The manufacturer's specifications for the asphalt plant and RAP processing Plant, including their maximum rated capacities.
 - ii. The manufacturer's specifications for the filter bags used in the baghouse.
 - iii. The recipes for each type of asphalt produced at the source, including maximum RAP content.
- b. The Permittee shall maintain the following operating records:
- i. Asphalt production (ton/mo and ton/yr);
 - ii. Natural gas consumption for the dryer and asphalt tank heater (therms/mo and therms/yr); and
 - iii. Amount of material processed by RAP processing plant (tons/month and tons/year).
- c. The Permittee shall keep and maintain the following logs:
- i. An operating log for the asphalt plant, including operating times, recipe being produced, operating rates, and unusual operating conditions, e.g., reduced recycle rate from the blue smoke systems, high moisture content in the aggregate or RAP, high temperatures in the mixing section (greater than 375° F).
 - ii. Inspection, maintenance, and repair logs for drum Dryer/mixer, including activities, with date and description and inspection and maintenance of the burner system.

- iii. Inspection, maintenance, and repair logs for each control system, including activities, with date and description. For the baghouse, this log shall include detailed information for the inspection and replacement of the filter bags.
 - d. The Permittee shall maintain records for malfunctions, breakdowns, and upsets of the asphalt plant that may result in excess emissions, including any period when the asphalt plant operated without its control systems being fully functional. At a minimum, these records shall include:
 - i. Date and duration the incident;
 - ii. A full and detailed explanation of the cause for such incident;
 - iii. Explanation of the effect on emissions with an estimate of the quantity of excess emissions, with supporting calculations;
 - iv. The measures used to reduce the effects of the incident and the duration of the incident; and
 - v. The steps taken to prevent similar incidents or reduce their frequency and severity, including repairs to equipment, changes to operating practices, and changes to inspection and maintenance practices for equipment.
 - e. The Permittee shall maintain monthly and annual emissions of CO, NO_x, PM, SO₂, and VOM from the source based on operating records and appropriate emission factors, with supporting calculations.
 - f. The Permittee shall keep records of the reports for all emission tests and/or observations conducted at the source, including records of all opacity observations conducted on the Permittee's behalf by individuals certified to make Method 9 observations.
- 15a. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least three years from 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) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA or USEPA request for records during the course of a source inspection.
- b. The Permittee shall keep all tests and/or observation results on site until the results are superseded by new results.
16. The Permittee shall notify the Illinois EPA at least 7 days prior to start up and shutdown of operations during each operating season

- 17a. If there is an exceedance of the requirements of this permit as determined by the records required by this permit, or by other means, the Permittee shall submit a report to the Illinois EPA 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.
- b. The Permittee shall provide the following notification and reports to the Illinois EPA, Compliance Section and Regional Field Office, pursuant to 35 IAC 201.263, concerning continued operation of the asphalt plant during malfunction or breakdown with excess emissions:
- i. The Permittee shall notify the Illinois EPA's regional office by telephone as soon as possible during normal working hours, but within than three (3) days, upon the occurrence of noncompliance of such an incident.
- ii. Upon conclusion of the incident, the Permittee shall give a written follow-up notice to the Illinois EPA, Compliance Section and Regional Field Office, providing a detailed explanation of the event, an explanation why continued operation of the asphalt was necessary, the length of time during which operation continued under such conditions, the measures taken by the Permittee to minimize and correct deficiencies with chronology, and when the repairs were completed or when the asphalt plant was taken out of service.
18. Two (2) copies of required reports and notifications concerning equipment operation or repairs, performance testing or a continuous monitoring system 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

Please note that this permit has been revised to address a Drum-mix Asphalt Plant, as the previous aggregate dryer and pug mill have been replaced by a combined Mixer/Dryer drum. This revision has been accompanied by various changes to the limitations and compliance procedures for the source.

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

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

DES:EEJ:psj

cc: Illinois EPA, FOS Region 1
Illinois EPA, Compliance Section
Lotus Notes

Attachment A - Emission Summary

This attachment provides a summary of the maximum emissions from this source operating in compliance with the requirements of this federally enforceable permit. In preparing this summary, the Illinois EPA used the annual operating scenarios that results in maximum emissions from this source, i.e. production of 250,000 tons/year of asphalt containing a maximum of 50 percent of recycled asphalt pavement (RAP) by weight and processing 100,000 tons/year of RAP. The resulting maximum emissions are well below the levels, e.g. 100 tons/year of Carbon Monoxide (CO) and 25 tons/year of Volatile Organic Material (VOM) at which this source would be considered a major source for purposes of the Clean Air Act Permit Program. Actual emissions from this source will be less than predicted in this summary to the extent that less material is handled and control measures are more effective than required in this permit.

<u>Emission Unit(s)</u>	EMISSIONS (Tons/year)				
	<u>CO</u>	<u>NO_x</u>	<u>PM</u>	<u>SO₂</u>	<u>VOM</u>
Drum Mix Asphalt Plant	32.50	3.25	4.13	0.43	3.13
Hot Mix Silos	0.09	--	0.09	--	0.60
Asphalt Storage Tanks	--	--	--	--	1.32
RAP Processing Plant	--	--	0.17	--	--
Asphalt Tank Heater	0.72	0.86	0.07	0.01	0.05
Total	33.31	4.11	4.46	0.44	5.10

EEJ:psj