

217/782-2113

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT
NSPS SOURCE

PERMITTEE

Arrow Road Construction Company
Attn: John Healy
3401 South Busse Road
Mount Prospect, Illinois 60056

Application No.: 03110010

I.D. No.: 089020ABL

Applicant's Designation:

Date Received: November 6, 2003

Subject: Asphalt Plant

Date Issued:

Expiration Date:

Location: 33 W 760 Bolz Road, Carpentersville

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 with Baghouse
3 Asphalt Storage Tanks (30,000-Gallons, Each)
3 Hot Mix Silos
Asphalt Tank Heater (2.0 mmBtu/Hour)
Anti Strip Tank (1,000-Gallon)
Asphalt Calibration Tank (1,000-Gallon)
Diesel Storage Tank (2,500-Gallon)
Gasoline Storage Tank (2,500-Gallon)

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

- 1a. 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/year and Volatile Organic Material (VOM) to less than 25 tons/year). 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.
- b. Prior to issuance, a draft of this permit has undergone a public notice and comment period.
- 2a. The drum mix asphalt plant is subject to 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.

- 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. 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 Ill. Adm. Code 212.122, pursuant to 35 Ill. Adm. Code 212.123(a), except as allowed by 35 Ill. Adm. Code 212.123(b) and 212.124.
- b. 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 Ill. Adm. Code 212.301 and 212.314.
 - 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 Ill. Adm. Code 212.321, pursuant to 35 Ill. Adm. Code 212.321(a).
4. No person shall cause or allow the emission of sulfur dioxide into the atmosphere from any process emission unit to exceed 2000 ppm, pursuant to 35 Ill. Adm. Code 214.301.
- 5a. i. Pursuant to 35 Ill. Adm. Code 218.122(b), no person shall cause or allow the loading of any organic material into any stationary tank having a storage capacity of greater than 946 l (250 gal), unless such tank is equipped with a permanent submerged loading pipe, submerged fill, or an equivalent device approved by the Illinois EPA according to the provisions of 35 Ill. Adm. Code Part 201 or unless such tank is a pressure tank as described in 35 Ill. Adm. Code 218.121(a) or is fitted with a recovery system as described in 35 Ill. Adm. Code 218.121(b) (2).
- ii. Exception: Pursuant to 35 Ill. Adm. Code 218.122(c), if no odor nuisance exists the limitations of Condition 5(a)(i) shall only apply to the loading of volatile organic liquid with a vapor pressure of 17.24 kPa (2.5 psia) or greater at 294.3°K (70°F).

- b. Use of Organic Material. Pursuant to 35 Ill. Adm. Code 218.301, no person shall cause or allow the discharge of more than 3.6 kg/hr (8.0 lbs/hr) of organic material into the atmosphere from any emission unit. If no odor nuisance exists then this limitation shall only apply to photochemically reactive material as defined in 35 Ill. Adm. Code 211.4690.
- 6. Pursuant to 35 IAC 218.583(a) and (b), no person shall cause or allow the transfer of gasoline from any delivery vessel into any stationary storage tank with a capacity of 575 gallons or more (unless tank has a capacity of 2,000 gallons or less and was in place and operational prior to January 1, 1979) at a gasoline dispensing operation unless:
 - a. The tank is equipped with a submerged loading pipe [35 IAC 218.583(a) (1)]; and
 - b. Pursuant to 35 IAC 218.583(a) (2), the vapors displaced from the storage tank during filling are processed by a vapor control system that includes one or more of the following:
 - i. A vapor collection system that meets the requirements of 35 IAC 218.583(d) (4) [35 IAC 218.583(a) (2) (A)]; or
 - ii. A refrigeration-condensation system or any other system approved by the Illinois EPA that recovers at least 90 percent by weight of all vaporized organic material from the equipment being controlled [35 IAC 218.583(a) (2) (B)]; and
 - iii. The delivery vessel displays the appropriate sticker pursuant to the requirements of 35 IAC 218.584(b) or (d), [35 Ill Adm. Code 218.583(a) (2) (C)]; and
 - c. Pursuant to 35 IAC 218.583(a) (3), all tank vent pipes are equipped with pressure/vacuum relief valves with the following design specifications:
 - i. The pressure/vacuum relief valve shall be set to resist a pressure of at least 3.5 inches water column and to resist a vacuum of no less than 6.0 inches water column [35 IAC 218.583(a) (3) (A)]; or
 - ii. The pressure/vacuum relief valve shall meet the requirements of 35 IAC 218.586(c) [35 IAC 218.583(a) (3) (B)]; and
 - d. The owner or operator of a gasoline dispensing operation demonstrates compliance with 35 IAC 218.583(a) (3), 30 days after installation of each pressure/vacuum relief valve, whichever is later, and at least annually thereafter, by measuring and recording the pressure indicated by a pressure/vacuum gauge at each tank vent pipe. The test shall be performed on each tank vent pipe within two hours after product delivery into the respective storage tank. For manifold tank vent systems, observations at any point within the system shall be adequate. The owner or operator shall maintain any records required by this Condition for a period of three years [35 IAC 218.583(a) (4)].

- 7a. The baghouse shall be in operation at all times when the associated drum dryer is in operation and emitting air contaminants.
 - b. 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 Illinois Environmental Protection Act, applicable state and federal air pollution control regulations, and the requirements of this permit.
 - c. 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.
- 8a. All normal traffic pattern roads and parking facilities shall be paved or treated with water, oils or chemical dust suppressants. All paved areas shall be cleaned on a regular basis. All areas treated with water, oils or chemical dust suppressants shall have the treatment applied on a regular basis, as needed to significantly reduce fugitive particulate matter emissions.
 - b. 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. Crushers, grinding mills, screening operations, bucket elevators, conveyor transfer points, conveyors, bagging operations, storage bins and fine product truck and railcar loading operations shall be sprayed with water or a surfactant solution, utilize choke-feeding or be treated by an equivalent method.
- 9a. The drum mixer and drum dryer shall only be operated with natural gas, as the fuel.
 - b. The asphalt tank heater shall only be operated with natural gas as the fuel.
- 10a
 - i. The maximum rated capacity of the asphalt plant shall not exceed 500 tons/hour of asphalt production.
 - ii. Production of asphalt shall not exceed the following:
 - A. 70,000 tons/month; and
 - B. 675,000 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>Emissions (Tons/Yr)</u>
Natural Gas Fired Drum-Mix Asphalt	PM	0.033	2,310	11.14
	CO	0.13	9,100	43.88
	NO _x	0.026	1,820	8.78
	SO ₂	0.0034	238	1.15
	VOM	0.032	2,240	10.80
5 Hot Mix Silos (Filling and Loadout)	PM	0.0007	49	0.24
	CO	0.0007	49	0.24
	(Total) VOM	0.0048	336	1.62

These limits are based on maximum asphalt production, USEPA emission factors (Tables 11.1-3, 11.1-7, 11.1-8, and 11.1-14, Compilation of Air Pollutant Emission Factors, AP-42, Volume I, Fifth Edition, Update 2001, December 2000), and the use of natural gas as the only fuel fired.

- 11a. The maximum firing rate of the asphalt tank heater shall not exceed 2.0 mmBtu/hour.
- b. Emissions of the asphalt tank heater shall not exceed the following limits:

<u>Equipment</u>	<u>Pollutant</u>	<u>Emission Factor (Lb/mmscf)</u>	<u>Emissions (Lb/Hr)</u>	<u>Emissions (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 maximum fuel usage, USEPA emission factors (Tables 1.4-1 and 1.4-2, Compilation of Air Pollutant Emission Factors, AP-42, Volume I, Fifth Edition, Supplement D, March, 1998), and 8,760 hours of operation.

12. This permit is issued based on negligible emissions of volatile organic material (VOM) from 3 liquid asphalt storage tanks, anti strip tank, asphalt calibration tank, diesel storage tank, and gasoline storage tank. For this purpose emissions from each tank, shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 tons/year.
13. 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).

- 14a. Pursuant to 35 Ill. Adm. Code 212.107, 212.109, and 212.110, testing for particulate matter emissions shall be performed as follows:
- i. For both fugitive and nonfugitive particulate matter emissions, a determination as to the presence or absence of visible emissions from emission units shall be conducted in accordance with Method 22, 40 CFR part 60, Appendix A, incorporated by reference in 35 Ill. Adm. Code 212.113, except that the length of the observing period shall be at the discretion of the observer, but not less than one minute. This Condition shall not apply to 35 Ill. Adm. Code 212.301, pursuant to 35 Ill. Adm. Code 212.107.
 - ii. Except as otherwise provided in 35 Ill. Adm. Code Part 212, and except for the methods of data reduction when applied to 35 Ill. Adm. Code 212.122 and 212.123, measurements of opacity shall be conducted in accordance with Method 9, 40 CFR Part 60, Appendix A, and the procedures in 40 CFR 60.675(c) and (d), if applicable, incorporated by reference in 35 Ill. Adm. Code 212.113, except that for roadways and parking areas the number of readings required for each vehicle pass will be three taken at 5-second intervals. The first reading shall be at the point of maximum opacity and second and third readings shall be made at the same point, the observer standing at right angles to the plume at least 15 feet away from the plume and observing 4 feet above the surface of the roadway or parking area. After four vehicles have passed, the 12 readings will be averaged, pursuant to 35 Ill. Adm. Code 212.109.
 - iii. Measurement of particulate matter emissions from stationary emission units subject to 35 Ill. Adm. Code Part 212 shall be conducted in accordance with 40 CFR part 60, Appendix A, Methods 5, 5A, 5D, or 5E, pursuant to 35 Ill. Adm. Code 212.110(a).
 - iv. The volumetric flow rate and gas velocity shall be determined in accordance with 40 CFR part 60, Appendix A, Methods 1, 1A, 2, 2A, 2C, 2D, 3, and 4, pursuant to 35 Ill. Adm. Code 212.110(b).
 - v. Upon a written notification by the Illinois EPA, the owner or operator of a particulate matter emission unit subject to 35 Ill. Adm. Code Part 212 shall conduct the applicable testing for particulate matter emissions, opacity, or visible emissions at such person's own expense, to demonstrate compliance. Such test results shall be submitted to the Illinois EPA within thirty (30) days after conducting the test unless an alternative time for submittal is agreed to by the Illinois EPA, pursuant to 35 Ill. Adm. Code 212.110(c).
- b. Testing required shall be performed by a qualified independent testing service.
15. The Permittee shall perform all applicable monitoring for the affected drum-mix asphalt plant as specified in 40 CFR 60.13.

16. Inspections of the affected 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.
- 17a. The Permittee shall maintain records of the following items for the affected drum-mix asphalt plant:
 - i. The Permittee shall retain all applicable records for the affected drum-mix asphalt plant as specified by 40 CFR 60.7.
 - ii. The owner or operator of an emission unit subject to 35 Ill. Adm. Code Part 212 shall retain records of all tests which are performed. These records shall be retained for at least three (3) years after the date a test is performed, pursuant to 35 Ill. Adm. Code 212.110(e).
 - iii. Records addressing the application of control measures taken as required by Condition 8, which are used to reduce fugitive particulate matter emissions.
 - iv. Records addressing use of good operating practices for the baghouse:
 - A. The manufacturer's specifications for the filter bags used in the baghouse;
 - B. Operating logs for the affected drum-mix asphalt plant dryer baghouse, including operating data (pressure drop or stack condition), daily upon startup;
 - C. Records for periodic inspection of the baghouse with date, individual performing the inspection, and nature of inspection; and
 - D. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.
 - v. Inspection, maintenance, and repair logs for drum Dryer/mixer, including activities, with date and description and inspection and maintenance of the burner system.
 - vi. The Permittee shall maintain records of excess emissions during malfunctions and breakdowns of the baghouse associated with the affected drum-mix asphalt plant dryer. At a minimum, these records shall include:
 - A. Date and duration of malfunction or breakdown;
 - B. A full and detailed explanation of the cause for such emissions;

- C. The contaminants emitted and an estimate of the quantity of emissions;
 - D. The measures used to reduce the quantity of emissions and the duration of the occurrence; and
 - E. The steps taken to prevent similar malfunctions or breakdowns or reduce their frequency and severity.
- vii. Pursuant to 35 Ill. Adm. Code 218.129(f), each storage vessel with a design capacity less than 40,000 gallons is subject to no provisions of 35 Ill. Adm. Code Parts 218 other than those required by maintaining readily accessible records of the dimensions of the storage vessel and analysis of the capacity of the storage vessel;
- viii. Production and Operating Records:
- A. Asphalt production (tons/mo and tons/yr);
 - B. The recipes for each type of asphalt produced at the source, including maximum reclaimed asphalt pavement (RAP) content; and
 - C. 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 (i.e., greater than 375°F)).
- ix. Natural gas consumption for the dryer and asphalt tank heater (therms/month and therms/year); and
- x. Monthly and aggregate annual emissions of CO, NO_x, PM, SO₂, and VOM from the source based on asphalt production, fuel consumption and the applicable emission factors, with supporting calculations.
- b. 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 an Illinois EPA or USEPA request for records during the course of a source inspection.
- c. The Permittee shall keep all tests and/or observation results on site until the results are superseded by new results.

- 18a. The Permittee shall submit all applicable reports for the affected drum-mix asphalt plant as specified in 40 CFR 60.7 and 60.19.
- b. A person planning to conduct testing for particulate matter emissions to demonstrate compliance shall give written notice to the Illinois EPA of that intent. Such notification shall be given at least thirty (30) days prior to the initiation of the test unless a shorter period is agreed to by the Illinois EPA. Such notification shall state the specific test methods from 35 Ill. Adm. Code 212.110 that will be used, pursuant to 35 Ill. Adm. Code 212.110(d).
- c. The Permittee shall promptly notify the Illinois EPA, Compliance Section, of deviations of the affected drum-mix asphalt plant with the permit requirements as follows. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:
- i. Emissions of CO, NO_x, PM, SO₂ and/or VOM, in excess of the limit specified in Condition 10 and/or 11 within 30 days of a record showing such an occurrence; and/or
- ii. Continued operation of the affected drum-mix asphalt plant with a defect in a baghouse that may result in emissions of particulate matter in excess of limits in Conditions 3(a), 3(c), or 10(b) within 30 days of such an occurrence.
- d. The Permittee shall provide the following notification and reports to the Illinois EPA, Compliance Section and Regional Field Office, pursuant to 35 Ill. Adm. Code 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.
- 19a. 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

- b. Unless otherwise specified in the particular provision of this permit, reports shall be sent to the Illinois EPA - Air Compliance Section with a copy sent to the Illinois EPA - Air Regional Field Office.
- 20. 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.
- 21. The operation of this plant at a location in Illinois other than a location identified in a valid operating permit or an authorization letter requires another operating permit or authorization from the Illinois EPA. This operating permit/authorization must be obtained prior to operating at such location.
- 22. The Permittee 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.

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 675,000 tons/year of asphalt. The resulting maximum emissions are 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	43.88	8.78	11.14	1.15	10.80
Hot Mix Silos	0.24	---	0.24	---	1.60
Asphalt Storage Tanks	----	---	---	---	1.32
Asphalt Tank Heater	0.72	0.86	0.07	0.01	0.05
Anti Strip Tank					0.44
Asphalt Calibration Tank					0.44
Diesel Storage Tank					0.44
Gasoline Storage Tank	_____	_____	_____	_____	<u>0.44</u>
Total	44.84	9.64	11.45	1.16	15.53

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