PRECONSTRUCTION ANALYSIS
FOR
H. O. WEAVER & SONS, INC
PERMIT NO. 502-0104-X001

H. O. Weaver and Sons, Inc., of Mobile, Alabama, has applied to the ADEM - Air Division for an Air Permit which would authorize the construction and operation of a drum-mix asphalt plant to be located at 160 Woods Road in Atmore Alabama, Escambia County. This is a Greenfield site. The proposed new asphalt plant is a 300 TPH Drum mix plant with a baghouse.

The proposed plant is an Astec drum-mix asphalt plant with a maximum production capacity of 300 TPH. The process involves assorted sizes of crushed stone, including recycled asphalt pavement and asphalt shingles, being dried in a rotary dryer and combined with purchased liquid asphalt cement to produce asphalt concrete for paving. The plant is equipped with an Astec Industries baghouse, which would remove dust particles from the exhaust gases generated in the drying process. The baghouse is designed to be capable of removing particulate matter with an efficiency of 99.96%.

This plant would be required to meet the New Source Performance Standards (NSPS), Subpart I, particulate emissions limit of $\leq$ 0.04 gr/dscf which, for a plant this size, entails an allowable particulate emission rate of $\leq$ **12.21 lbs/hr** or **53.5 TPY** *(*Appendix A). H.O. Weaver will be required to demonstrate compliance by successfully completing EPA Method 5 and Method 9 emission testing on the drum dryer baghouse.

The burner could be fueled by natural gas, diesel fuel, and/or recycled fuel oil. The fuel oil ash content would be limited to $\leq$ 1.0% which will be included as Proviso No. 20 in the Air Permit. Since potential emissions based on estimates utilizing AP-42 emissions for SO_2 are above the 100 TPY Title V threshold, a fuel usage limitation of 1,875,000 gallons of oil during any consecutive twelve (12) month period with a sulfur content no greater than 0.7% will be included in the Air Permit. An ash content no greater than 1.0% will also be included. Calculations have been performed based on the fuel limitation. None of the criteria pollutants will meet or exceed the major source threshold for Title V sources (see Appendix A, calculations). Greenhouse Gas potential was calculated, but regulations are not applicable to this source since it does not meet the emissions threshold for PSD or Title V.

This facility would not be located within 100 km of the Sipsey Class I Wilderness Area. The construction and operation of this circuit is not anticipated to significantly impact this area.

This facility would not be considered "major" for any criteria pollutant and, therefore, is not required to undergo the PSD process. A 15 day public comment period will be required for this facility since it will be constructed on a Greenfield site.

This analysis indicates that this source would meet the requirements of all applicable rules and regulations of the ADEM - Air Division. I recommend that an Air Permit be issued to H.O. Weaver & Sons, Inc., incorporating the provisions of Appendix B and Appendix C, the cover letter.

Debra Spencer
Energy Branch
Air Division

October 1, 2019
DHS

APPENDIX A

CALCULATIONS FOR
H.O. WEAVER & SONS, INC.
PERMIT NO. 502-0104-X001

Plant Type: Astec drum-mix asphalt plant

Capacity: 300 TPH

Control Device: Baghouse

Flow Rate: 69,685 ACFM at 240° F with 32.5% moisture

Operating Hours: 12 hours/day x 7 days/week x 52 weeks/year = 4,368 hours/year

Fuel Type: Natural Gas, Diesel Fuel, or Recycled Fuel Oil

Particulate Emissions

Allowable: $\leq$ 0.04 gr/dscf from 40 CFR Part 60, Subpart I.

$$VA = \frac{VS\ (°F) + 460}{530}$$

$$69{,}685\ acfm = \frac{VS\ (240 + 460)}{530}$$

$$69{,}685\ acfm = VS\ (1.32)$$

$$VS = 52{,}791\ scfm$$

$$\frac{52{,}791\ scf}{min} \mid 0.675\ (32.5\%\ moisture) \mid = \frac{35{,}633\ dscf}{min}$$

$$\frac{\leq 0.04\ gr}{dscf} \mid \frac{35{,}633\ dscf}{min} \mid \frac{60\ min}{hr} \mid \frac{1\ lb}{7000\ gr} \mid = \leq \mathbf{12.21\ lbs/hr}$$

OR

53.5 TPY @ 8760 hrs/yr

Uncontrolled: Emission Factor of 28 lbs/T of asphalt produced taken from AP-42.

300 T	28 lbs	= 8,400 lbs/hr
hr	T	

OR

35,792 TPY @ 8760 hrs/yr

Controlled: Assuming 99.96% efficiency

8,400 lbs	0.0004 (99.96% efficiency)	= 3.36 lbs/hr
hr		

OR

14.7 TPY @ 8760 hrs/yr

Expected:

3.36 lbs	4,368 hrs	1 T	**= 7.3 TPY**
hr	yr	2000 lbs	

Fuel Oil Combustion

SO_2 Emissions

Allowable: H.O. Weaver & Sons, Inc., will be limited to a fuel oil usage not to exceed 1,875,000 gallons (per 12 month rolling average) and a sulfur content of $\leq$ 0.7%. This will establish the SO_2 allowable emissions rate.

1,875,000 gal	7.5 lbs	0.007 (0.7% sulfur)	1 T	64 MW SO_2	= 98 TPY
yr	gal		2,000 lbs	32 MW S	

Expected:

400,000 gal	7.5 lbs	0.007 (0.7% sulfur)	1 T	64 MW SO_2	= 21.0 TPY
yr	gal		2,000 lbs	32 MW S	

Emission factors taken from AP-42, 10/96 Revision, Table 1.3-1 for recycled fuel oil combustion for commercial/institutional boilers. (Limiting fuel oil usage to 1,875,000 gallons per year)

PM10 Emissions

2 lbs	1,875,000 gal	1 T	=	**0.43 lbs/hr or 1.9 TPY**
1000 gal	yr	2000 lbs		

NO_x Emissions

47 lbs*	1,875,000 gal	1 T	=	**10 lbs/hr or 44 TPY**
1000 gal	yr	2000 lbs		

**Emission factor for sources over 100 MMBTU/hr, worst case No. 6 recycled fuel oil*

CO Emissions

5 lbs	1,875,000 gal	1 T	=	**1.07 lbs/hr or 4.7 TPY**
1000 gal	yr	2000 lbs		

VOC Emissions

1.28 lbs	1,875,000 gal	1 T	=	**0.27 lbs/hr or 1.2 TPY**
1000 gal	yr	2000 lbs		

Restricted Potential Emissions Summary Table for all Criteria Pollutants

Pollutant	Allowable		Potential	
	Lbs/hr	TPY	Lbs/hr	TPY
Particulate (PM10) **Process** **Heat Source**	12.21	53.5	12.21 0.43	53.5 1.9
SO^2 *	22.4	98	22.4	98
NOx *	----	----	10	44
CO *	----	----	1.07	4.7
VOC *	----	----	0.27	1.2

*(*Based on 12 month rolling fuel limitation of 1,875,000 gallons, worst case fuel oil.)*

GHG Emissions

Midsouth Paving, Inc. would be limited to a fuel oil usage not to exceed 1,875,000 gallons per year (rolling average). Greenhouse Gas calculations are based on the fuel limit. The emission factor is 9.98 kgCO2/gal waste oil from the U.S. Energy Information Administration, Table 1, Carbon Dioxide Emissions Factors from Stationary Sources.

Potential Green House Gas Calculation

1,875,000 gal	9.98 Kg Co2	2.21 lbs	1 T	= 20,677 TPY CO2
	gal	1 kg	2000 lbs	

H.O. WEAVER & SONS, INC.
ATMORE, ALABAMA
PERMIT NO. 502-0104-X001
PROVISOS

1. This permit is issued on the basis of Rules and Regulations existing on the date of issuance. In the event additional Rules and Regulations are adopted, it shall be the permit holder's responsibility to comply with such rules.

2. This permit is not transferable. Upon sale or legal transfer, the new owner or operator must apply for a permit within 30 days.

3. A new permit application must be made for new sources, replacements, alterations or design changes which may result in the issuance of, or an increase in the issuance of, air contaminants, or the use of which may eliminate or reduce or control the issuance of air contaminants.

4. The permittee shall keep this permit under file or on display at all times at the site where the facility for which the permit is issued is located and shall make the permit readily available for inspection by any or all persons who may request to see it.

5. Each point of emission, which requires testing, will be provided with sampling ports, ladders, platforms, and other safety equipment to facilitate testing performed in accordance with procedures established by Part 60 of Title 40 of the Code of Federal Regulations, as the same may be amended or revised.

6. All air pollution control equipment shall be operated at all times while this process is operational. In the event of scheduled maintenance, unscheduled maintenance, or a breakdown of the pollution control equipment, the process shall be shutdown as expeditiously as possible (unless this act and subsequent re-start would clearly cause greater emissions than continuing operations of the process for a short period). The Department shall be notified of all such events **that exceed one (1) hour** within 24 hours. The notification shall include all pertinent facts, including the duration of the process operating without the control device and the level of excess emissions which have occurred. Records of all such events, regardless of reporting requirements, shall be made and maintained for a period of five years. These records shall be available for inspection.

7. This process, including all air pollution control devices and capture systems for which this permit is issued shall be maintained and operated at all times in a manner so as to minimize the emissions of air contaminants. Procedures for ensuring that the above equipment is properly operated and maintained so as to minimize the emission of air contaminants shall be established.

8. This permit expires and the application is cancelled if construction has not begun within 24 months of the date of issuance of the permit.

9. On completion of construction of the device(s) for which this permit is issued, written notification of the fact is to be submitted to the Chief of the Air Division. The notification shall indicate whether the device(s) was constructed as proposed in the application. The device(s) shall not be operated until authorization to operate is granted by the Chief of the Air Division. Failure to notify the Chief of the Air Division of completion of construction and/or operation without authorization could result in revocation of this permit.

10. Prior to a date to be specified by the Chief of the Air Division in the authorization to operate, emission tests are to be conducted by persons familiar with and using the EPA Sampling Train and Test Procedure as described in the Code of Federal Regulations, Title 40, Part 60, for the following pollutants. Written tests results are to be reported to the Air Division within 15 working days of completion of testing.

Particulates	(X)	Carbon Monoxide	( )
Sulfur Dioxide	( )	Nitrogen Oxides	( )
Volatile Organic Compounds	( )	Visible Emissions	(X)

11. Submittal of other reports regarding monitoring records, fuel analyses, operating rates, and equipment malfunctions may be required as authorized in the Department's air pollution control rules and regulations. The Department may require stack emission testing at any time.

12. Additions and revisions to the conditions of this Permit will be made, if necessary, to ensure that the Department's air pollution control rules and regulations are not violated.

13. Nothing in this permit or conditions thereto shall negate any authority granted to the Air Division pursuant to the Alabama Environmental Management Act or regulations issued thereunder.

14. This permit is issued with the condition that, should obnoxious odors arising from the plant operations be verified by Air Division inspectors, measures to abate the odorous emissions shall be taken upon a determination by the Alabama Department of Environmental Management that these measures are technically and economically feasible.

15. The Air Division must be notified in writing at least 10 working days in advance of all emission tests to be conducted and submitted as proof of compliance with the Department's air pollution control rules and regulations.

    To avoid problems concerning testing methods and procedures, the following shall be included with the notification letter:

    a. The date the test crew is expected to arrive, the date and time anticipated of the start of the first run, how many and which sources are to be tested, and the names of the persons and/or testing company that will conduct the tests.

b. A complete description of each sampling train to be used, including type of media used in determining gas stream components, type of probe lining, type of filter media, and probe cleaning method and solvent to be used (if test procedure requires probe cleaning).

c. A description of the process(es) to be tested, including the feed rate, any operating parameter used to control or influence the operations, and the rated capacity.

d. A sketch or sketches showing sampling point locations and their relative positions to the nearest upstream and downstream gas flow disturbances.

A pretest meeting may be held at the request of the source owner or the Department. The necessity for such a meeting and the required attendees will be determined on a case-by-case basis.

All test reports must be submitted to the Air Division within 15 days of the actual completion of the test, unless an extension of time is specifically approved by the Air Division.

16. Precautions shall be taken to prevent fugitive dust emanating from plant roads, grounds, stockpiles, screens, dryers, hoppers, ductwork, etc.

Plant or haul roads and grounds will be maintained in the following manner so that dust will not become airborne. A minimum of one, or a combination, of the following methods shall be utilized to minimize airborne dust from plant or haul roads and grounds:

a. by the application of water any time the surface of the road is sufficiently dry to allow the creation of dust emissions by the act of wind or vehicular traffic;

b. by reducing the speed of vehicular traffic to a point below that at which dust emissions are created;

c. by paving;

d. by the application of binders to the road surface at any time the road surface is found to allow the creation of dust emissions;

Should one, or a combination, of the above methods fail to adequately reduce airborne dust from plant or haul roads and grounds, alternative methods shall be employed, either exclusively or in combination with one or all of the above control techniques, so that dust will not become airborne. Alternative methods shall be approved by the Department prior to utilization.

17. The bucket elevator shall be enclosed and sealed. The dryer shall be hooded at the feed and sealed at the burner end. Dust emissions created by the operation of the dryer shall be exhausted through the ducts and the control system by an enclosed fan. Dust emissions shall not be allowed to escape from enclosures or through seals due to holes or cracks in the enclosures or seals or due to inadequate or poor draft caused by leaks, blockages, or fan malfunctioning. Holes or cracks in enclosures or seals and/or inadequate or poor draft which allow dust emissions to escape the enclosures and/or seals must be promptly repaired.

18. A properly maintained and operated device will be utilized to measure the pressure differential across the baghouse.

19. Upon completion of construction, this facility shall not burn more than 1,875,000 gallons of oil during any consecutive twelve (12) month period with a sulfur content no greater than 0.7 percent as measured by procedures found in ASTM D129-64 (Reapproved 1978). The fuel oil sample to be tested for sulfur content shall be collected in accordance with ASTM D4177-82 or ASTM D4057-81. Records of oil usage and sulfur content must be kept in permanent form suitable for inspection. The records shall be retained for at least two years and made available upon request.

20. This facility is authorized to burn natural gas, diesel fuel, and/or recycled fuel oil with an ash content not to exceed 1.0% as measured by procedures found in ASTM D-482. Records of ash content must be kept in permanent form suitable for inspection. The records shall be retained for two (2) years and made available upon request.

21. Should this facility, at any time, exceed the limits for fuel oil usage or sulfur or ash content, this Department must be notified within ten (10) days of the exceedance.

22. Any performance tests required shall be conducted and data reduced in accordance with the test methods and procedures contained in each specific permit condition unless the Director (1) specifies or approves, in specific cases, the use of a reference method with minor changes in methodology, (2) approves the use of an equivalent method, or (3) approves the use of an alternative method, the results of which he has determined to be adequate for indicating whether a specific source is in compliance.

23. If this plant relocates to another site, this plant's Air Permit remains valid for this site unless or until it is revoked for failure to comply with ADEM Air Division Rules and Regulations. The owner or operator of this plant must provide written notification of the intent to relocate the plant to this site at least two weeks in advance. The written notification should include the planned construction beginning date and the projected startup date. Failure to provide this written notification is a violation of this permit condition and is grounds for revocation of this permit.

24. Compliance with the opacity standards for sources subject to NSPS will be determined by conducting visible emission observations in accordance with EPA Reference Method 9 of Appendix A of the CFR, Title 40, Part 60 (Current Edition). The minimum time of observation of each source will be 3 hours (30 six-minute averages), which may be broken into several shorter time frames (i.e., three (3) 60-minute observations of ten (10) 6-minute averages each). The observations will be made by an observer currently certified to make EPA Method 9 visible emission observations. The opacity observations will be conducted within 60 days of the source achieving maximum production rate but no later than 180 days of initial start-up of the facility. The visible observation report will be submitted to the Air Division within 15 days of taking the observations.

25. This facility is subject to New Source Performance Standards (NSPS) 40 CFR 60 Subpart I, Standards of Performance for Hot Mix Asphalt Facilities. This limits particulate emissions to 0.04 grains per dry standard cubic foot and visible emissions to 20% opacity.

26. The permittee shall not use as a defense in an enforcement action that maintaining compliance with conditions of this permit would have required halting or reducing the permitted activity.

27. The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege.

28. Precautions shall be taken by the permittee and its personnel to ensure that no person shall ignite, cause to be ignited, permit to be ignited, or maintain any open fire in such a manner as to cause the Department's rules and regulations applicable to open burning to be violated.

Date

DATE

Mr. Michael Weaver
President
H.O. Weaver & Sons, Inc.
7450 Howells Ferry Road
Mobile, Alabama 36618

RE: Permit No. 502-0104-X001
Vance, Alabama

Dear Mr. Weaver:

The enclosed Air Permit is issued pursuant to the Department's air pollution control rules and regulations. Please note the conditions (provisions) which must be met in order to retain this Air Permit.

New sources of air pollution receiving approval by an Air Permit must notify the Chief of the Air Division upon completion of construction and prior to operation. Authorization to Operate must then be received from the Chief of the Air Division. Failure to notify the Chief of the Air Division upon completion of construction and/or operation without authorization can result in the revocation of the Air Permit.

Upon receiving the enclosed Air Permit, please review **all** of the provisions.

Should you have any questions or if clarification of permit conditions is required, please do not hesitate to contact Debra Spencer at (334) 270-5639, in Montgomery.

Sincerely,

Ronald W. Gore, Chief
Air Division

RWG/DAH

Enclosures