RECEIVED Madai Corral Digitally signed by Madai Corral Date: 2021.03.01 17:16:00 -07'00'
By Office of the Secretary at 5:15 pm, Mar 01, 2021

STATE OF NEW MEXICO
NEW MEXICO ENVIRONMENT DEPARTMENT

IN THE MATTER OF THE APPLICATION OF ASSOCIATED ASPHALT AND MATERIALS, LLC FOR AN AIR QUALITY CONSTRUCTION PERMIT FOR A FACILITY IN SANTA FE, NEW MEXICO	**NO. AQB 20-12**

APPLICANT'S NOTICE OF INTENT
TO PRESENT TECHNICAL EVIDENCE AND TESTIMONY

Pursuant to NMAC 0.1.4.300, the Prehearing Order entered on October 9, 2020, and the Amended Prehearing Order entered on December 17, 2020, Associated Asphalt and Materials, LLC (the "Applicant") hereby files this Notice of Intent to Present Technical Evidence and Testimony (the "NOI") at the hearing scheduled to commence on March 22, 2021 (the "Hearing").

1. Person Filing Statement

Associated Asphalt and Materials, LLC, through undersigned counsel.

2. Name and Qualifications of the Technical Witnesses

a. Paul Wade

Mr. Wade is employed as a Senior Project Manager by Montrose Air Quality Services, LLC as an air quality consultant. Mr. Wade has a bachelor's of science in mechanical engineering from the University of New Mexico, as well as 26 years of experience working in the area of air quality, including preparing numerous air quality permit applications. Mr. Wade's qualifications, education, and experience are more fully described in his resume, which is attached as Exhibit 1.

Mr. Wade prepared the new source review (NSR) minor source air quality permit application for Associated Asphalt & Materials, LLC (the "Application") and conducted the EPA approved air dispersion modeling analysis to determine whether the consolidation of the applicant's operations at a single location will comply with regulatory requirements and ambient air quality standards. Mr. Wade will, *inter alia*, express the opinions that (1) the application meets the requirements of New Mexico air quality regulation 20.2.72.203 NMAC; and (2) this project will improve the ambient air quality at the residential neighborhoods located south of the proposed site. Mr. Wade's narrative testimony and opinions in support of the Application are attached as Exhibit 2. The modeling and other technical data relied on by Mr. Wade are attached as Exhibit 3.

b. James W. Siebert

Mr. Siebert has 38 years of experience as a certified planner in Santa Fe. Mr. Siebert's qualifications, education, and experience are more fully described in his resume, which is attached as Exhibit 4.

Mr. Siebert will, *inter alia*, express the opinion that, due to zoning and other regulatory restrictions, there are no alternative, economically viable sites to locate the Applicant's operations within Santa Fe County. Mr. Siebert's narrative testimony and opinions in support of the Application is attached as Exhibit 5.

3. List and Description of Exhibits

Applicant Exhibit 1	Resume of Paul Wade
Applicant Exhibit 2	Written Testimony of Paul Wade
Applicant Exhibit 3	Charts/Modeling/Maps
Applicant Exhibit 4	Resume of Jim Siebert
Applicant Exhibit 5	Written Testimony Jim Siebert

4. Reservation of Rights

The Applicant reserves the right to call any other person to present original and/or rebuttal testimony in response to another notice of intent or public comment filed in this matter or to any testimony or exhibit offered at the public hearing.

Submitted on March 1, 2021.

Respectfully submitted,

JACKSON LOMAN STANFORD & DOWNEY, P.C.

By: /s/Travis G. Jackson
Travis G. Jackson
Attorney for Associated Asphalt and Materials, LLC
201 Third Street NW, Suite 1500
Albuquerque, NM 87102
(505) 767-0577/ (505) 242-9944 fax
travis@jacksonlomanlaw.com

ASSOCIATED ASPHALT AND MATERIALS, LLC

Katharine Cook Fishman, Esq.,
President and General Counsel
1302 N. Riverside Drive
Española, NM 87532
(505)753-2176
(505)753-2610 (fax)
kfishman@espmerc.com

CERTIFICATE OF SERVICE

I hereby certify that on this 1st of March, 2021, I submitted an electronic copy of this Notice of Intent to Present Technical Evidence and Testimony to the New Mexico Environment Department, and also served a copy of the same on the following individuals via email:

Gregory Chakalian
Administrative Law Judge
Office of Public Facilitation
New Mexico Environment Department
1190 St. Francis Drive, Santa Fe, New Mexico 87505
Gregory.Chakalian@state.nm.us
(505) 690-4549

Christopher J. Vigil
Assistant General Counsel
New Mexico Environment Department
121 Tijeras Ave. NE,
Suite 1000
Albuquerque, New Mexico 87102
(505) 827-2985
Christopherj.vigil@state.nm.us
Counsel for the New Mexico Environment Department

Madai Corral
Paralegal/Hearing Clerk
Office of Public Facilitation
New Mexico Environment Department
1190 St. Francis Drive, Santa Fe, New Mexico 87505
Madai.corral@state.nm.us
Phone: 505-490-5803

Rhonda Romero
Kathleen Primm
New Mexico Environment Department,
Air Quality Bureau
525 Camino de Los Marquez, Suite #1
Santa Fe, NM 87505
Rhonda.romero@state.nm.us
Kathleen.primm@state.nm.us
Permit Contacts for New Mexico Environment Department

Maslyn Locke
Eric Jantz
New Mexico Environmental Law Center
1405 Luisa St., Ste. 5
Santa Fe, NM 87505
(505) 989-9022 x 118
mlocke@nmelc.org
ejantz@nmelc.org

JACKSON LOMAN STANFORD & DOWNEY, P.C.

By: /s/Travis G. Jackson/s/
Travis G. Jackson

Albuquerque Office
3500 Comanche Rd NE
Building G
Albuquerque, NM 87107

T: 505-830-9680
F: 505-830-9678
Pwade@montrose-env.com
www.montrose-env.com

PAUL WADE
SENIOR PROJECT ENGINEER

EDUCATION:

- B.S. Mechanical Engineering, University of New Mexico
- B.S. Industrial Arts, University of Northern Arizona
- E.I.T State of New Mexico
- AERMOD and CalPuff Dispersion Modeling Courses
- Method 9 - Visible Opacity Certified
- Mine Safety and Health Administration (MSHA) Part 48 Certified

EXPERTISE:

- Air Quality/Meteorological Monitoring Studies
- Dispersion Modeling
- Emission Inventories
- Regulatory Analysis and Minor Source, Major Source and Title V Permitting
- Method 9 - Visible Opacity Determinations
- Data Acquisition, Reduction and Dispersion Analysis Hardware and Software
- Environmental Compliance Audit

Mr. Wade has over 26 years experience in air quality permitting, dispersion modeling, Method 9 visible emissions determination and data acquisition, analysis and reporting.

PROFESSIONAL EXPERIENCE

- Senior Project Manager, Montrose Air Quality Services, Inc., Albuquerque, NM 2014 – present
  Responsibilities include providing consultation for support of new NRS and Title V permits, modification of existing NSR permits, relocation support, compliance assessment, and facility site selection.

  Other duties include preparing emission inventories and permit applications for mineral processing facilities, coal and gas fired electrical generation stations, and other industries.

- Senior Engineer, Class One Technical Services, Inc., Albuquerque, NM 1994 – 2014
  Responsibilities included providing consultation for support of new NRS and Title V permits, modification of existing NSR permits, relocation support, compliance assessment, and facility site selection.

  Other duties include preparing emission inventories and permit applications for surface coal mining operations, mineral processing facilities, coal and gas fired electrical generation stations, electronic manufacturing facilities, and other industries.

- Mechanical Engineer, BDM Federal, Inc., Albuquerque, NM, October 1993 – February 1994
  Responsibilities included the redesign of defense related equipment. This included the redesign of parts and related mechanic drawings, and structural analysis of materials.

- Technical Services Co-op Engineer, Ethicon, Inc., Albuquerque, NM, January 1991 – August 1991
  Responsibilities included designing and coordinating projects that supported and improved production at the Albuquerque plant.

- Construction Foreman, Living Systems, Albuquerque, NM, August 1987 – August 1988
  Responsibilities included supervising up to five workers, coordinating subcontractors, and managing inventory of materials for daily operations.

STATE OF NEW MEXICO
NEW MEXICO ENVIRONMENT DEPARTMENT

IN THE MATTER OF THE APPLICATION OF ASSOCIATED ASPHALT AND MATERIALS, LLC FOR AN AIR QUALITY CONSTRUCTION PERMIT FOR A FACILITY IN SANTA FE, NEW MEXICO	**NO. AQB 20-12**

PAUL WADE
TECHNICAL TESTIMONY AND EVIDENCE
IN SUPPORT OF APPLICATION

Pursuant to 20.1.4.300(B)(1)(a) NMAC, I submit this narrative of my technical testimony in support of the New Source Review (NSR) Minor Source Air Quality Permit Application (the "Application") submitted by Associated Asphalt and Materials, LLC ("AAM"). I reserve the right to expand on this testimony and/or to provide rebuttal testimony in response to any other notice of intent or public comment filed in this matter, or to any testimony or exhibit offered at the public hearing to be held on March 22, 2021 (the "Hearing").

A. Professional Background

My name is Paul Wade and I am a senior project engineer for Montrose Air Quality Services, LLC. I have a Bachelor of Science in mechanical engineering from the University of New Mexico, and 26 years of experience working with air quality issues. I have successfully prepared more than one hundred air quality permit applications for both minor and major air quality sources. My qualifications, education, and experience are more fully described in my resume, which is attached as Exhibit 1 to the Notice of Intent to Present Technical Evidence and Testimony (the "NOI").

B. Summary of Application

The Application seeks to relocate and consolidate multiple, existing, permitted facilities to a single site located at 86 Paseo De River, Santa Fe, NM 87507 (the "Site"). Consolidation at the proposed Site moves some of the Applicant's operations further away from existing residential dwellings, reduces overall emissions, and improves the ambient air quality in the residential neighborhoods located south and southeast of the proposed Site.

AAM is requesting an air quality permit for construction and operation of a 200 ton per hour (TPH) aggregate crushing and screening plant, 50 TPH aggregate scalping screen, a 150 TPH hot mix asphalt plant (HMA Plant #2) and a 300 TPH hot mix asphalt plant (HMA Plant #5). Presently, the 200 ton per hour (TPH) aggregate crushing and screening plant, and a 300 TPH hot mix asphalt plant (HMA Plant #5) operate on or near the proposed Site at 86 Paseo de River, Santa Fe, NM 87507. The 150 TPH hot mix asphalt plant (HMA Plant #2) presently is permitted to operate at 3810 Oliver Road located 0.29 miles south of the proposed Site. With this action, AAM is moving equipment operating at other sites in Santa Fe, including HMA Plant #2 and the scalping screen plant, to operate at the Site (86 Paseo de River). Hours of operation and throughputs are also modified with this action. Additionally, the Application includes the transition from on-site diesel combustion power generation for HMA Plant #2 and HMA Plant #5 to grid power and pavement of certain haul roads at the Site.

Figure 1 presents the existing location of HMA Plant #2, the proposed location of HMA Plant #2, and the distance to the nearest residences from the present and proposed locations. HMA Plant #2 will be moved 0.29 miles north from its present location. Presently, HMA Plant #2 is located 0.25 miles west of the nearest residential area. After the move of HMA Plant #2 to the new site the nearest residential area will be 0.38 miles to the southeast. Since this Site is made up of low release (short exhaust stacks) or ground release (material handling and haul roads) emission sources, the highest pollutant ambient air quality concentrations from the Site emission sources will be at or near the Site boundary. As the plume travels downwind from the Site emission sources to any public receptors, dispersion of the plume produces lower ambient concentrations. The further away from the Site to any public receptors, the lower the impact from the Site pollutants on ambient air concentrations.

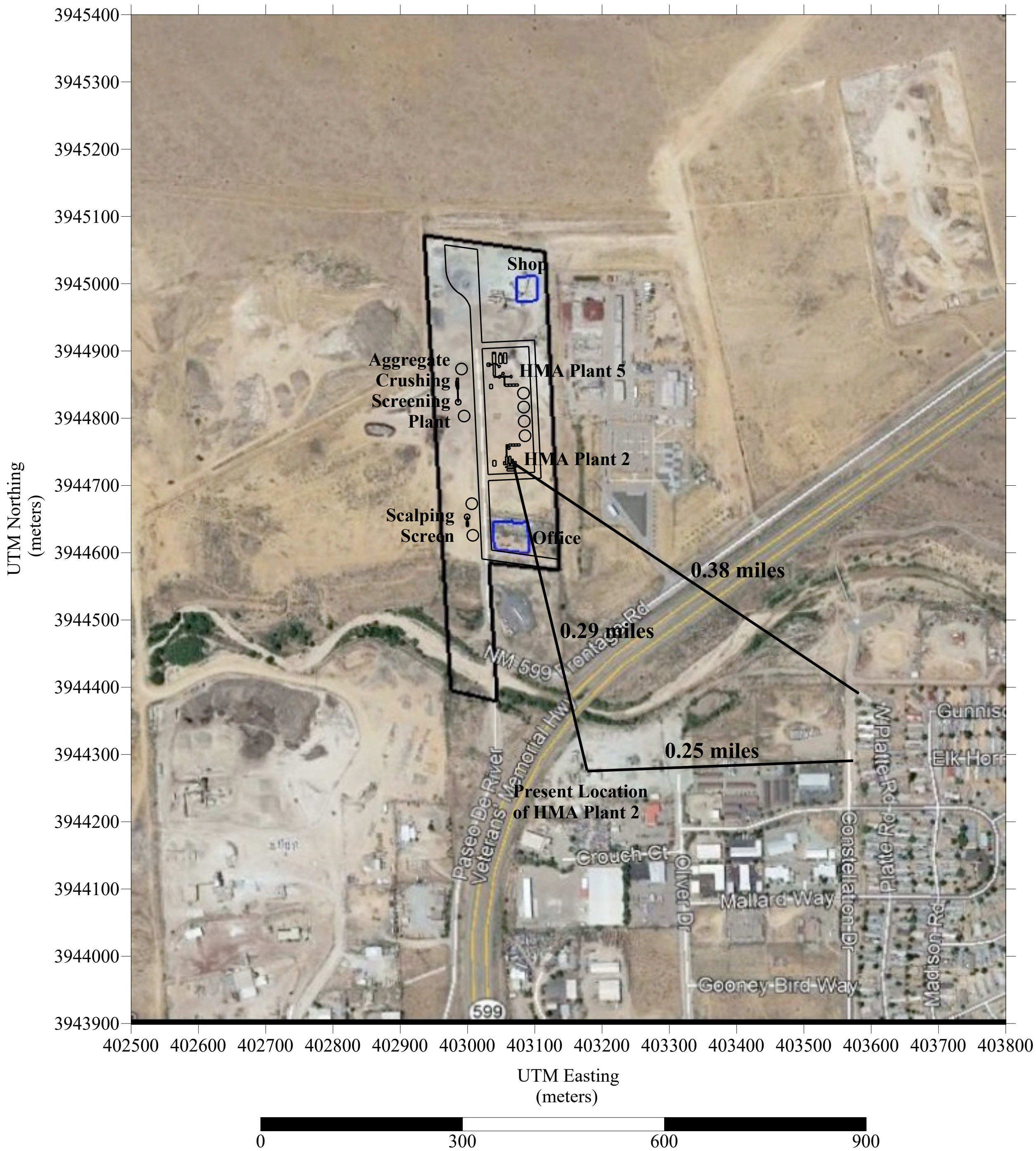

Figure 1: Distance from HMA Plant 2 existing and proposed sites to nearest residences

C. Procedural History

I prepared the Application. The Application was received by the New Mexico Environmental Department – Air Quality Bureau ("Department") on November 26, 2019. The Application was ruled administratively complete on December 26, 2019. AAM and the Department conducted a public meeting considering the Application and addressing public concerns on February 7, 2020.

D. Analysis

In support of the Application per 20.2.72.203 NMAC, I prepared a complete application package that includes the most recent application forms provided by the Department, calculations and computations that estimate the maximum quantities of regulated air contaminants the Site emission sources will emit through maximum operations after construction is completed and the basis for pollution control efficiencies. I also estimated maximum potential emissions during equipment malfunction, startup, and shutdown. In support of the Application, I prepared a preliminary operational plan defining the measures to be taken to mitigate source emissions during malfunction, startup or shutdown.

To show compliance with 20.2.72.203.A.(4) NMAC, a dispersion modeling analysis was conducted using the American Meteorological Society/Environmental Protection Agency Regulatory Model Improvement Committee Dispersion Model (AERMOD), Version 19191, which is recommended by EPA for determining Class II impacts within 50 km of the source being assessed. The objective of this evaluation is to determine whether ambient air concentrations of nitrogen dioxide, (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), and particulate matter; both 10 microns or less (PM_{10}) and 2.5 microns or less ($PM_{2.5}$); are below Class II federal and state ambient air quality standards (NAAQS and NMAAQS) found in 40 CFR part 50 and the state of New Mexico's air quality regulation 20.2.3 NMAC when the impacts of the facility operating at maximum capacity are considered. The modeling was conducted in conformance with the New Mexico Air Quality Bureau “Air Dispersion Modeling Guidelines” (Revised 01/01/2019) and the most up to date US EPA *Guideline on Air Quality Models*.

E. Opinions

It is my professional opinion that:

1. The AAM Site will comply with all applicable air quality regulations and ambient air quality standards.

2. The consolidation of existing permitted facilities will decrease criteria, hazardous, and state toxic pollutants and will decrease ambient air impacts on residences located southeast of the proposed Site.

3. While it is not expected that approval of the permit application will change the present actual hot mix asphalt production rates of the two AAM HMA plants, permit approval will result in changes to the Site that will improve ambient air impacts at the proposed Site by reducing present permitted pollutant levels as demonstrate in Table 1.

4. These types of facilities are low release (short exhaust stacks) or ground release (material handling and haul roads) emission sources which produces the highest pollutant ambient air quality concentrations at or near the Site boundary. As the plume travels downwind from the emission source to any public receptors, dispersion of the plume produces lower concentrations from the Site pollutants. The further away from the Site to any public receptors, the lower the impact from the Site pollutants on ambient air.

5. Both HMA Plants 2 and 5 will be powered by commercial line power instead of diesel-fired generators. This alone will result in significant reduction in nitrogen dioxide and carbon monoxide emissions.

6. The new proposed Site will be paved for all haul road traffic in and out of the Site. This improvement on haul road controls over the present facilities will reduce fugitive dust (particulate) emissions by truck traffic.

7. The actual production of hot mix asphalt will not increase, but with the elimination of diesel-fired engines powering the HMA plants, there will be a reduction in both federal hazardous pollutants and state toxic pollutants.

8. Since the production of asphalt will not increase with the consolidation of the two plants to the one Site, there will be no increase in truck traffic.

9. The final permit will include conditions that ensure the Site emissions and ambient air quality impacts will not be exceeded by specifying what equipment is authorized to be installed and operated. The permit will include emission limits for each emission source, methods for determining compliance, and will place monitoring, recordkeeping, and reporting requirements to ensure and verify compliance with the requirements of the permit.

10. If the Site operates in compliance with the terms and conditions of the present draft permit, then it will not cause or contribute to any concentrations above the state or federal ambient air quality standards.

11. The consolidation of the existing facilities to one Site and the associated reduction in Site emissions from elimination of the diesel-fired engines and improvements in haul road controls will reduce the air quality impact on nearby residences. The increased permit monitoring, recordkeeping, and reporting requirements will verify compliance with the newly permitted emission rates. The Table 1 below compares the hours of operation and production levels for the present permit allowable production versus the allowable production requested in the new permit. In all cases the allowable production rate under the existing permits are greater than what is proposed under the new permit. Since the emission rates are determined by the hourly and annual throughput, this reduction in production results in lower emission rates under the proposed new permit.

Table 1: Present Allowable Production versus Proposed Allowable Production

	HMA #2		HMA #5		Crush/Screen Plant	
	Permit 0052M1	**New Permit**	**Permit 0803**	**New Permit**	**Permit 6195**	**New Permit**
Daily Hours of Operation	24	24	11	24	Daylight	10
Hourly Throughput (tons)	200	150	450	300	250	200
Daily Throughput (tons)	4,800	1,800	4,950	3,600	3,000	2,000
Annual Throughput (tons)	1,248,000	190,000	1,287,000	750,000	1,095,000	400,000

F. Methodology

Regulated pollutant facility emission rates were calculated at maximum requested production and operational hours using EPA's Compilation of Air Pollutant Emission Factors, Volume I: Stationary Point and Area Sources, Fifth Edition (EPA AP-42) for hot mix asphalt plants and aggregate processing industries. The emissions factors are accepted by the Department as applicable to these types of facilities. The factors were developed and compiled from source test data, material balance studies, and engineering estimates for similar air pollution sources. Emissions factors are representative values that attempt to relate the quantity of a pollutant released to the ambient air with an activity associated with the release of that pollutant. Such factors facilitate estimation of emissions from various sources of air pollution. In most cases, these factors are statistical averages of all available data of acceptable quality and are generally assumed to be representative of long-term averages.

To determine compliance with all applicable state and federal ambient air quality standards (NMAAQS and NAAQS), dispersion modeling was performed as if the Site was operating at the requested maximum production and hours of operation. The modeling was performed in accordance with the guidance and protocols outlined in the New Mexico Air Quality Bureau "Air Dispersion Modeling Guidelines" (Revised 01/01/2019) and the most up to date EPA's *Guideline on Air Quality Models*. Additionally, the modeling was carried out following a dispersion model protocol submitted to the Department on or about August 21, 2019 and approved by the Department's modeling section prior to beginning the analysis on September 5, 2019.

G. Technical Reference Materials Used to Compile the Application

1. EPA AP-42 emission factors used for determining emission calculations
    a. Aggregate Plant Emission Equations and Factors
        i. To estimate material handling particulate emissions rates for crushing, screening, and conveyor transfer operations, emission factors were obtained from EPA AP-42, Section 11.19.2, Table 11.19.2-2 (ver. 08/04).
        ii. To estimate material handling particulate emission rates for aggregate handling operations (aggregate piles/ loading feed bins/conveyor stackers), an emission equation was obtained from EPA AP-42, Section 13.2.4 (ver. 11/04), where the equation constant k (PM = 0.74, PM_{10} = 0.35, $PM_{2.5}$ = 0.053), wind speed for determining the maximum hourly emission rate is the NMED default of 11 MPH. The average wind speed for Santa Fe for the years of 1996 through 2006 of 9.5 mph was used to determine annual emission rate. The NMED default moisture content of 2% was assumed for most operations. The default moisture value was increased to 2.88% to reflect dust suppression practices in accordance with footnote b of EPA AP-42 Table 11.19.2-2 for stacker conveyor unloading to storage piles.
        iii. Haul truck travel emissions were estimated using EPA AP-42, Section 13.2.1 (ver.01/11) "Paved Roads" emission.
    b. Plant 2 HMA Emission Equations and Factors

i. To estimate material handling particulate emissions rates for conveyor transfer operations, emission factors were obtained from EPA AP-42, Section 11.19.2, Table 11.19.2-2 (ver. 08/04).

ii. To estimate material handling particulate emission rates for aggregate handling operations (aggregate piles/ loading cold feed bins), an emission equation was obtained from EPA AP-42, Section 13.2.4 (ver. 11/04), where the equation constant k (PM = 0.74, PM_{10} = 0.35, $PM_{2.5}$ = 0.053), wind speed for determining the maximum hourly emission rate is the NMED default of 11 MPH, for determining annual emission rate is based on the average wind speed for Santa Fe for the years of 1996 through 2006 of 9.5 mph, and the NMED default moisture content of 2%.

iii. Haul truck travel emissions were estimated using EPA AP-42, Section 13.2.1 (ver.01/11) “Paved Roads” emission equation and EPA AP-42, Section 13.2.2 (ver.11/06) “Unpaved Roads” emission equation.

iv. Batch mix hot mix asphalt plant emissions were estimated using EPA AP-42, Section 11.1 “Hot Mix Asphalt Plants” (ver. 03/04), tables 11.1-1, -2, -5, -6 and -14 emission equations. The drum dryer will be permitted to combust natural gas. Hourly emission rates are based on maximum hourly asphalt production (150 tph) and maximum annual emission rates are based on asphalt production (190,000 tpy). To determine missing $PM_{2.5}$ emission factor the sum of fabric filterable from Table 11.1-4 plus uncontrolled organic and inorganic condensable in Table 11.1-1 was used. Silo filling and plant loadout emission factors were calculated using the default value of –0.5 for asphalt volatility and an asphalt temperature of 325˚ F for HMA mix temperature. Yard emissions were found in Section 11.1.2.5.

v. Particulate emissions rates for mineral filler silo loading was obtained from EPA AP-42, Section 11.12 (ver. 06/06), Table 11.12-2 "Cement Unloading to Elevated Storage Silo". Particulate emissions from loading the mineral filler silo will be controlled with a baghouse dust collector on the exhaust vent. This dust collector consists of filter bags and is passive with no fan. It functions only when material is loaded into the silo. The filter bags are cleaned by air pulses at set intervals. Baghouse fines are dumped back into the silo. It is estimated that this method will control to an efficiency of 99 percent or greater based on information from filter bag specifications. To determine missing $PM_{2.5}$ emission factors the ratio of 0.19/0.03 from $PM/PM_{2.5}$ controlled k factors found in Section 11.12 (ver. 06/06), Table 11.12-4 "Central Mix Operation" was used.

vi. Emissions of VOCs (TOCs) from the asphalt cement storage tanks were determined with EPA's TANK 4.0.9d program and the procedures found in EPA AP-42 Section 11.1 (12/00) Section 4.4.5" for input to the TANK program.

c. <u>Plant 5 HMA Emission Equations and Factors</u>

i. To estimate material handling particulate emissions rates for conveyor transfer operations, emission factors were obtained from EPA AP-42, Section 11.19.2, Table 11.19.2-2 (ver. 08/04).

ii. To estimate material handling particulate emission rates for aggregate handling operations (aggregate piles/ loading cold feed bins), an emission equation was obtained from EPA AP-42, Section 13.2.4 (ver. 11/04), where the equation constant k ($PM = 0.74$, $PM_{10} = 0.35$, $PM_{2.5} = 0.053$), wind speed for determining the maximum hourly emission rate is the NMED default of 11 MPH, for determining annual emission rate is based on the average wind speed for Santa Fe for the years of 1996 through 2006 of 9.5 mph, and the NMED default moisture content of 2%.

iii. Haul truck travel emissions were estimated using AP-42, Section 13.2.1 (ver.01/11) “Paved Roads” emission equation and AP-42, Section 13.2.2 (ver.11/06) “Unpaved Roads” emission equation.

iv. Drum mix hot mix asphalt plant emissions were estimated using EPA AP-42, Section 11.1 “Hot Mix Asphalt Plants” (ver. 03/04), tables 11.1-3, -7, -8 and -14 emission equations. The drum dryer will be permitted to combust natural gas. Hourly emission rates are based on maximum hourly asphalt production (300 tph) and maximum annual emission rates are based on asphalt production (750,000 tpy). PM_{10} and $PM_{2.5}$ emission rates were estimated using the controlled Total PM_{10} emission factor found in Table 11.1-3, Fabric Filter. Drum dryer/mixer unloading and silo filling emission factors were calculated using the default value of –0.5 for asphalt volatility and a tank temperature setting of 325˚ F for HMA mix temperature. Yard emissions were found in EPA AP-42, Section 11.1.2.5.

v. Particulate emissions rates for mineral filler silo loading was obtained from EPA AP-42, Section 11.12 (ver. 06/06), Table 11.12-2 “Cement Unloading to Elevated Storage Silo”. Particulate emissions from loading the mineral filler silo will be controlled with a baghouse dust collector on the exhaust vent. This dust collector consists of filter bags and is passive with no fan. It functions only when material is loaded into the silo. The filter bags are cleaned by air pulses at set intervals. Baghouse fines are dumped back into the silo. It is estimated that this method will control to an efficiency of 99 percent or greater based on information from filter bag specifications. To determine missing $PM_{2.5}$ emission factors the ratio of 0.19/0.03 from PM/$PM_{2.5}$ controlled k factors found in Section 11.12 (ver. 06/06), Table 11.12-4 "Central Mix Operation" was used.

vi. Emissions of VOCs (TOCs) from the asphalt cement storage tanks were determined with EPA's TANK 4.0.9d program and the procedures found in EPA AP-42 Section 11.1 (12/2000) Section 4.4.5" for input to the TANK program.

2. The dispersion modeling protocol is referenced as Exhibit 3. It summarizes the methodology, inputs, and modeling options used in the dispersion modeling analysis. The protocol was submitted to the Department August 21, 2019 and approved by the Department's modeling section on September 5, 2019.
3. A dispersion modeling analysis was performed at maximum requested production rates and requested hours of operation. Site pollutants, with ambient air quality standards, were modeled to show compliance with those standards. Results of this modeling show the Site in compliance with applicable ambient air quality standards at modeled public receptors where AAM Site source impacts are above the significant impact levels (SIL) as defined by EPA. The dispersion modeling report is referenced as Exhibit 4. The results of the dispersion modeling are summarized in Table 2 below. Column 3 lists the contribution by AAM Site sources at the location of the highest cumulative model results listed in column 4. Cumulative model result in column 4 combines the Site contribution, neighboring stationary source contribution, and ambient background contribution to the cumulative impact model concentration which is compared to the pollutant ambient standard. Columns 5 and 6 presents the lowest ambient air quality standard for the pollutant modeled. Column 7 presents the percentage of the standard based on the cumulative impact model concentration result (column 4) vs value of standard (column 6).

Table 2: Dispersion Model Analysis Results

Pollutant	Model Period	Site Modeled Concentration (ug/m^3)	Cumulative Impact Model Concentration (ug/m^3)	Standard	Value of Standard (ug/m^3)	% of Standard
Asphalt Fumes	8 Hour	25.5	25.5	20.2.72.502	50	51.0%
NO_2	1 Hour	59.7	144.8	NAAQS	188.03	77.0%
NO_2	Annual	6.2	25.8	NMAAQS	94.02	27.4%
CO	1 Hour	665.9	665.9	SIL	2000	33.3%
CO	8 Hour	499.5	499.5	SIL	500	99.9%
SO_2	1 Hour	8.8	17.6	NAAQS	196.4	9.0%
$PM_{2.5}$	24 Hour	1.87	34.5	NAAQS	35	98.6%
$PM_{2.5}$	Annual	0.44	11.59	NAAQS	12	96.6%
PM_{10}	24 Hour	6.2	115.8	NAAQS	150	77.2%

NAAQS – National Ambient Air Quality Standards
NMAAQS – New Mexico Ambient Air Quality Standards
SIL – EPA Designated Significant Impact Levels

Verification

I declare under penalty of perjury that the foregoing is true and correct.

Paul Wade

Paul Wade, Sr. Project Engineer
Montrose Air Quality Services, LLC
3500 G Comanche Rd. NE, Albuquerque, NM 87107
Phone (505) 830-9680 x6
Fax (505) 830-9678
PWade@montrose-env.com
www.montrose-env.com

Executed on: 11/16/20

DISPERSION MODEL PROTOCOL
ASSOCIATED ASPHALT AND MATERIALS, LLC
NSR MINOR SOURCE PERMIT APPLICATION

Santa Fe, New Mexico

PREPARED FOR

Associated Asphalt and Materials, LLC

3810 Oliver Road • Santa Fe, NM 87507
Office: (505) 438-0390 • Fax: (505) 474-7392
info@associatedasphaltandmaterials.com

Dated August 21, 2019

Prepared by

Montrose Air Quality Services, LLC

MONTROSE
AIR QUALITY SERVICES

CONTENTS

TABLE OF CONTENTS	**PAGE**

1.0 INTRODUCTION 2

1.1 FACILITY DESCRIPTION 2

1.1.1 Plant #2 HMA 3

1.1.2 Plant #5 HMA 3

1.1.3 Crushing and Screening Plant 3

1.1.4 Scalping Screen Plant 3

1.2 FACILITY IDENTIFICATION AND LOCATION 5

2.0 SIGNIFICANT MONITORING AIR QUALITY IMPACT ANALYSIS 7

2.1 DISPERSION MODEL SELECTION 9

2.2 BUILDING WAKE EVALUATION 9

2.3 METEOROLOGICAL DATA 10

2.4 RECEPTORS AND TOPOGRAPHY 10

2.5 MODELED EMISSION SOURCES INPUTS 10

2.5.1 Santa Fe Facility Road Vehicle Traffic Model Inputs 13

2.5.2 Santa Fe Facility Material Handling Volume Source Model Inputs 13

2.5.3 Santa Fe Facility Material Handling Point Source Model Inputs 13

2.6 $PM_{2.5}$ SECONDARY EMISSIONS MODELING 13

2.7 NO_2 DISPERSION MODELING ANALYSIS 14

2.8 SIGNIFICANT NEIGHBORING BACKGROUND SOURCES 15

2.9 REGIONAL BACKGROUND CONCENTRATIONS 15

TABLE OF TABLES	**PAGE**

TABLE 1 HMA Plant Hours of Operation (MST) 4

TABLE 2 HMA Plant Daily Production Rates 4

TABLE 3 Aggregate Processing Daylight Hours of Operation (MST) 5

TABLE 4 National and New Mexico Ambient Air Quality Standards 8

TABLE 5 Standards for Which Modeling Is Not Required by NMED AQB 8

TABLE 6 HMA Plant Hours of Operation (MST) 11

TABLE 7 Aggregate Processing Daylight Hours of Operation (MST) 12

TABLE 8 Summary of Selected ISR 14

TABLE OF FIGURES	**PAGE**

FIGURE 1 AAM’s Santa Fe Aerial View 6

1.0 INTRODUCTION

This dispersion modeling analysis will be conducted by Montrose Air Quality Services, LLC (Montrose) on behalf of Associated Asphalt and Materials, LLC (AAM), to evaluate ambient air quality impacts from the proposed Santa Fe Facility, as part of a minor source NSR permitting action. This permit application is for a 300 tph hot mix asphalt (HMA) plant, 150 tph hot mix asphalt (HMA) plant, 200 tph crushing and screening plant, and 50 tph scalping screen plant.

The objective of this modeling evaluation is to predict if, operating at requested maximums, the facility operations would result in exceedances of New Mexico and federal ambient air quality standards, NMAAQS and NAAQS respectively, for nitrogen dioxide, (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), and particulate matter; both 10 microns or less (PM_{10}) and 2.5 microns or less ($PM_{2.5}$). Since Santa Fe Facility is a minor source for NSR permitting and is located in AQRC Region 157, where the minor source baseline date has not been triggered for any pollutant, a PSD Class I and II Increment analysis will not be performed.

The dispersion modeling will be conducted using the American Meteorological Society/Environmental Protection Agency Regulatory Model Improvement Committee Dispersion Model (AERMOD), Version 18081. This model is recommended by EPA for determining Class II impacts within 50 km of the source being assessed. Additionally, AERMOD was developed to handle complex terrain. The objective of this evaluation is to determine whether ambient air concentrations from the maximum operation of the facility for nitrogen dioxide, (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), and particulate matter; both 10 microns or less (PM_{10}) and 2.5 microns or less ($PM_{2.5}$); are below Class II federal and state ambient air quality standards (NAAQS and NMAAQS) found in 40 CFR part 50 and the state of New Mexico's air quality regulation 20.2.3 NMAC from Santa Fe Facility emission sources.

1.1 FACILITY DESCRIPTION

AAM's Santa Fe Facility will operate two (2) HMA plants, a crushing and screening plant for base course, and a scalping screen for clean fill. The facility is located at 86 Paseo De River, Santa Fe, NM in Santa Fe County. Hours of operation for the two HMA plants will be limited to 6 AM to 6 PM for winter months (Dec – Feb) and 24 hours per day for spring, summer, and fall months (Mar – Nov). Hours of operation for the two aggregate plants will be limited to daylight hours.

1.1.1 Plant #2 HMA

The 150 tph hot mix asphalt plant will include a 4-bin cold aggregate feeder, pug mill, mineral filler silo with baghouse, drum dryer with baghouse, incline conveyor, asphalt silo, asphalt heater, and two (2) transfer conveyors. The plant will be powered by commercial line power. Processed asphalt will be transported from the HMA plant to off-site sales. The HMA plant will limit processing rates to 150 tph and 375,000 tons per year (tpy). The hours of operation are presented below in Table 1. Daily production rates are presented below in Table 2.

1.1.2 Plant #5 HMA

The 300 tph hot mix asphalt plant will include a 4-bin cold aggregate feeder, auxiliary feeder, scalping screen, pug mill, mineral filler silo with baghouse, drum dryer with baghouse, incline conveyor, asphalt silo, asphalt heater, and five (5) transfer conveyors. The plant will be powered by commercial line power. Processed asphalt will be transported from the HMA plant to off-site sales. The HMA plant will limit processing rates to 300 tph and 750,000 tpy. The hours of operation are presented below in Table 1. Daily production rates are presented below in Table 2.

1.1.3 Crushing and Screening Plant

The 200 tph aggregate crushing and screening plant will include a feeder, impact crusher, screen, four (4) transfer conveyors, and stacker conveyor. The plant will be powered by a 360 horsepower (hp) generator. Processed aggregate will be transported from the aggregate crushing and screening plant to the HMA plants and/or off-site sales. The aggregate crushing and screening plant will limit hourly processing rate to 200 tph and 400,000 tpy. Aggregate processing hours will be limited to daylight hours. The hours of operation are presented below in Table 3.

1.1.4 Scalping Screen Plant

The 50 tph aggregate scalping screen plant will include a scalping screen and under conveyor and stacker conveyor. The plant will be powered by a 50 horsepower (hp) engine. Clean aggregate fill will be transported from the aggregate scalping screen plant to the HMA plants and/or off-site sales. The aggregate scalping screen plant will limit hourly processing rate to 50 tph and 100,000 tpy. Aggregate processing hours will be limited to daylight hours. The hours of operation are presented below in Table 3.

TABLE 1: HMA Plant Hours of Operation (MST)

	Winter	Spring	Summer	Fall
12:00 AM	0	1	1	1
1:00 AM	0	1	1	1
2:00 AM	0	1	1	1
3:00 AM	0	1	1	1
4:00 AM	0	1	1	1
5:00 AM	0	1	1	1
6:00 AM	1	1	1	1
7:00 AM	1	1	1	1
8:00 AM	1	1	1	1
9:00 AM	1	1	1	1
10:00 AM	1	1	1	1
11:00 AM	1	1	1	1
12:00 PM	1	1	1	1
1:00 PM	1	1	1	1
2:00 PM	1	1	1	1
3:00 PM	1	1	1	1
4:00 PM	1	1	1	1
5:00 PM	1	1	1	1
6:00 PM	0	1	1	1
7:00 PM	0	1	1	1
8:00 PM	0	1	1	1
9:00 PM	0	1	1	1
10:00 PM	0	1	1	1
11:00 PM	0	1	1	1
Total	**12**	**24**	**24**	**24**

TABLE 2: HMA Plant Daily Production Rates

Plant	Tons Per Day	At Max Hourly Throughput – Hours per Day
Plant #2 HMA	1800	12
Plant #5 HMA	3600	12

TABLE 3: Aggregate Processing Daylight Hours of Operation (MST)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	1	1	1	1	1	0.5	0	0	0
6:00 AM	0	0.5	1	1	1	1	1	1	1	1	0.5	0
7:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
8:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
9:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
10:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
11:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
12:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
1:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
2:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
3:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
4:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
5:00 PM	0.5	1	1	1	1	1	1	1	1	1	0	0
6:00 PM	0	0	0	1	1	1	1	1	0.5	0	0	0
7:00 PM	0	0	0	0	0	0.5	0.5	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	10.5	11.5	12	14	14	14.5	14.5	14	13	12	10.5	10

Since the HMA daily production rate is less than the proposed hours of operation running at maximum hourly production rate, twelve (12) PM modeling scenarios will be performed for ROI modeling to determine the scenarios that would produce the highest concentrations for each averaging period. The highest four (4) scenario will be used in the cumulative modeling analysis. For each scenario the hours of operation are shifted by two hours.

1.2 FACILITY IDENTIFICATION AND LOCATION

AAM's Santa Fe Facility is located 0.7 miles north of the intersection of Airport Rd. and Veteran's Memorial Hwy in Santa Fe, New Mexico in Santa Fe County. The UTM Coordinates of the facility are 403,050 meters East and 3,944,800 meters North, Zone 13, with NAD83 datum at an elevation of approximately 6,365 feet above mean sea level.

Figure 1 below presents a layout of the site showing the area where each plant is located.

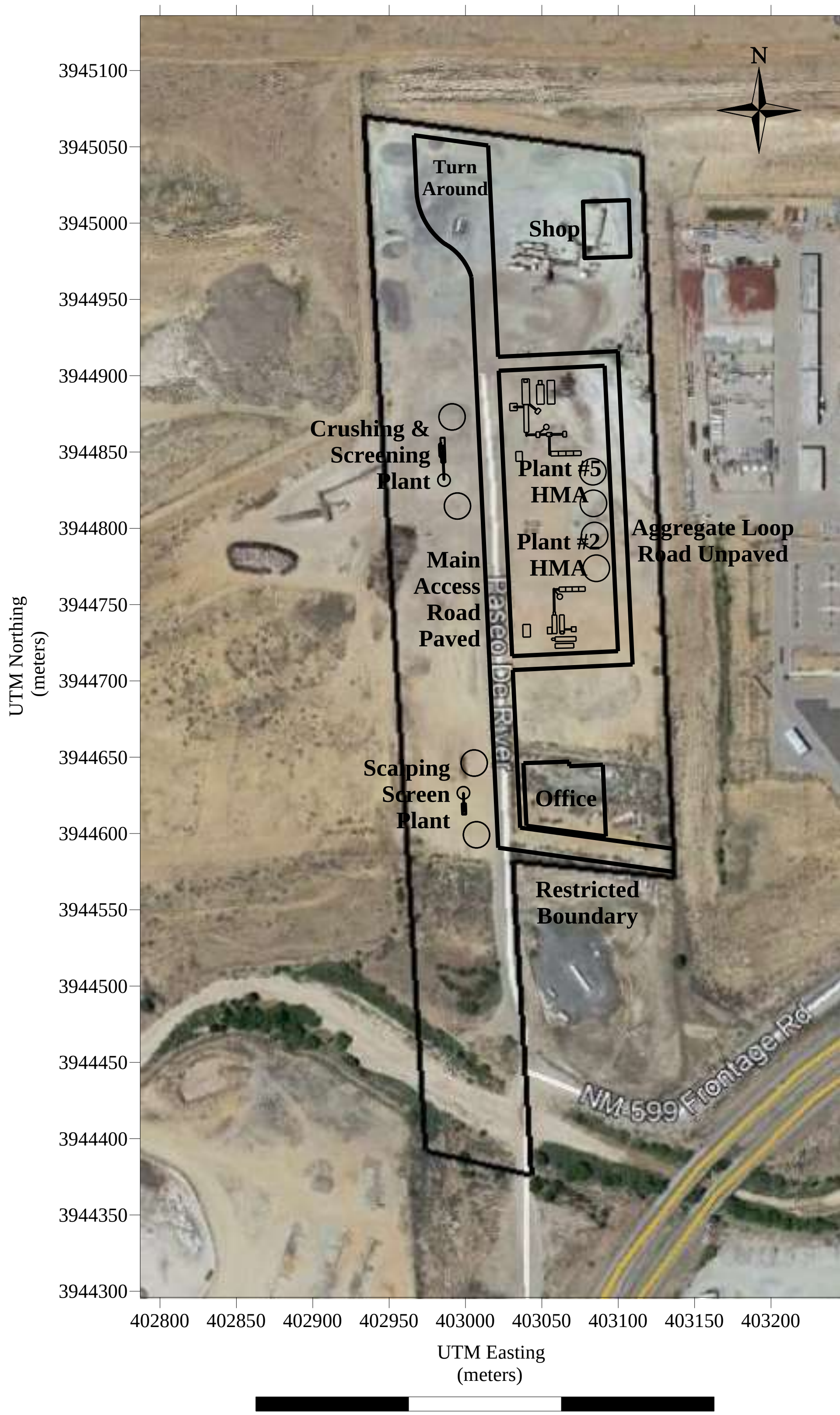

FIGURE 1: AAM's Santa Fe Facility Aerial View

2.0 SIGNIFICANT MONITORING AIR QUALITY IMPACT ANALYSIS

This section identifies the technical approach and dispersion model inputs that will be used for the Class II federal and State ambient air quality standards. NMED AQB requires that all applicable criteria pollutant emissions be modeled using the most recent versions of US EPA's approved models and be compared with National Ambient Air Quality Standards (NAAQS), and New Mexico Ambient Air Quality Standards (NMAAQS). Table 4 shows the NAAQS and NMAAQS (without footnotes) that the source's ambient impacts must meet in order to demonstrate compliance. Table 4 also lists the Class II Significant Impact Levels (SILs) which are used to assess whether a source has a significant impact at downwind receptors. Table 5 lists all standards for which modeling is not required by NMED AQB.

The dispersion modeling analysis will be performed to estimate concentrations resulting from the operation of the Santa Fe Facility using the maximum hourly emission rates while all emission sources are operating. The modeling will determine maximum off site concentrations for nitrogen dioxide, (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), particulate matter with aerodynamic diameter less than 10 micrometers (PM_{10}) and particulate matter with aerodynamic diameter less than 2.5 micrometers ($PM_{2.5}$), for comparison with model significance levels, and national/New Mexico ambient air quality standards (AAQS). The modeling will follow the guidance and protocols outlined in the New Mexico Air Quality Bureau "Air Dispersion Modeling Guidelines" (Revised 01/01/2019) and the most up to date EPA's *Guideline on Air Quality Models*.

Initial modeling will be performed with Santa Fe Facility sources only to determine pollutant and averaging periods that exceeds pollutant SILs. If initial modeling for any pollutant and averaging period exceeds the SILs, than cumulative impact analysis (CIA) modeling will be performed for those pollutants, receptors with concentrations over the SIL, and averaging periods and will include significant neighboring sources along with background ambient concentrations as defined in the NMED's modeling guidelines.

TABLE 4: National and New Mexico Ambient Air Quality Standard Summary

Pollutant	Avg. Period	Sig. Lev. (μg/m³)	Class I Sig. Lev. (μg/m³)	NAAQS	NMAAQS	PSD Increment Class I	PSD Increment Class II
CO	8-hour	500		9,000 ppb(1)	8,700 ppb(2)		
	1-hour	2,000		35,000 ppb(1)	13,100 ppb(2)		
NO_2	annual	1.0	0.1	53 ppb(3)	50 ppb(2)	2.5 μg/m³	25 μg/m³
	24-hour	5.0			100 ppb(2)		
	1-hour	7.52		100 ppb(4)			
$PM_{2.5}$	annual	0.2	0.05	12 μg/m³(5)		1 μg/m³	4 μg/m³
	24-hour	1.2	0.27	35 μg/m³(6)		2 μg/m³	9 μg/m³
PM_{10}	annual	1.0	0.2			4 μg/m³	17 μg/m³
	24-hour	5.0	0.3	150 μg/m³(7)		8 μg/m³	30 μg/m³
SO_2	annual	1.0	0.1		20 ppb(2)	2 μg/m³	20 μg/m³
	24-hour	5.0	0.2		100 ppb(2)	5 μg/m³	91 μg/m³
	3-hour	25.0	1.0	500 ppb(1)		25 μg/m³	512 μg/m³
	1-hour	7.8		75 ppb(8)			

Standards converted from ppb to μg/m³ use a reference temperature of 25° C and a reference pressure of 760 millimeters of mercury.
(1) Not to be exceeded more than once each year.
(2) Not to be exceeded.
(3) Annual mean.
(4) 98th percentile of 1-hour daily maximum concentrations, averaged over 3 years.
(5) Annual mean, averaged over 3 years.
(6) 98th percentile, averaged over 3 years.
(7) Not to be exceeded more than once per year on average over 3 years.
(8) 99th percentile of 1-hour daily maximum concentrations, averaged over 3 years.

TABLE 5: Standards for Which Modeling Is Not Required by NMED AQB.

Standard not Modeled	Surrogate that Demonstrates Compliance
CO 8-hour NAAQS	CO 8-hour NMAAQS
CO 1-hour NAAQS	CO 1-hour NMAAQS
NO_2 annual NAAQS	NO_2 annual NMAAQS
NO_2 24-hour NMAAQS	NO_2 1-hour NAAQS
O_3 8-hour	Regional modeling
SO_2 annual NMAAQS	SO_2 1-hour NAAQS
SO_2 24-hour NMAAQS	SO_2 1-hour NAAQS
SO_2 3-hour NAAQS	SO_2 1-hour NAAQS

2.1 DISPERSION MODEL SELECTION

The dispersion modeling will be conducted using the American Meteorological Society/Environmental Protection Agency Regulatory Model Improvement Committee Dispersion Model (AERMOD), Version 18081. This model is recommended by EPA for determining Class II impacts within 50 km of the source being assessed. Additionally, AERMOD was developed to handle complex terrain. In this analysis, AERMOD will be used to estimate pollutant ambient air concentrations of NO_2, CO, SO_2, PM_{10} and $PM_{2.5}$ from AAM's Santa Fe Facility emission sources.

AERMOD is a Gaussian plume dispersion model that is based on planetary boundary layer principles for characterizing atmospheric stability. The model evaluates the non-Gaussian vertical behavior of plumes during convective conditions with the probability density function and the superposition of several Gaussian plumes. AERMOD modeling system has three components: AERMAP, AERMET, and AERMOD. AERMAP is the terrain preprocessor program. AERMET is the meteorological data preprocessor. AERMOD includes the dispersion modeling algorithms and was developed to handle simple and complex terrain issues using improved algorithms. AERMOD uses the dividing streamline concept to address plume interactions with elevated terrain.

AERMOD will be run using all the regulatory default options including use of stack-tip downwash, buoyancy-induced dispersion, calms processing routines, upper-bound downwash concentrations for super-squat buildings, default wind speed profile exponents, vertical potential temperature gradients, no use of gradual plume rise, and horizontal release stacks. Alpha options include the use of flat terrain mode for fugitive ground release sources. The model incorporated local terrain into the calculations for point sources and neighboring sources only.

2.2 BUILDING WAKE EVALUATION

AERMOD can account for building downwash and cavity zone effects. Evaluation of building downwash on adjacent stack sources is deemed necessary, since most (if not all) of the stack source heights may be below Good Engineering Practice (GEP) heights. The formula for GEP height estimation is:

$$H_s = H_b + 1.50L_b$$

where: H_s = GEP stack height

H_b = building height

L_b = the lesser building dimension of the height, length, or width

The effects of aerodynamic downwash due to buildings and other structures will be accounted for by using wind direction-specific building parameters calculated by the USEPA-approved Building Parameter Input Program Prime (BPIP-Prime (*Version 04274*)) and the algorithms included in the AERMOD air dispersion model. Two buildings (office and shop) are located at the site that could cause building wake effects for facility point sources and will be analyzed with BPIP-Prime.

2.3 METEOROLOGICAL DATA

Dispersion model meteorological input file to be used in this modeling analysis is year 2016 Santa Fe met data available from the NMED AQP.

2.4 RECEPTORS AND TOPOGRAPHY

For each pollutant, the radius of significant impact around the facility is established using a Cartesian grid. A 50-meter grid spacing is used for the facility boundary receptors. A 50-meter spacing and 100-meter spacing are extended to 500-meters and 1-km beyond the facility boundary, respectively from the facility boundary in each direction for a very fine grid resolution. Receptors for a fine grid resolution are placed with 250-meter spacing to a distance of 3-km from the facility boundary. Receptors for a course grid resolution are placed with 500-meter and 1000-meter spacing to a distance of 5-km and 7-km, respectively from the facility boundary.

AERMAP (*Version 18081*) will be used to calculate the receptor elevations and the controlling hill heights. Terrain files for the area will be obtained from the 10-meter resolution DEM files. The AERMAP domain will be large enough to encompass the 10 percent slope factor required for calculating the controlling hill height.

2.5 MODELED EMISSION SOURCES INPUTS

Santa Fe Facility operates 7 days per week, 52 weeks per year with the two HMAs daily hours of operation summarized in Table 6 and the two aggregate plants daily hours of operation summarized in Table 7. For the HMA plants, Plant #2 HMA will limit the daily asphalt production to 1800 tph and Plant #5 HMA will limit the daily asphalt production to 3600 tph.

For annual PM2.5 modeling, a hourly factor will be input in the model. This hourly factor takes into account the limits on annual asphalt production for Plant #2 HMA and Plant #5 HMA. Below are the calculations for these hourly factors.

Plant Description	Annual Asphalt Production (TPY)	Annual Asphalt Production based on Daily Asphalt Production (TPY)	Annual $PM_{2.5}$ Model Hourly Factor
Plant #2 HMA	375,000	657,000	0.571
Plant #5 HMA	750,000	1,314,000	0.571

TABLE 6: HMA Plant Hours of Operation (MST)

	Winter	Spring	Summer	Fall
12:00 AM	0	1	1	1
1:00 AM	0	1	1	1
2:00 AM	0	1	1	1
3:00 AM	0	1	1	1
4:00 AM	0	1	1	1
5:00 AM	0	1	1	1
6:00 AM	1	1	1	1
7:00 AM	1	1	1	1
8:00 AM	1	1	1	1
9:00 AM	1	1	1	1
10:00 AM	1	1	1	1
11:00 AM	1	1	1	1
12:00 PM	1	1	1	1
1:00 PM	1	1	1	1
2:00 PM	1	1	1	1
3:00 PM	1	1	1	1
4:00 PM	1	1	1	1
5:00 PM	1	1	1	1
6:00 PM	0	1	1	1
7:00 PM	0	1	1	1
8:00 PM	0	1	1	1
9:00 PM	0	1	1	1
10:00 PM	0	1	1	1
11:00 PM	0	1	1	1
Total	**12**	**24**	**24**	**24**

TABLE 7: Aggregate Processing Daylight Hours of Operation (MST)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	1	1	1	1	1	0.5	0	0	0
6:00 AM	0	0.5	1	1	1	1	1	1	1	1	0.5	0
7:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
8:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
9:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
10:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
11:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
12:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
1:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
2:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
3:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
4:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
5:00 PM	0.5	1	1	1	1	1	1	1	1	1	0	0
6:00 PM	0	0	0	1	1	1	1	1	0.5	0	0	0
7:00 PM	0	0	0	0	0	0.5	0.5	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	10.5	11.5	12	14	14	14.5	14.5	14	13	12	10.5	10

2.5.1 Santa Fe Facility Road Vehicle Traffic Model Inputs

The paved and unpaved road fugitive dust for truck traffic is modeled as a line of volume sources. The AQB's approved procedure for Modeling Haul Roads was followed to develop modeling input parameters for paved and unpaved haul roads. Volume source characterization followed the steps described in the Air Quality Bureau's Guidelines.

2.5.2 Santa Fe Facility Material Handling Volume Source Model Inputs

Material handling and processing will follow the procedure found in AQB's Modeling Guidelines for Fugitive Equipment Sources (Section 5.3.2).

2.5.3 Santa Fe Facility Material Handling Point Source Model Inputs

For exhaust from engines and heaters, the release height will be the height from the ground to the exhaust exit height. All other model input data will be based on manufacture information or stack test results.

2.6 $PM_{2.5}$ SECONDARY EMISSIONS MODELING

The form of the $PM_{2.5}$ 24-hour design value is based on the 98^{th} percentile or the highest 8^{th} high result. Calculated $PM_{2.5}$ combustion emission rates included into the model consist of both filterable and condensable components. Secondary $PM_{2.5}$ emissions from combustion sources are created by the conversion to nitrates and sulfates as the exhaust plume travels away from the source and mixes with ambient air. Fugitive dust emission sources do not consist of a condensable component and will not create secondary emissions of $PM_{2.5}$.

$PM_{2.5}$ secondary emission concentration analysis will follow EPA guidelines. Following recent EPA guidelines for conversion of NO_X and SO_2 emission rates to secondary $PM_{2.5}$ emissions, AAM' Santa Fe Facility emissions are compared to appropriate western MERPs values (NO_X 24 Hr – 1155 tpy; NO_X Annual – 3184 tpy; SO_2 24 Hr – 225 tpy; SO_2 Annual – 2289 tpy). $PM_{2.5}$ secondary formation concentrations will be estimated using the following method derived from the MERP guidance[1].

$$[PM_{2.5}]\text{annual} = ((NO_X \text{ emission rate (tons/year) }/3184) + (SO_2 \text{ emission rate (tons/year) }/2289)) \times 0.2\ \mu g/m3$$

$$[PM_{2.5}]\text{24-hour} = ((NO_X \text{ emission rate (tons/year) }/1155) + (SO_2 \text{ emission rate (tons/year) }/225)) \times 1.2\ \mu g/m3$$

Results of the secondary formation from the facility will be added to the modeled value.

[1] Guidance on the Development of Modeled Emission Rates for Precursors (MERPS) as a Tier 1 Demonstration Tool for Ozone and PM2.5 under the PSD Permitting Program, Richard A. Wayland, EPA, December 2, 2016.

2.7 NO_2 DISPERSION MODELING ANALYSIS

The AERMOD model predicts ground-level concentrations of any generic pollutant without chemical transformations. Thus, the modeled NO_X emission rate will give ground-level modeled concentrations of NO_X. NAAQS values are presented as NO_2.

EPA has a three-tier approach to modeling NO_2 concentrations.

- Tier I – total conversion, or all NOx = NO_2
- Tier II –Ambient Ratio Method 2 (ARM2)
- Tier III – case-by-case detailed screening methods, such as OLM and Plume Volume Molar Ratio Method (PVMRM) and NO_2/NO_X in-stack ratio

Initial modeling will be performed using both Tier I and Tier II methodologies. If these modeling iterations demonstrate that less conservative methods for determining 1-hour, 24-hour, and annual NO_2 compliance would be needed for this project, then ambient impact of 1-hour, 24-hour, and annual NOx predicted by the model will use Tier III – OLM or PVMRM.

For OLM or PVMRM, three inputs can be selected in the model, the ISR, the NO_2/NO_X equilibrium ratio for the ambient air, and the ambient ozone concentration. The ISR will be determined for each source or group of sources. The NO_2/NO_X equilibrium ratio will be the EPA default of 0.90. Ozone input will be from monitored ozone data collected from an approved monitoring station.

Based on EPA's ISR databases, a proposed conservative NO_2/NO_X ISR ratio for Diesel-fired RICE is 0.15. No data could be found for a hot mix asphalt drum, so to be conservative the EPA default ISR of 0.50 will be used. For natural gas combustion, to be conservative, the EPA default ISR of 0.50 will be used. For neighboring sources, since the ISR has a diminishing impact on ambient NO_2/NO_X ratios as a plume is transported farther downwind due to mixing and reaction towards background ambient NO_2/NO_X ratios, a default ISR of 0.20[2] in lieu of source specific data will be used. Table 8 summarizes the ISR selected for each NO_X source in the NO_2 1-hour modeling.

TABLE 8: Summary of Selected ISR

Source Description	Selected ISR
HMA Baghouse Stack	0.50
HMA Asphalt Cement Heater	0.50
Plant Generator/Engine	0.15
Neighboring Sources	0.20

[2] Technical support document (TSD) for NO2-related AERMOD modifications, EPA- 454/B-15-004, July 2015

2.8 SIGNIFICANT NEIGHBORING BACKGROUND SOURCES

For all Cumulative Impact Analysis (CIA) combustion emissions dispersion modeling (NO_X, CO, SO_2), only monitored background will be included. CIA particulate dispersion modeling will include all significant neighboring sources within 10 kilometers of the Santa Fe Facility and regional monitored background. These sources will be obtained from the Air Quality Bureau's database.

2.9 REGIONAL BACKGROUND CONCENTRATIONS

Ambient background concentrations represent the contribution of pollutant sources that are not included in the modeling analysis, including naturally occurring sources. If the modeled concentration of a criteria pollutant is above the modeling significance level, the background concentration for each criteria pollutant will be added to the maximum modeled concentration to calculate the total estimated pollutant concentration for comparison with the AAQS.

The ambient background concentrations are listed in the Air Quality Bureau Guidelines for NO_2, CO, SO_2, PM_{10}, $PM_{2.5}$ and Ozone. For CO and SO_2, AAM is proposing using backgrounds for the generic "Rest of New Mexico". For PM_{10} and $PM_{2.5}$, AAM is proposing using backgrounds from Santa Fe (Monitor ID 3HM). For NO_2, AAM is proposing using backgrounds from Bloomfield (Monitor ID 1ZB).

	$PM_{2.5}$ (µg/m³)	**PM_{10} (µg/m³)**	**NO_2 (µg/m³)**	**CO (µg/m³)**	**SO_2 (µg/m³)**	**Ozone (µg/m³)**
1 Hour			85.1	2203	8.84	139.7
8 Hour				1524		
24 Hour	9.45	23.0				
Annual	4.32		19.6			

Universal Application 4

Air Dispersion Modeling Report

Refer to and complete Section 16 of the Universal Application form (UA3) to assist your determination as to whether modeling is required. If, after filling out Section 16, you are still unsure if modeling is required, e-mail the completed Section 16 to the AQB Modeling Manager for assistance in making this determination. If modeling is required, a modeling protocol would be submitted and approved prior to an application submittal. The protocol should be emailed to the modeling manager. A protocol is recommended but optional for minor sources and is required for new PSD sources or PSD major modifications. Fill out and submit this portion of the Universal Application form (UA4), the "Air Dispersion Modeling Report", only if air dispersion modeling is required for this application submittal. This serves as your modeling report submittal and should contain all the information needed to describe the modeling. No other modeling report or modeling protocol should be submitted with this permit application.

16-A: Identification	
1	Name of facility: Santa Fe Facility
2	Name of company: Associated Asphalt and Materials, LLC
3	Current Permit number: New Permit
4	Name of applicant's modeler: Paul Wade
5	Phone number of modeler: (505) 830-9680 ext 6
6	E-mail of modeler: pwade@montrose-env.com

16-B: Brief			
1	Why is the modeling being done? Other (describe below) Application for new minor source NSR.		
2	Describe the permit changes relevant to the modeling. N/A		
3	What geodetic datum was used in the modeling? NAD83		
4	How long will the facility be at this location? Permanent		
5	Is the facility a major source with respect to Prevention of Significant Deterioration (PSD)?	Yes	No **X**
6	Identify the Air Quality Control Region (AQCR) in which the facility is located. 157		

7	List the PSD baseline dates for this region (minor or major, as appropriate). N/A
8	Provide the name and distance to Class I areas within 50 km of the facility (300 km for PSD permits). Bandelier Wilderness Area – 19.8 km; Pecos Wilderness Area – 24.2 km
9	Is the facility located in a non-attainment area? If so, describe. No
10	Describe any special modeling requirements, such as streamline permit requirements. N/A

16-C: Modeling History of Facility

1	Describe the modeling history of the facility, including the air permit numbers, the pollutants modeled, the National Ambient Air Quality Standards (NAAQS), New Mexico AAQS (NMAAQS), and PSD increments modeled. (Do not include modeling waivers).			
	Pollutant	Latest permit and modification number that modeled the pollutant facility-wide.	Date of Permit	Comments
	CO	N/A	N/A	New Permitted Facility
	NO_2	N/A	N/A	New Permitted Facility
	SO_2	N/A	N/A	New Permitted Facility
	H_2S	N/A	N/A	Not a significant facility pollutant
	PM2.5	N/A	N/A	New Permitted Facility
	PM10	N/A	N/A	New Permitted Facility
	~~TSP~~[1]			
	Lead	N/A	N/A	Not a significant facility pollutant
	Ozone (PSD only)	N/A	N/A	Not a PSD Source
	NM Toxic Air Pollutants (20.2.72.402 NMAC)	N/A	N/A	New Permitted Facility

1. The New Mexico Ambient Air Quality Standard for TSP was repealed by the Environmental Improvement Board effective November 30, 2018.

16-D: Modeling performed for this application

1	For each pollutant, indicate the modeling performed and submitted with this application. Choose the most complicated modeling applicable for that pollutant, i.e., culpability analysis assumes ROI and cumulative analysis were also performed.					
	Pollutant	ROI	Cumulative analysis	Culpability analysis	Waiver approved	Pollutant not emitted or not changed.
	CO	X				
	NO_2	X	X			
	SO_2	X	X			
	H_2S					X
	PM2.5	X	X	X		
	PM10	X	X	X		
	Lead					X
	Ozone					Not a PSD Source
	State air toxic(s) (20.2.72.402 NMAC)	X				

16-E: New Mexico toxic air pollutants modeling

1	List any New Mexico toxic air pollutants (NMTAPs) from Tables A and B in 20.2.72.502 NMAC that are modeled for this application. Dispersion modeling was performed for Asphalt Fumes from the two HMA plants.					
	List any NMTAPs that are emitted but not modeled because stack height correction factor. Add additional rows to the table below, if required.					
	Pollutant	Emission Rate (pounds/hour)	Emission Rate Screening Level (pounds/hour)	Stack Height (meters)	Correction Factor	Emission Rate/ Correction Factor
	Calcium hydroxide	0.36	0.333	13.7	5	1.665

16-F: Modeling options

1	What model(s) were used for the modeling? Why? The dispersion modeling was conducted using the American Meteorological Society/Environmental Protection Agency Regulatory Model Improvement Committee Dispersion Model (AERMOD), Version 19191. This model is recommended by EPA for determining Class II impacts within 50 km of the source being assessed. Additionally, AERMOD was developed to handle complex terrain. The objective of this evaluation is to determine whether ambient air concentrations from the maximum operation of the facility for asphalt fumes, nitrogen dioxide, (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), and particulate matter; both 10 microns or less (PM_{10}) and 2.5 microns or less ($PM_{2.5}$); are below Class II federal and state ambient air quality standards (NAAQS and NMAAQS) found in 40 CFR part 50 and the state of New Mexico's air quality regulation 20.2.3 NMAC from AAM Santa Fe Facility emission sources.
2	What model options were used and why were they considered appropriate to the application? Selected Source Flat Terrain: Volume sources modeled as flat terrain particulate matter sources. Impacts from ground release sources will be highest at the model boundary.

16-G: Surrounding source modeling

1	If the surrounding source inventory provided by the Air Quality Bureau was believed to be inaccurate, describe how the sources modeled differ from the inventory provided. If changes to the surrounding source inventory were made, use the unmerged list of sources to describe the changes. For GCP sources, emissions were adjusted to reflect GCP regulated emissions and hours of operation – GCP2 and 3 Daylight hours; Annual emission rate 95 tpy (NOx and CO), 50 tpy (SO2), 71.25 tpy (PM10), 17.875 tpy (PM2.5). For Vulcan Materials-Santa Fe HMAP NSR 0324 particulate matter modeling, the previous Permit 0324 modeling was used to include boundaries, modeled hours of operation, and annual average model emission rate hourly factor.	
2	Date of surrounding source retrieval. 9/9/2019 Angela Raso	
	AQB Source ID	Description of Corrections

PM10 and PM2.5 GCP emission sources were set to 71.25 tpy and 17.875 tpy, respectively.
GCP2 hours of operation were limited to daylight hours only.
For Vulcan Materials-Santa Fe HMAP NSR 0324 particulate matter modeling, the previous Permit 0324 modeling was used to include boundaries, modeled hours of operation, and annual average model emission rate hourly factor.

The table below list surrounding sources where the UTM coordinates were verified using Goggle Earth and corrected.

NumberID	Facility	UTMEast	UTMNorth
8	Eker Bros - 300TPH Portable Crusher No2223	401827.0	3944555.0
10	Vulcan Materials-Osuna S and G No0836	403577.0	3944686.0
12	RL Leeder - 200 TPH Portable Rock Crusher	403670.0	3944990.0

14	RL Stacy - Portable Crusher No1549	403240.0	3944280.0	
18	Vulcan Materials-Santa Fe HMAP NSR 0324	402632.0	3944233.0	
19	Vulcan Materials-Santa Fe HMAP NSR 0324	402632.0	3944238.0	
20	Vulcan Materials-Santa Fe HMAP NSR 0324	402637.0	3944238.0	
21	Vulcan Materials-Santa Fe HMAP NSR 0324	402637.0	3944233.0	
22	Vulcan Materials-Santa Fe HMAP NSR 0324	402637.0	3944228.0	
23	Vulcan Materials-Santa Fe HMAP NSR 0324	402632.0	3944228.0	
24	Vulcan Materials-Santa Fe HMAP NSR 0324	402627.0	3944228.0	
25	Vulcan Materials-Santa Fe HMAP NSR 0324	402627.0	3944233.0	
26	Vulcan Materials-Santa Fe HMAP NSR 0324	402627.0	3944238.0	
27	Vulcan Materials-Santa Fe HMAP NSR 0324	402627.0	3944243.0	
28	Vulcan Materials-Santa Fe HMAP NSR 0324	402632.0	3944243.0	
29	Vulcan Materials-Santa Fe HMAP NSR 0324	402637.0	3944243.0	
30	Vulcan Materials-Santa Fe HMAP NSR 0324	402642.0	3944243.0	
32	Vulcan Materials-Santa Fe HMAP NSR 0324	402642.0	3944228.0	
37	Vulcan Materials - Santa Fe Concrete Facility GCP5-1400A	402625.5	3944105.4	
38	LM Concrete Pumping - Santa Fe Location, GCP5-3534	402678.3	3943962.6	
41	Santa Fe Concrete - Aviation GCP5-2651	402632.9	3943411.7	

16-H: Building and structure downwash

1	How many buildings are present at the facility?	2 – Office and Shop	
2	How many above ground storage tanks are present at the facility?	6	
3	Was building downwash modeled for all buildings?	Yes **X**	No
4	If not, explain why.		
5	Building comments		

16-I: Receptors and modeled property boundary

1	"Restricted Area" is an area to which public entry is effectively precluded. Effective barriers include continuous fencing, continuous walls, or other continuous barriers approved by the Department, such as rugged physical terrain with a steep grade that would require special equipment to traverse. If a large property is completely enclosed by fencing, a restricted area within the property may be identified with signage only. Public roads cannot be part of a Restricted Area. A Restricted Area is required in order to exclude receptors from the facility property. If the facility does not have a Restricted Area, then receptors shall be placed within the property boundaries of the facility. Describe the fence or other physical barrier at the facility that defines the restricted area. Fencing and gate surround facility.		
2	Receptors must be placed along publicly accessible roads in the restricted area. Are there public roads passing through the restricted area?	Yes	No X

3	Are restricted area boundary coordinates included in the modeling files?	Yes X	No
4	Describe the receptor grids and their spacing. For each pollutant, the radius of significant impact around the facility is established using a Cartesian grid. A 25-meter grid spacing is used for the facility boundary receptors. A 50-meter spacing and 100-meter spacing are extended to 500-meters and 1-km beyond the facility boundary, respectively from the facility boundary in each direction for a very fine grid resolution. Receptors for a fine grid resolution are placed with 250-meter spacing to a distance of 3-km from the facility boundary. Receptors for a course grid resolution are placed with 500-meter, and 1000-meter spacing to a distance of 5-km, and 8-km, respectively from the facility boundary.		
5	Describe receptor spacing along the fence line. Fenceline receptor spacing will be 25 meters.		
6	Describe the PSD Class I area receptors. N/A		

16-J: Sensitive areas

1	Are there schools or hospitals or other sensitive areas near the facility? This information is optional (and purposely undefined), but may help determine issues related to public notice.	Yes	No X
2	If so, describe.		
3	The modeling review process may need to be accelerated if there is a public hearing. Are there likely to be public comments opposing the permit application?	Yes	No X

16-K: Modeling Scenarios

1	Identify, define, and describe all modeling scenarios. Examples of modeling scenarios include using different production rates, times of day, times of year, simultaneous or alternate operation of old and new equipment during transition periods, etc. Alternative operating scenarios should correspond to all parts of the Universal Application and should be fully described in Section 15 of the Universal Application (UA3). For HMA Plants #2 and #5, they will limit model hours to the equivalent of 12 hours per day if operating at maximum to account for the requested permit daily production rate. For particulate modeling 12 scenarios were run beginning with spring, summer, and fall months operating 12 hours starting at 12:00 AM to 12 PM. Scenario 2 modeling hours for spring, summer, and fall months two hours from 2 AM to 2 PM. This trend continues for all 12 scenarios.		
2	Which scenario produces the highest concentrations? Why? PM10 24 hour – Scenario 10, operating nighttime hours with low winds and low boundary layer PM2.5 24 hour – Scenario 10, operating nighttime hours with low winds and low boundary layer PM2.5 annual – Scenario 10, operating nighttime hours with low winds and low boundary layer		
3	Were emission factor sets used to limit emission rates or hours of operation?	Yes X	No

	(This question pertains to the "SEASON", "MONTH", "HROFDY" and related factor sets, not to the factors used for calculating the maximum emission rate.)		
4	If so, describe factors for each group of sources. List the sources in each group before the factor table for that group. (Modify or duplicate table as necessary. It's ok to put the table below section 16-K if it makes formatting easier.) Sources:		

5

HMA Plant #2 (PLANT2), Plant #5 (PLANT5), and HMA truck traffic (HMAROAD) will limit model hours to the equivalent of 12 hours per day when operating at maximum. For particulate modeling 12 scenarios were run beginning with spring, summer, and fall months operating 12 hours starting at 12:00 AM. Scenario 2 modeling hours for spring, summer, and fall months two hours from 2 AM to 2 PM. This trend continues on for 12 scenarios.

Table of hours of operation for HMA Plant #2 (PLANT2) and HMA Plant #5 (PLANT5)

	Winter	**Spring**	**Summer**	**Fall**
12:00 AM	0	1	1	1
1:00 AM	0	1	1	1
2:00 AM	0	1	1	1
3:00 AM	0	1	1	1
4:00 AM	0	1	1	1
5:00 AM	0	1	1	1
6:00 AM	1	1	1	1
7:00 AM	1	1	1	1
8:00 AM	1	1	1	1
9:00 AM	1	1	1	1
10:00 AM	1	1	1	1
11:00 AM	1	1	1	1
12:00 PM	1	1	1	1
1:00 PM	1	1	1	1
2:00 PM	1	1	1	1
3:00 PM	1	1	1	1
4:00 PM	1	1	1	1
5:00 PM	1	1	1	1
6:00 PM	0	1	1	1
7:00 PM	0	1	1	1
8:00 PM	0	1	1	1
9:00 PM	0	1	1	1
10:00 PM	0	1	1	1
11:00 PM	0	1	1	1
Total	12	24	24	24

Table of each model scenario hours of operation for HMA Plant #2 (PLANT2) and HMA Plant #5 (PLANT5)

Model Scenario	**Winter**	**Spring**	**Summer**	**Fall**
1	6 AM to 6 PM	12 AM to 12 PM	12 AM to 12 PM	12 AM to 12 PM
2	6 AM to 6 PM	2 AM to 2 PM	2 AM to 2 PM	2 AM to 2 PM
3	6 AM to 6 PM	4 AM to 4 PM	4 AM to 4 PM	4 AM to 4 PM
4	6 AM to 6 PM	6 AM to 6 PM	6 AM to 6 PM	6 AM to 6 PM
5	6 AM to 6 PM	8 AM to 8 PM	8 AM to 8 PM	8 AM to 8 PM
6	6 AM to 6 PM	10 AM to 10 PM	10 AM to 10 PM	10 AM to 10 PM
7	6 AM to 6 PM	12 PM to 12 AM	12 PM to 12 AM	12 PM to 12 AM

8	6 AM to 6 PM	2 PM to 2 AM	2 PM to 2 AM	2 PM to 2 AM
9	6 AM to 6 PM	4 PM to 4 AM	4 PM to 4 AM	4 PM to 4 AM
10	6 AM to 6 PM	6 PM to 6 AM	6 PM to 6 AM	6 PM to 6 AM
11	6 AM to 6 PM	8 PM to 8 AM	8 PM to 8 AM	8 PM to 8 AM
12	6 AM to 6 PM	10 PM to 10 AM	10 PM to 10 AM	10 PM to 10 AM

Hours of operation for the crusher/screen plant (CRUSH), scalping screen plant (SCALP), and crusher truck traffic (CSHROAD) will be limited and modeled for the following times.

12:00 AM	0
1:00 AM	0
2:00 AM	0
3:00 AM	0
4:00 AM	0
5:00 AM	0
6:00 AM	0
7:00 AM	1
8:00 AM	1
9:00 AM	1
10:00 AM	1
11:00 AM	1
12:00 PM	1
1:00 PM	1
2:00 PM	1
3:00 PM	1
4:00 PM	1
5:00 PM	0
6:00 PM	0
7:00 PM	0
8:00 PM	0
9:00 PM	0
10:00 PM	0
11:00 PM	0
Total	10

If hourly, variable emission rates were used that were not described above, describe them here: N/A

6	Were different emission rates used for short-term and annual modeling?	Yes X	No
7	If yes, describe. Annual particulate matter modeling included hourly factors based on limitations on annual production.		

	HMA Plant #2 – Production at maximum 657,000 tpy; Requested permit limit 190,000 tpy; Hourly factor 0.289 HMA Plant #5 – Production at maximum 1,314,000 tpy; Requested permit limit 750,000 tpy; Hourly factor 0.571

16-L: NO_2 Modeling

1	Which types of NO_2 modeling were used? Check all that apply.	
		100% NO_X to NO_2 conversion
		ARM
		PVMRM
		OLM
	X	ARM2: 1 Hour and Annual Average
		Other:
2	Describe the NO_2 modeling. ARM2 modeling used for the 1 hour and annual average periods. Cumulative modeling includes all AAM Santa Fe Facility sources plus background concentrations based on Monitor 1ZB.	
3	In-stack NO_2/NO_X ratio(s) used in modeling. N/A	
4	Equilibrium NO_2/NO_X ratio(s) used in modeling. N/A	
5	Describe/justify the use of the ratios chosen. N/A	
6	Describe the design value used for each averaging period modeled. 1-hour: 98th percentile as calculated by AERMOD	

16-M: Particulate Matter Modeling

1	Select the pollutants for which plume depletion modeling was used.			
		PM2.5		
		PM10		
	X	None		
2	Describe the particle size distributions used. Include the source of information. N/A			
3	Was secondary PM modeled for PM2.5? Only required for PSD major modifications that are significant for NOx and/or SOx. Optional for minor sources, but allows use of high eighth high.		Yes X	No
	Following recent EPA guidelines for conversion of NO_X and SO_2 emission rates to secondary $PM_{2.5}$ emissions, AAM Santa Fe Facility emissions are compared to appropriate western MERPs values (NO_X 24 Hr – 1155 tpy; NO_X Annual – 3184 tpy; SO_2 24 Hr – 225 tpy; SO_2 Annual – 2289 tpy). The following equation, found in NMED AQB modeling guidance document on MERPs, was used to determine if secondary emission would cause violation with $PM_{2.5}$ NAAQS. $PM_{2.5}$ annual = ((NO_X emission rate (tpy)/3184 + (SO_2 emission rate (tpy)/2289)) x 0.2 µg/m^3 $PM_{2.5}$ 24 hour = ((NO_X emission rate (tpy)/1155 + (SO_2 emission rate (tpy)/225)) x 1.2 µg/m^3			

	<u>$PM_{2.5}$ Annual</u> 0.0015 µg/m^3 = (21.7/3184 + 1.74/2289) x 0.2 µg/m^3 <u>$PM_{2.5}$ 24 Hour</u> 0.032 µg/m^3 = (21.7/1155 + 1.74/225) x 1.2 µg/m^3

16-N: Setback Distances and Source Classification

1	Portable sources or sources that need flexibility in their site configuration requires that setback distances be determined between the emission sources and the restricted area boundary (e.g. fence line) for both the initial location and future locations. Describe the setback distances for the initial location. N/A		
2	Describe the requested, modeled, setback distances for future locations, if this permit is for a portable stationary source. Include a haul road in the relocation modeling. N/A		
3	The unit numbers in the Tables 2-A, 2-B, 2-C, 2-E, 2-F, and 2-I should match the ones in the modeling files. Do these match?	Yes X	No
4	Provide a cross-reference table between unit numbers if they do not match. It's ok to place the table below section 16-N for easier formatting.		
5	The emission rates in the Tables 2-E and 2-F should match the ones in the modeling files. Do these match?	Yes	No X
6	If not, explain why. Hourly model emission rates for material handling sources (Emissions calculated using AP-42 Section 13.2.4) are calculated using annual average windspeed for Santa Fe 2006 - 2016.		

Emission Point #	Process Unit Description	PM10 lbs/hr	PM2.5 lbs/hr
HMA Plant #2			
P2HMAP1	Plant 2 HMA Storage Pile Handling 1	0.08968	0.01358
P2HMAP2	Plant 2 HMA Storage Pile Handling 2	0.08968	0.01358
P2HMAP3	Plant 2 HMA Storage Pile Handling 3	0.08968	0.01358
P2HMAP4	Plant 2 HMA Storage Pile Handling 4	0.08968	0.01358
P2HMABIN	Plant 2 HMA Bin Loading	0.35873	0.05432
HMA Plant #5			
P5HMAP1	Plant 5 HMA Storage Pile Handling 1	0.17937	0.02716
P5HMAP2	Plant 5 HMA Storage Pile Handling 2	0.17937	0.02716
P5HMAP3	Plant 5 HMA Storage Pile Handling 3	0.17937	0.02716
P5HMAP4	Plant 5 HMA Storage Pile Handling 4	0.17937	0.02716
P5HMABIN	Plant 5 HMA Bin Loading	0.71746	0.10864
Crusher/Screen Plant			
CH_RAW	Crusher/Screen Plant Raw Material	0.51597	0.07813
CH_F	Crusher/Screen Plant Feeder	0.51597	0.07813
CH_STK	Crusher/Screen Stacker Conveyor Drop to Pile	0.30969	0.04690
CH_FP	Crusher/Screen Finish Product Storage Pile	0.51597	0.07813
Scalping Screen Plant			
SS_RAW	Scalping Screen Plant Raw Material	0.12899	0.01953
SS_F	Scalping Screen Plant Feeder	0.12899	0.01953

	SS_STK	Scalping Screen Conveyor Drop to Pile	0.07742	0.01172	
	SS_FP	Scalping Screen Finish Product Storage Pile	0.12899	0.01953	

7	Have the minor NSR exempt sources or Title V Insignificant Activities" (Table 2-B) sources been modeled?	Yes	No X
8	Which units consume increment for which pollutants? N/A		
9	PSD increment description for sources. (for unusual cases, i.e., baseline unit expanded emissions after baseline date). N/A		
10	Are all the actual installation dates included in Table 2A of the application form, as required? This is necessary to verify the accuracy of PSD increment modeling.	Yes	No X New Permit
11	If not please explain how increment consumption status is determined for the missing installation dates. N/A		

16-O: Flare Modeling

1	For each flare or flaring scenario, complete the following			
	Flare ID (and scenario)	Average Molecular Weight	Gross Heat Release (cal/s)	Effective Flare Diameter (m)
	N/A			

16-P: Volume and Related Sources

1	Were the dimensions of volume sources different from standard dimensions in the Air Quality Bureau (AQB) Modeling Guidelines?	Yes X	No
2	If the dimensions of volume sources are different from standard dimensions in the AQB Modeling Guidelines, describe how the dimensions were determined. For storage piles the model inputs were based on the size of the pile/4.3 (sigma-Y) and a release height of 8 feet or a sigma-Z of 8ft*2/2.15. All others followed standard dimensions from Air Quality Bureau (AQB) Modeling Guidelines.		
3	Describe the determination of sigma-Y and sigma-Z for fugitive sources.		
4	Describe how the volume sources are related to unit numbers. Or say they are the same. They are the same.		
5	Describe any open pits. N/A		
6	Describe emission units included in each open pit. N/A		

16-Q: Background Concentrations

1	Identify and justify the background concentrations used. The ambient background concentrations are listed in the Air Quality Bureau Guidelines for NO2, SO2, PM10, and PM2.5. For SO2, AAM used backgrounds for the generic “Rest of New Mexico”. For PM10 and PM2.5, AAM used backgrounds from Santa Fe (Monitor ID 3HM). For NO2, AAM is used backgrounds from Bloomfield (Monitor ID 1ZB).

Per model protocol and NMED model protocol approval.

	1 Hour ($\mu g/m^3$)	3 Hour ($\mu g/m^3$)	8 Hour ($\mu g/m^3$)	24 Hour ($\mu g/m^3$)	Annual ($\mu g/m^3$)
NO_2	85.1				19.6
SO_2	8.84				
$PM_{2.5}$				9.45	4.32
PM_{10}				23.0	

2	Were background concentrations refined to monthly or hourly values?	Yes	No X

16-R: Meteorological Data

1	Identify and justify the meteorological data set(s) used. Dispersion model meteorological input file used in this modeling analysis is year 2016 Santa Fe provided by the NMED AQB Modeling Section.
2	Discuss how missing data were handled, how stability class was determined, and how the data were processed, if the Bureau did not provide the data.

16-S: Terrain

1	Was complex terrain used in the modeling? If no, describe why. Yes, for point sources only. For volume sources, model was run in source selected flat terrain mode.
2	What was the source of the terrain data? USGS National Elevation Data (NED)

16-T: Modeling Files

1 Describe the modeling files:

Particulate matter modeling was done using 12 scenarios. This accounted for the proposed limit on daily throughput productions on the HMA plants with proposed operating hours. For particulate matter annual modeling, hourly emission factors were used to account for the limit on annual production for each plant.

File name (or folder and file name)	Pollutant(s)	Purpose (ROI/SIA, cumulative, culpability analysis, other)
AAMSantaFeCombustROI	CO, SO2, NO2	ROI/SIA
AAMSantaFePM24ROIS1-12	PM10, PM2.5 24 Hour Average	ROI
AAMSantaFePM25YRROIS1-S12	PM2.5 Annual Average	ROI
AAMSantaFeAF	Asphalt Fumes	CIA
AAMSantaFeNO21HrCIA	NOx 1 Hour	CIA
AAMSantaFeNO2YrCIA	NOx Annual	CIA
AAMSantaFeSO21HrCIA	SO2 1 Hour	CIA
AAMSantaFePM24CIAS1-S12	PM10, PM2.5 24 Hour Average	CIA
AAMSantaFePM25YRCIAS1-S12	PM2.5 Annual Average	CIA

16-U: PSD New or Major Modification Applications

1	A new PSD major source or a major modification to an existing PSD major source requires additional analysis. Was preconstruction monitoring done (see 20.2.74.306 NMAC and PSD Preapplication Guidance on the AQB website)?	Yes	No X
2	If not, did AQB approve an exemption from preconstruction monitoring?	Yes	No
3	Describe how preconstruction monitoring has been addressed or attach the approved preconstruction monitoring or monitoring exemption. N/A		
4	Describe the additional impacts analysis required at 20.2.74.304 NMAC. N/A		
5	If required, have ozone and secondary PM2.5 ambient impacts analyses been completed? Yes, for secondary PM2.5.		

16-V: Modeling Results

1	If ambient standards are exceeded because of surrounding sources, a culpability analysis is required for the source to show that the contribution from this source is less than the significance levels for the specific pollutant. PM2.5 24-Hour PM2.5 24-hour average concentrations exceeded the NAAQS for 7 receptors. Review of these receptors found them located within neighboring source boundaries. The sources included Montano Crushing Plant No. 3167 (402500,3942500) and Vulcan Materials-Santa Fe HMAP NSR 0324 (402650,3944250; 402650,3944200; 402700,3944250; 402750,3944350; 402600,3944250; 402600,3944300). The PM2.5 24-hour average highest 8th high concentration, where AAM concentrations were above SILs, was located near Eker Bros - Portable Screen NSR 2712 (Receptor - 402200,3945200). The highest concentration near Associated Asphalt Materials where AAM concentrations were significant is 33.1 µg/m^3 (Receptor – 402971.7,3944442). PM2.5 Annual PM2.5 annual average concentrations exceeded the NAAQS for 4 receptors. Review of these receptors found them located within neighboring source boundaries. The sources included Vulcan Materials-Santa Fe HMAP NSR 0324 (402650,3944250; 402750,3944350), Eker Bros - Portable Screen NSR 2712 (402300,3945400), and Santa Fe Concrete - Aviation GCP5-2651 (402600,3943500). The PM2.5 annual average highest concentration, where AAM concentrations were above SILs, was located near RL Stacy - Portable Crusher No1549 (Receptor – 403250,3944200). The highest concentration near Associated Asphalt Materials where AAM concentrations were significant is 11.2 µg/m^3 (Receptor – 403032,3944584). PM10 24-Hour PM10 24-hour average concentrations exceeded the NAAQS for 2 receptors. Review of these receptors found them located within neighboring source boundaries. The sources included Montano Crushing Plant No. 3167 (402500,3942500) and Vulcan Materials-Santa Fe HMAP NSR 0324 (402650,3944250). The PM10 24-hour average high 2nd high concentration, where AAM concentrations were above SILs, was located near Santa Fe Concrete - Aviation GCP5-2651 (Receptor – 402800,3943400). The high 2nd high concentration near Associated Asphalt Materials where AAM concentrations were significant is 115.4 µg/m^3 (Receptor – 403128,3944811.5).
2	Identify the maximum concentrations from the modeling analysis.

Pollutant	Period	Facility Concentration (μg/m3)	Total Modeled Concentration (μg/m3)	Total Modeled Concentration (PPM)	Background Concentration	Cumulative Concentration	Standard	Value of Standard	Units of Standard, Background, and Total	Percent of Standard
Asphalt Fumes	8 Hour	25.5	25.5	---	---	---	20.2.72.502	50	$\mu g/m^3$	51.0
NOx	1 Hour	59.7	59.7	---	85.1	144.8	NAAQS	188.03	$\mu g/m^3$	77.0
NOx	Annual	6.2	6.2	---	19.6	25.8	NMAAQS	94.02	$\mu g/m^3$	27.4
CO	1 Hour	665.9	---	---	---	---	SIL	2000	$\mu g/m^3$	33.3
CO	8 Hour	499.5	---	---	---	---	SIL	500	$\mu g/m^3$	99.9
SO_2	1 Hour	8.8	8.8	---	8.84	17.6	NAAQS	196.4	$\mu g/m^3$	9.0
$PM_{2.5}$	24 Hour	1.87	25.0	---	9.45	34.5	NAAQS	35	$\mu g/m^3$	98.6
$PM_{2.5}$	Annual	0.44	7.27	---	4.32	11.59	NAAQS	12	$\mu g/m^3$	96.6
PM_{10}	24 Hour	6.2	92.8	---	23.0	115.8	NAAQS	150	$\mu g/m^3$	77.2

16-W: Location of maximum concentrations

1	Identify the locations of the maximum concentrations.

Pollutant	Period	UTM East (m)	UTM North (m)	Elevation (m)	Distance (m)	Radius of Impact (ROI) (m)
Asphalt Fumes	8 Hour	403066.7	3944580.0	1937.25	Border	N/A
NOx	1 Hour	403066.7	3944580.0	1937.25	Border	9825.7
NOx	Annual	403032.0	3944584.0	1936.48	Border	1123.7
CO	1 Hour	402951.0	3944880.0	1942.69	Border	Below SIL
CO	8 Hour	403066.7	3944580.0	1937.25	Border	Below SIL
SO_2	1 Hour	403101.3	3944576.0	1938.15	Border	270.4
$PM_{2.5}$	24 Hour	402200.0	3945200.0	1939.75	752	3884.5
$PM_{2.5}$	Annual	403250.0	3944200.0	1944.82	274	2085.3
PM_{10}	24 Hour	402800.0	3943400.0	1933.56	1005	1687.4

16-X: Summary/conclusions

1	A statement that modeling requirements have been satisfied and that the permit can be issued. Dispersion modeling was performed for the new permit application. All facility pollutants with ambient air quality standards were modeled to show compliance with those standards. All results of this modeling showed the facility in compliance with applicable ambient air quality standards.

JAMES W. SIEBERT
AND ASSOCIATES, INC.

915 MERCER STREET * SANTA FE, NEW MEXICO 87505
(505) 983-5588 * FAX (505) 989-7313
siebert.associates@comcast.net

RESUME

JAMES W. SIEBERT, AICP

Personal Data

Date of Birth: 4 April 1946
Married, 2 children

Education

Master of Arts in Architecture with emphasis in Urban Planning, University of New Mexico, Albuquerque, New Mexico. Graduated 1975.
Bachelor of Arts, UCLA, Los Angeles, California. Graduated 1969.

Professional and Business Experience

Member of American Institute of Certified Planners

June 1983-Present
Principal of James W. Siebert & Associates, a planning consulting firm providing services to private developers, municipalities and institutions.

1979-1983
Director of Planning and Development Department, City of Santa Fe, New Mexico. Responsible for managing a department comprising 45 employees and an operating budget of $800,000 with responsibility for providing the following services: planning, zoning, staff to policy board, housing rehabilitation, parking lots, airport, industrial park, and economic development.

1977-1979
Assistant City Planner, Planning Department, City of Santa Fe, New Mexico. Responsible for supervising all functions pertaining to processing development request, and preparation of land use sector plan consisting of 3000 acres.

1976-1977
Associate Planner, Planning Department, City of Santa Fe, New Mexico. Worked with committees to amend city ordinances and helped prepare development plans for 800 acres of land under City authority and 2800 acres of land under City ownership.

1975-1976
Planning Technician, Planning Department, City of Santa Fe, New Mexico.

1973-1976
Post graduate work, University of New Mexico, Albuquerque, New Mexico.

1969-1972
Peace Corps, Chile and Colombia, South America. Acted as instructor and supervised construction of 120 homes in Chile and 500 homes in Colombia.

Employees in Firm

James Siebert-Principal
Victoria Dalton-Associate
Wayne Dalton- Associate
Linda Siebert-Manager
Aastha Singh -CAD Operator

We are an equal opportunity employer with a majority of the employees being Hispanic and Eastern Indian.

James W. Siebert & Associates Inc., established in 1983, is a planning firm offering consultation in urban, municipal and town planning, land development, economic feasibility analysis and a broad range of land use management activities. Consulting services are available to public and private sector clients and non-profit, quasi-public agencies.

The firm stresses public and private sector interaction and coordination to achieve mutually beneficial goals. The principal has an extensive background in public sector planning and site design for a wide range of commercial, residential and institutional projects.

The firm has considerable experience acting as management coordinator for professional interdisciplinary teams consisting of engineers, architects, landscape architects, archaeologists, environmental scientists and attorneys. The effective management of interdisciplinary team personnel in achieving desired goals in a timely manner is one of the most outstanding characteristics of the firms' qualifications.

Citizen notification, interaction and mediation techniques are emphasized as a part of the planning process for all development projects. For public sector clients, an emphasis has been placed on expeditious problem solving in conjunction with an information dissemination and educational program, intended to strengthen personnel resources in future program management.

The firm utilizes the latest equipment and software programs, including Computer Aided Drafting (CAD) using AutoCad software and a variety of land use related software programs.

SELECTED PROJECTS

Las Soleras, Santa Fe, New Mexico (1999-2008)

Las Soleras is a mixed use project on 530 acres of land located between Rodeo Road and I-25 and Richards Ave. and Cerrillos Road. The uses within the project include Business Park, light industrial, office, retail, and education, and recreation, high, medium and lower density residential. James W. Siebert & Assoc. Inc. performed the site planning for the project, coordination with civil engineers, hydrologists, traffic engineers and landscape architects. The firm was and is responsible for the development permitting on the project. The project has received master plan approval from the extraterritorial authority of Santa Fe.

Hart Business Park (2004-2008)

This is a light industrial business park located on Aviation Drive, south and east of the Santa Fe Municipal Airport. James W. Siebert & Assoc. Inc. was responsible for preparing site plans for a business park capable of accommodating large scale as well as smaller scale light industrial and office/warehouse uses. James W. Siebert & Assoc. Inc. was responsible for managing the work products from civil engineers, traffic engineers and coordinate with the City of Santa Fe staff in completion of the preliminary planning for this development. The project has been annexed, rezoned and is currently under construction. The existing Coca-Cola bottling plant in Santa Fe will be relocated to the approved first phase site.

Santa Fe Metro Center (1985-2006)

This is a 25 acre light industrial and warehouse park that is located on the I-25 Frontage Road west of the NM 599/I-25 interchange. The majority of the infrastructure is in place for the Metro Center and some building has occurred on the approved lots within this approved business park subdivision. The firm of James W. Siebert & Associates, Inc. was responsible for all site planning and development review for the project. The development has received final plat and plan approval from Santa Fe County. James W. Siebert & Associates, Inc. was responsible for preparing the articles and bylaws for the Park Association and establishing the administration for the Association. James Siebert & Assoc. Inc. also prepared the Disclosure Statement and Restrictive Covenants for this business park.

Santa Fe Business Park (1982-2005)

This is a 40 acre business park located on Airport Road, east of NM 599. This park has received all of the development approvals from the extraterritorial authorities and the Santa Fe County Commission. The business park is fully completed with all roads, and utilities in place. James W. Siebert & Associates, Inc. prepared all site plans for this project and secured entitlements from County and extraterritorial authorities. James W. Siebert & Assoc. Inc was responsible for preparing all association documents, implementing the Park Association and preparing the Restrictive Covenants for the Park.

Luna Rosa (2004)

This property, consisting of 50 acres of land is located east of US 285 and north of Ranch Road, within Lot 16 of the original Eldorado at Santa Fe Subdivision. This project is the result of a group of horse owners, who presently lease facilities in Galisteo coming together to create an equestrian facility that suits their specific needs. The indoor and outdoor arena will be used for exercise and training purposes. The area and associated facilities are in excess of 60,000 square feet.

Santa Fe Downs (2002)

James W. Siebert acted as planning consultant for the Pojoaque Pueblo to secure Master Plan approval for the Santa Fe Downs, including conditional approval for special events. The project has been delayed due to the requirement that manure from the prior owner be removed from the site. Siebert & Associates, Inc., did not serve as consultant to the Pojoaque Pueblo in their presentation to the Santa Fe Racing.

Lot 15 Eldorado Subdivision (2003)

James W. Siebert prepared the Master Plan for 120 lots on the 260 acre parcel and secured development approval from the County Commission for the Master Plan. Approval for Phase I consisting of 30 lots was achieved by James W. Siebert and this development has been completed. Subsequent phases were held up due to the Eldorado Moratorium.

Old Road Ranch(1998)

Phased materials were prepared by James W. Siebert resulting in the approval of a Master Plan for 130 lots on 280 acres within the Eldorado Subdivision. James W. Siebert prepared preliminary and final plans for this project for two phases of the Master Plan, both phases being built-out before the Eldorado Moratorium was adopted by the County Commission.

La Bajada Ranch (1998)

This development consists of 1,500 acres located at the top of La Bajada Hill. A master plan for large lot development was prepared and processed by James W. Siebert. The County Commission approved the mater plan for 99 residential lots. Subsequently a large portion of the property was purchased by the Santo Domingo Pueblo.

Hacienda Tranquila (2001)

Mr. Siebert represented Victor Ballas in the replatting of this 300 plus acre parcel from 22 lots to 6 lots. James W. Siebert was responsible for preparation of covenants and homeowners association documents. Subdivision improvements have been completed and marketing of the lots has been on-going since approval of the subdivision.

PROJECTS IN COLFAX COUNTY

Ash Mountain Subdivision (2007)

The subject site consists of 280 acres, with the southern boundary of the property contiguous with right-of-way of State Road 64 in Colfax County. Development of the property consists of 11 residential tracts to be further broken into residential lots for subdivisions. Three tracts are reserved for future commercial use.

Bluestream Subdivision (2007)

This 72.662 acre tract of land is located north of US 64 within the previously approved Ash Mountain Subdivision. Twenty-two lots are proposed within this subdivision ranging in size from 2.158 acres to 3.947 acres. This subdivision is located within the extraterritorial jurisdiction of the Village of Angel Fire.

Pine Ridge Subdivision (2008)

This 13.386 acre tract of land is located within the Val Verde Subdivision and has at times been referred to as Val Verde 4. Eleven lots are proposed within this subdivision ranging in size from 2.07 acres to 1.00 acre. This subdivision is located within the extraterritorial jurisdiction of the Village of Angel Fire.

Eagle Nest (2008)

This 1,055 ± acre property is located east of Eagle Nest Village. An evaluation was prepared to select the most appropriate building sites and determine access for a 20 lots subdivision north of US 64. Studies are on-going on the 245.627 ± acre parcel south of US 64 to determine the appropriate design for this land that overlooks Eagle Nest Lake.

ASSESSMENT REPORT

FOR

RELOCATION OF ASSOCIATED ASPHALT BATCH PLANT

PREPARED BY

JAMES W. SIEBERT & ASSOCIATES, INC.

FOR NMED MEETING OF

MARCH 22, 2021

Background Information

This report is prepared for the March 22, 2021 NMED meeting to provide a planning context for the relocation of two asphalt batch plants, one being adjacent to the south side of NM 599 and other is the existing plant on Paseo de River being relocated a short distance from its existing location to the south. My firm has been in private planning practice for 38 years in Santa Fe and before that I was employed by the city of Santa Fe for 8 years, 3 years as Planning Director for the City of Santa Fe.

Locational Limitation

Santa Fe County adopted the Sustainable Land Development Code in January of 2016. This Code established zoning for all areas of the County. Prior to that date a non-residential use was treated as a special exception with the location limited to some degree by the County General Plan recommendation. Currently there a very few sites designated on the Sustainable Land Development Code for “Industrial General” uses, which is the only zoning district where asphalt batch plants or concrete batch plants are permitted by right. Included as Exhibit A is an excerpt from the SLDC land use matrix. Concrete and asphalt batch plants are permitted in Light Industrial Districts as Conditional Uses, which requires a public review process and hearing before the Hearing Officer and Planning Commission. Asphalt and concrete batch plants are permitted in Planned Developments only if that use and development plan was approved prior to the adoption of the SLDC and does not apply to this request for relocation of the batch plant.

The other limitation is the size of the parcel. The current site plan is 13 acres and is the minimum size needed to accommodate the facilities that are planned to efficiently operate two asphalt batch plants. Exhibit B references the County zoning map where Industrial General Districts allow for asphalt batch plant by right, where a zoning review takes place administratively through a “site/development plan”. City zoning is also included on Exhibit B to show the concentration of heavier industrial uses for this area by both the City and County. This is the most extensive area for industrial uses in all of Santa Fe County. There is an area north of the Santa Fe Airport zoned as General Industrial that is accessed by County Road 56, which is a 20 foot wide asphalt road located one and one-half miles from NM 599, which is unsuitable for the transport requirements of asphalt batch plants. There is a reason that the County selected this north of NM 599 area for an industrial zoning designation given the extent of industrial activity that has historically taken place in the area.

The properties on the south side of the Santa Fe River have been used for asphalt and concrete batch plants since the late 1980’s and early 1990’s. The Naumburg concrete batch plant was operational in the early 1990’s and the Associated Asphalt Materials asphalt batch plant was operating in the late 1980’s. These properties zoned I-2, Heavy Industrial were located within city zoning jurisdiction and operated under the city zoning regulations. For the most part these plants were serviced with sand and gravel material extracted from the north side of the Santa Fe River. Exhibits C-1 and C-2 are two historic aerials dated 1992 and 1996 showing the extent of sand and gravel extraction that took place in the general area where Associated Asphalt has requested the additional batch plant and where their current plant is located on Paseo de River.

An argument could be made that other areas could be zoned for industrial uses. That is unlikely since the County has not approved a rezoning of land since the SLDC was adopted. Generally, such a rezoning would be supported by the County only if the initial zoning was made in error. In this case the application of industrial zoning for this area was based on historical precedent.

Relocation of Asphalt Batch Plant Relative to Existing Residential Development

Exhibit D-1 describes the existing asphalt batch plant located approximately 1,256 feet from the closest residential dwellings, which are located in the Riverside Manufactured Home Park. With the relocation of the batch plant to Paseo de River the new plant will be located approximately 2,144 feet from the closest residential dwellings in the Riverside Manufactured Home Park, or almost twice the distance that exists from the current plant. Exhibit D-1 describes the distance to the closest dwellings in the Vista Primera residential development on the south side of Airport Road which is a distance 3,621 feet from the relocated batch plant. Exhibit D-1 also shows a distance of 4,491 feet from the relocated plant to the north end of the closest residential dwellings in Tierra Contenta. The greater the distance from the source of emissions the less the impact on air quality.

Nature of Asphalt and Concrete Batch Plants Relative to the SLDC

In the Sustainable Land Development Code there are four uses that are considered "Developments of Countywide Impact" or DCI. Those uses are sand and gravel operations, wrecking yards, oil and natural gas exploration and hard rock mining. The permitting requirements for these uses are extremely onerous given the assumed impact to a wider population than other land uses. Asphalt and concrete batch plants are not included in the DCI category meaning that their impact does not rise to a level where extraordinary regulatory measures are applied. As described above on the zoning matrix asphalt and concrete batch plants are identified in the SLDC as permitted uses in General Industrial Districts. General Industrial uses, and by extension asphalt batch plants, were never considered a use that required extraordinary review or special notice requirements to the public such as a public hearing. A new or relocated batch plant does require an air quality permit, indicating compliance with federal and state standards. There is a public hearing requirement for air quality permits. Safeguards to the public are built into the process by State regulations.

Reduction in Off-Site Dust

Associated Asphalt will be making offsite improvements that will considerably reduce dust emissions and encourage traffic to use the NM 599 frontage road instead of the Santa Fe River crossing. This new road will be paved by Associated Asphalt. A description of the roadway planned for pavement is described on Exhibit E-1.

Currently the most direct access from the operating plant to NM 599 is Paseo de River across the Santa Fe River. Associated Asphalt has completed the engineering plans for a roadway that will intersect the NM 599 frontage road and encourage truck traffic as well as other non-Associated Asphalt traffic to use the frontage road to the South Meadows roundabout, avoiding the crossing of the Santa Fe River. This paved road will eliminate the dust associated with the crossing of the

Santa Fe River. Exhibit E-2 is a description of where the new road will be located providing alternative access to the NM 599 frontage road.