



May 26, 2015

Mr. Paul Thompson
Jim Gillman Excavating Inc.
3099 Grand Ave.
Butte, MT 59701

Dear Mr. Thompson:

Montana Air Quality Permit #1198-04 is deemed final as of May 23, 2015, by the Department of Environmental Quality (Department). This permit is for a portable asphalt plant. All conditions of the Department's Decision remain the same. Enclosed is a copy of your permit with the final date indicated.

For the Department,

A handwritten signature in black ink that reads "Julie A. Merkel".

Julie A. Merkel
Air Permitting Supervisor
Air Quality Bureau
(406) 444-3626

A handwritten signature in black ink that reads "John P. Proulx".

John P. Proulx
Environmental Science Specialist
Air Quality Bureau
(406) 444-1277

JM:JP
Enclosure

Montana Department of Environmental Quality
Permitting and Compliance Division

Montana Air Quality Permit #1198-04

Jim Gillman Excavating Inc.
3099 Grand Ave.
Butte, MT 59701

May 23, 2015



MONTANA AIR QUALITY PERMIT

Issued To: Jim Gillman Excavating, Inc. MAQP: #1198-04
3099 Grand Ave. Administrative Amendment (AA) Request
Butte, MT 59701 Received: 4/27/2015
Department's Decision on AA: 5/7/2015
Permit Final: 5/23/2015
AFS #: 777-1198

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to Jim Gillman Excavating, Inc. (Gillman), pursuant to Section 75-2-204 and 211 of the Montana Code Annotated (MCA), as amended, and the Administrative Rules of Montana (ARM) 17.8.740, *et seq.*, as amended, for the following:

Section I: Permitted Facilities

A. Plant Location

Gillman operates a portable rotary drum-mix asphalt plant with attached baghouse and associated equipment. The initial site location has been identified as Section 20, Township 3 North, Range 7 West in Silver Bow County, Montana. A list of permitted equipment is included in Section I.A of the Permit Analysis.

MAQP #1198-04 applies while operating in any location in the state of Montana, except within those areas having a Department of Environmental Quality (Department) approved permitting program, areas considered tribal lands, or areas in or within 10 kilometers (km) of certain particulate matter with an aerodynamic diameter of 10 microns or less (PM₁₀) nonattainment areas other than the current location. *A Missoula County air quality permit will be required for locations within Missoula County, Montana.* An addendum will be required for locations in or within 10 km of certain PM₁₀ nonattainment areas if Gillman moves from the current location.

B. Current Permit Action

On April 23, 2015, the Department received a letter from Gillman requesting a modification to MAQP #1198. Gillman requested that two diesel-fired generators be removed from their emissions inventory and that the permit language be updated to reflect the removal of the two diesel-fired generators. The permit was also updated to reflect the current language used by the Department.

Section II: Limitations and Conditions

A. Operational

1. Asphalt plant particulate matter emissions shall be limited to 0.10 grains per dry standard cubic foot (gr/dscf) (ARM 17.8.749).
2. Gillman shall not cause or authorize to be discharged into the atmosphere from the asphalt plant stack, any visible emissions that exhibit opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.304 and ARM 17.8.752).

3. Gillman shall not cause or authorize to be discharged into the atmosphere from systems for screening, handling, storing, and weighing hot aggregate; systems for loading, transferring, and storing mineral filler; systems for mixing hot-mix asphalt; and the loading, transfer, and storage systems associated with emission control systems, any visible emissions that exhibit opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.304 and ARM 17.8.752).
4. Gillman shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter (ARM 17.8.308).
5. Gillman shall treat all unpaved portions of the haul roads, access roads, parking lots, or the general plant area with water and/or chemical dust suppressant, as necessary, to maintain compliance with the reasonable precautions limitation in Section II.A.4 (ARM 17.8.752).
6. A baghouse for air pollution control, with a device to measure the pressure drop (magnehelic gauge, manometer, etc.) must be installed and maintained. Pressure drop must be measured in inches of water. Temperature indicators at the control device inlet and outlet must be installed and maintained. Pressure drop on the control device and temperature must be recorded daily and kept on site according to Section II.C.2 (ARM 17.8.749).
7. Once a stack test is performed, the asphalt plant production rate shall be limited to the average production rate during the last source test demonstrating compliance (ARM 17.8.749).
8. Total asphalt plant production shall not exceed 987,500 tons of asphalt during any rolling 12-month period (ARM 17.8.749 and ARM 17.8.1204).
9. The asphalt plant shall not exceed 3,950 hours of operation during any rolling 12-month time period (ARM 17.8.749 and ARM 17.8.1204).
10. If the permitted equipment is used in conjunction with any other equipment owned or operated by Gillman, at the same site, production shall be limited to correspond with an emission level that does not exceed 250 tons during any rolling 12-month time period. Any calculations used to establish production levels shall be approved by the Department (ARM 17.8.749).

B. Emission Testing

1. All source tests must be conducted in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).
2. The Department may require testing (ARM 17.8.105).

C. Reporting Requirements

1. If this asphalt plant is moved to another location, an Intent to Transfer form must be sent to the Department. In addition, a Public Notice Form for Change of Location must be published in a newspaper of general circulation in the area to which the transfer is to be made. This Change of Location notice must be published at least 15 days prior to the move. The Intent to Transfer form and the proof of publication (affidavit) of the Change of Location Form must be submitted to the Department prior to the move. These forms are available from the Department. Once the asphalt plant is moved to another location, the facility shall not operate in the new location for longer than one year (ARM 17.8.765).
2. Gillman shall maintain on-site records showing daily hours of operation, daily production rates, and daily pressure drop and temperature readings for the last 12 months. The records compiled in accordance with this permit shall be maintained by Gillman as a permanent business record for at least 5 years following the date of the measurement, shall be available for inspection by the Department, and shall be submitted to the Department upon request (ARM 17.8.749).
3. Gillman shall document, by month, the production from the asphalt plant. By the 25th day of each month, Gillman shall calculate the monthly production of asphalt during the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.8. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).
4. Gillman shall document, by month, the hours of operation of the asphalt plant. By the 25th day of each month, Gillman shall calculate the hours of operation for the asphalt plant for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.9. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).
5. Gillman shall supply the Department with annual production information for all emission points, as required by the Department in the annual emission inventory requires. The request will include, but not be limited to, all sources of emissions identified in the emission inventory contained in the permit analysis.

Production information shall be gathered on a calendar-year basis and submitted to the Department by the date required in the emission inventory request. Information shall be in the units required by the Department. This information may be used for calculating operating fees, and/or to verify compliance with permit limitations.

6. Gillman shall notify the Department of any construction or improvement project conducted, pursuant to ARM 17.8.745, that would include *the addition of a new emissions unit*, change in control equipment, stack height, stack diameter, stack flow, stack gas temperature, source location, or fuel specifications, or would result in an increase in source capacity above its permitted operation. The notice must be submitted to the Department, in writing, 10 days prior to startup or use of the proposed de minimis change, or as soon as reasonably practicable in the event of an unanticipated circumstance causing the de minimis change, and must include the information requested in ARM 17.8.745(l)(d) (ARM 17.8.745).
7. Gillman shall annually certify that its actual emissions are less than those that would require the source to obtain an air quality operating permit as required by ARM 17.8.1204(3)(b). The annual certification shall comply with the certification requirements of ARM 17.8.1207, and the annual certification shall be submitted with the annual emissions inventory information (ARM 17.8.749 and ARM 17.8.1204).

Section III: General Conditions

- A. Inspection – Gillman shall allow the Department's representatives access to the source at all reasonable times for the purpose of making inspections or surveys, collecting samples, obtaining data, auditing any monitoring equipment (Continuous Emissions Monitoring System (CEMS), Continuous Emissions Rate Monitoring System (CERMS)) or observing any monitoring or testing, and otherwise conducting all necessary functions related to this permit.
- B. Waiver – The permit and all the terms, conditions, and matters stated herein shall be deemed accepted if Gillman fails to appeal as indicated below.
- C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving Gillman of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided for in ARM 17.8.740, *et seq.* (ARM 17.8.756)
- D. Enforcement – Violations of limitations, conditions and requirements contained herein may constitute grounds for permit revocation, penalties or other enforcement as specified in Section 75-2-401, *et seq.*, MCA.
- E. Appeals – Any person or persons jointly or severally adversely affected by the Department's decision may request, within 15 days after the Department renders its decision, upon affidavit setting forth the grounds therefore, a hearing before the Board of Environmental Review (Board). A hearing shall be held under the provisions of the Montana Administrative Procedures Act. The filing of a request for a hearing does not stay the Department's decision, unless the Board issues a stay upon receipt of a petition and a finding that a stay is appropriate under Section 75-2-211(11)(b), MCA. The issuance of a stay on a permit by the Board postpones the effective date of the Department's decision until conclusion of the hearing and issuance of a final decision by the Board. If a stay is not issued by the Board, the Department's decision on the application is final 16 days after the Department's decision is made.

- F. Permit Inspection – As required by ARM 17.8.755, Inspection of Permit, a copy of the air quality permit shall be made available for inspection by Department personnel at the location of the permitted source.
- G. Air Quality Operation Fees – Pursuant to Section 75-2-220, MCA, failure to pay the annual operation fee by Gillman may be grounds for revocation of this permit, as required by that section and rules adopted thereunder by the Board.
- H. Duration of Permit – Construction or installation must begin or contractual obligations entered into that would constitute substantial loss within 3 years of permit issuance and proceed with due diligence until the project is complete or the permit shall expire (ARM 17.8.762).
- I. The Department may modify the conditions of this permit based on local conditions of any future site. These factors may include, but are not limited to, local terrain, meteorological conditions, proximity to residences, etc.
- J. Gillman shall comply with the conditions contained in this permit while operating in any location in Montana, except within those areas that have a Department-approved permitting program or areas considered tribal lands.

Montana Air Quality Permit (MAQP) Analysis
Jim Gillman Excavating, Inc.
MAQP #1198-04

I. Introduction/Process Description

A. Permitted Equipment

Jim Gillman Excavating, Inc. (Gillman) operates a portable asphalt drum-mix plant which includes, but is not limited to, the following equipment:

- 1970 Cedar Rapids rotary drum dryer-mix asphalt plant with a natural gas dryer burner (maximum capacity 250 tons per hour (TPH) of asphalt, limited to the maximum production rate during the most recent stack test). The asphalt plant and hydrated lime storage silo are controlled by a baghouse;
- 1994 Childer Asphalt heater (1.75 million British thermal units per hour (MM Btu/hr) natural gas);
- Aggregate handling equipment;
- Asphalt storage silo; and
- Associated equipment.

B. Process Description

A typical operation begins by loading the cold aggregate into bins where material is screened and conveyed to the rotary drum. Within the drum, the aggregate is completely dried and mixed with hot asphalt oil. A baghouse is used to control particulate emissions from the drum mixer. The asphalt mixture is loaded into a silo for storage or loaded directly into haul trucks and taken to the project site.

C. Permit History

On April 26, 1978, Gillman was issued **MAQP #1198-00** for the operation of a portable 1970 Cedar Rapids batch asphalt plant (maximum capacity 250 TPH) with an attached baghouse. The plant was initially located in Section 20, Township 3 North, Range 7 West, in Silver Bow County, Montana.

On October 28, 2000, the Department of Environmental Quality (Department) issued permit modification to update emission factors, update permit language, and establish the appropriate limitations and conditions to keep this facility below the Title V permitting threshold. **MAQP #1198-01** replaced MAQP #1198-00.

On March 9, 2007, the Department received a request from Gillman to administratively amend their permit to clarify that the permitted “associated equipment,” including the existing asphalt heater and generators, may be operated at the site. Gillman later requested to limit operations to maintain their synthetic minor status. The permit was also updated to reflect the current language used by the Department. **MAQP #1198-02** replaced MAQP #1198-01.

On February 18, 2011, the Department received a complete application from Gillman requesting a modification to MAQP #1198-02. Gillman requested that permit language specific to rating of diesel generators be changed from rated output of generator(s) in kilowatts (kW) to size of engine powering generator(s) in hp. The permit was also updated to reflect the current language used by the Department. **MAQP #1198-03** replaced MAQP #1198-02.

D. Current Permit Action

On April 23, 2015, the Department received a letter from Gillman requesting an amendment to MAQP #1198. Gillman requested that two diesel-fired generators be removed from their emissions inventory and that the permit language be updated to reflect the removal of the two diesel-fired generators. The permit was also updated to reflect the current language used by the Department. **MAQP #1198-04** replaces MAQP #1198-03.

E. Additional Information

Additional information, such as applicable rules and regulations, Best Available Control Technology (BACT)/Reasonably Available Control Technology (RACT) determinations, air quality impacts, and environmental assessments, is included in the analysis associated with each change to the permit.

II. Applicable Rules and Regulations

The following are partial explanations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the Administrative Rules of Montana (ARM) and are available, upon request, from the Department. Upon request, the Department will provide references for locations of complete copies of all applicable rules and regulations or copies where appropriate.

A. ARM 17.8, Subchapter 1, General Provisions, including, but not limited to:

1. ARM 17.8.101 Definitions. This rule is a list of applicable definitions used in this sub-chapter, unless indicated otherwise in a specific sub-chapter.
2. ARM 17.8.105 Testing Requirements. Any person or persons responsible for the emission of any air contaminant into the outdoor atmosphere shall, upon written request of the Department, provide the facilities and necessary equipment (including instruments and sensing devices) and shall conduct tests, emission or ambient, for such periods of time as may be necessary using methods approved by the Department.
3. ARM 17.8.106 Source Testing Protocol. The requirements of this rule apply to any emission source testing conducted by the Department, any source, or other entity as required by any rule in this chapter, or any permit or order issued pursuant to this chapter, or the provisions of the Clean Air Act of Montana, 75-2-101, *et seq.*, MCA.

Gillman shall comply with all requirements contained in the Montana Source Test Protocol and Procedures Manual, including, but not limited to, using the proper test methods and supplying the required reports. A copy of the Montana Source Test Protocol and Procedures Manual is available from the Department upon request.

4. ARM 17.8.110 Malfunctions. The Department must be notified promptly by telephone whenever a malfunction occurs that can be expected to create emissions in excess of any applicable emission limitation, or to continue for a period greater than 4 hours.
5. ARM 17.8.111 Circumvention. No person shall cause or permit the installation or use of any device or any means which, without resulting in reduction in the total amount of air contaminant emitted, conceals or dilutes an emission of air contaminant which would otherwise violate an air pollution control regulation. No equipment that may produce emissions shall be operated or maintained in such a manner that a public nuisance is created.

B. ARM 17.8, Subchapter 2, Ambient Air Quality, including, but not limited to:

1. ARM 17.8.210 Ambient Air Quality Standards for Sulfur Dioxide
2. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide
3. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide
4. ARM 17.8.213 Ambient Air Quality Standard for Ozone
5. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter
6. ARM 17.8.221 Ambient Air Quality Standard for Visibility
7. ARM 17.8.223 Ambient Air Quality Standard for PM₁₀

Gillman must comply with the applicable ambient air quality standards.

C. ARM 17.8, Subchapter 3, Emission Standards, including, but not limited to:

- A. ARM 17.8.304 Visible Air Contaminants. This rule states that no person may cause or authorize emissions to be discharged to an outdoor atmosphere from any source installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes.
- B. ARM 17.8.308 Particulate Matter, Airborne. (1) This rule requires an opacity limitation of less than 20% for all fugitive emission sources and that reasonable precautions be taken to control emissions of airborne Particulate Matter (PM). (2) Under this section, Gillman shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter.
- C. ARM 17.8.309 Particulate Matter, Fuel Burning Equipment. This section requires that no person shall cause, allow, or permit to be discharged into the atmosphere particulate matter caused by the combustion of fuel in excess of the amount determined by this section.

- D. ARM 17.8.310 Particulate Matter, Industrial Process. This section requires that no person shall cause, allow, or permit to be discharged into the atmosphere particulate matter in excess of the amount set forth in this section.
- E. ARM 17.8.322 Sulfur Oxide Emissions--Sulfur in Fuel. Commencing July 1, 1971, no person shall burn any gaseous fuel containing sulfur compounds in excess of 50 grains per 100 cubic feet of gaseous fuel, calculated as hydrogen sulfide at standard conditions.
- F. ARM 17.8.340 Standard of Performance for New Stationary Sources. This rule incorporates, by reference, 40 Code of Federal Regulations (CFR) 60, Standards of Performance for New Stationary Sources (NSPS). The owner or operator of any stationary source or modification, as defined and applied in 40 CFR Part 60, shall comply with the standards and provisions of 40 CFR Part 60.

Based on the information submitted by Gillman, the portable 1970 Cedar Rapids batch asphalt plant and associated equipment are not currently subject to NSPS (40 CFR Part 60) but modification or replacement could trigger the following:

- a. 40 CFR 60, Subpart A – General Provisions apply to all equipment or facilities subject to an NSPS Subpart as listed below:
- b. 40 CFR 60, Subpart I – Standards of Performance for Hot Mix Asphalt Facilities. Owners and operators of hot mix asphalt facilities that commence construction or modification after June 11, 1973, is subject to the requirements of this subpart. Based on the information submitted by Gillman, the portable 1970 Cedar Rapids batch asphalt plant and associated equipment are not currently subject to NSPS (40 CFR Part 60), Subpart I, Standards of Performance of Hot-Mix Asphalt Facilities. Subsequent modification or replacement of equipment could potentially alter the sources applicability to the provisions of this subpart.

- G. ARM 17.8.342 Emission Standards for Hazardous Air Pollutants for Source Categories. This rule incorporates, by reference, 40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Source Categories. This portable asphalt plant and associated equipment are not considered an NESHAP-affected facility under 40 CFR Part 63 because it does not meet any applicability criteria.

- D. ARM 17.8, Subchapter 5, Air Quality Permit Application, Operation and Open Burning Fees, including, but not limited to:
 - 1. ARM 17.8.504 Air Quality Permit Application Fees. Gillman shall submit an air quality permit application fee concurrent with the submittal of an air quality permit application. A permit application is incomplete until the proper application fee is paid to the Department. A permit fee is not required for the current permit action because the permit action is considered an administrative permit change.

2. ARM 17.8.505 Air Quality Operation Fees. An annual air quality operation fee must, as a condition of continued operation, be submitted to the Department by each source of air contaminants holding an air quality permit, excluding an open burning permit, issued by the Department. This air quality operation fee is based on the actual or estimated amount of air pollutants emitted during the previous calendar year.

An air quality operation fee is separate and distinct from an air quality permit application fee. The annual assessment and collection of the air quality operation fee, described above, shall take place on a calendar-year basis. The Department may insert into any final permit issued after the effective date of these rules, such conditions as may be necessary to require the payment of an air quality operation fee on a calendar-year basis, including provisions which pro-rate the required fee amount.

- E. ARM 17.8, Subchapter 7 – Permit, Construction, and Operation of Air Contaminant Sources, including, but not limited to:

1. ARM 17.8.740 Definitions. This rule is a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.
2. ARM 17.8.743 Montana Air Quality Permits--When Required. This rule requires a person to obtain an air quality permit or permit alteration to construct, alter or use any asphalt plant, crusher, or screen that has the Potential to Emit (PTE) greater than 15 tons per year of any pollutant. Gillman has a PTE greater than 15 tons per year of PM and particulate matter with an aerodynamic diameter of 10 microns or less (PM₁₀), nitrogen oxides (NO_x), volatile organic compounds (VOC), and carbon monoxide (CO); therefore, an air quality permit is required.
3. ARM 17.8.744 Montana Air Quality Permits--General Exclusions. This rule identifies the activities that are not subject to the Montana Air Quality Permit program.
4. ARM 17.8.745 Montana Air Quality Permits--Exclusion for De Minimis Changes. This rule identifies the de minimis changes at permitted facilities that do not require a permit under the Montana Air Quality Permit Program.
5. ARM 17.8.748 New or Modified Emitting Units--Permit Application Requirements. (1) This rule requires that a permit application be submitted prior to installation, alteration, or use of a source. A permit application was not required for the current permit action because the permit change is considered an administrative permit change. (7) This rule requires that the applicant notify the public by means of legal publication in a newspaper of general circulation in the area affected by the application for a permit. An affidavit of publication of public notice was not required for the current permit action because the permit change is considered an administrative permit change.

6. ARM 17.8.749 Conditions for Issuance or Denial of Permit. This rule requires that the permits issued by the Department must authorize the construction and operation of the facility or emitting unit subject to the conditions in the permit and the requirements of this subchapter. This rule also requires that the permit must contain any conditions necessary to assure compliance with the Federal Clean Air Act (FCAA), the Clean Air Act of Montana, and rules adopted under those acts.
7. ARM 17.8.752 Emission Control Requirements. This rule requires a source to install the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be utilized. The required BACT analysis is included in Section III of this permit analysis.
8. ARM 17.8.755 Inspection of Permit. This rule requires that air quality permits shall be made available for inspection by the Department at the location of the source.
9. ARM 17.8.756 Compliance with Other Requirements. This rule states that nothing in the permit shall be construed as relieving Gillman of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq.*
10. ARM 17.8.759 Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those permit applications that do not require the preparation of an environmental impact statement.
11. ARM 17.8.760 Additional Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those applications that require an environmental impact statement.
12. ARM 17.8.762 Duration of Permit. An air quality permit shall be valid until revoked or modified, as provided in this subchapter, except that a permit issued prior to construction of a new or altered source may contain a condition providing that the permit will expire unless construction is commenced within the time specified in the permit, which in no event may be less than one year after the permit is issued.
13. ARM 17.8.763 Revocation of Permit. An air quality permit may be revoked upon written request of the permittee, or for violations of any requirement of the Clean Air Act of Montana, rules adopted under the Clean Air Act of Montana, the FCAA, rules adopted under the FCAA, or any applicable requirement contained in the Montana State Implementation Plan (SIP).
14. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be amended for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack that do not result in an increase of emissions as a result of those changed conditions. The owner or operator of a facility may

not increase the facility's emissions beyond permit limits unless the increase meets the criteria in ARM 17.8.745 for a de minimis change not requiring a permit, or unless the owner or operator applies for and receives another permit in accordance with ARM 17.8.748, ARM 17.8.749, ARM 17.8.752, ARM 17.8.755, and ARM 17.8.756, and with all applicable requirements in ARM Title 17, Chapter 8, Subchapters 8, 9, and 10.

15. ARM 17.8.765 Transfer of Permit. (1) This rule states that an air quality permit may be transferred from one location to another if the Department receives a complete notice of Intent to Transfer location, the facility will operate in the new location for less than 1 year, the facility will comply with the FCAA and the Clean Air Act of Montana, and the facility complies with other applicable rules. (2) This rule states that an air quality permit may be transferred from one person to another if written notice of Intent to Transfer, including the names of the transferor and the transferee, is sent to the Department.

F. ARM 17.8, Subchapter 8, Prevention of Significant Deterioration of Air Quality, including, but not limited to:

1. ARM 17.8.801 Definitions. This rule is a list of applicable definitions used in this subchapter.
2. ARM 17.8.818 Review of Major Stationary Sources and Major Modifications--Source Applicability and Exemptions. The requirements contained in ARM 17.8.819 through ARM 17.8.827 shall apply to any major stationary source and any major modification with respect to each pollutant subject to regulation under the Federal Clean Air Act (FCAA) that it would emit, except as this sub-chapter would otherwise allow.

This facility is not a major stationary source because it is not listed and does not have the potential to emit 250 tons per year or more (excluding fugitive emissions) of any air pollutant.

G. ARM 17.8, Sub-Chapter 12, Operating Permit Program Applicability, including, but not limited to:

1. ARM 17.8.1201 Definitions. (23) Major Source under Section 7412 of the FCAA is defined as any stationary source having:
 - a. PTE > 100 tons/year of any pollutant
 - b. PTE > 10 tons/year of any one Hazardous Air Pollutant (HAP), PTE > 25 tons/year of a combination of all HAPs, or lesser quantity as the Department may establish by rule
 - c. Sources with the PTE > 70 tons/year of PM₁₀ in a serious PM₁₀ non-attainment area

2. ARM 17.8.1204 Air Quality Operating Permit Program Applicability. Title V of the FCAA Amendments of 1990 requires that all sources, as defined in ARM 17.8.1204 (1), obtain a Title V Operating Permit. In reviewing and issuing MAQP #1198-03 for Gillman, the following conclusions were made:

- a. Federally-enforceable permit operating limits maintain the facility's PTE less than 100 tons/years for any pollutant.
- b. The facility's PTE is less than 10 tons/year of any one HAP and less than 25 tons/year of all HAPs.
- c. This source is not located in a serious PM₁₀ nonattainment area.
- d. This facility is not subject to a current NSPS.
- e. This facility is not subject to a current NESHAP.
- f. This source is not a Title IV affected source or a solid waste combustion unit.
- g. This source is not an EPA designated Title V source.

Gillman requested federally-enforceable permit limitations to remain a minor source of emissions with respect to Title V. Based on these limitations, the Department determined that this facility is not subject to the Title V Operating Permit Program.

- h. ARM 17.8.1204(3). The Department may exempt a source from the requirement to obtain an air quality operating permit by establishing federally enforceable limitations which limit that source's PTE.
 - i. In applying for an exemption under this section the owner or operator of the facility shall certify to the Department that the source's PTE does not require the source to obtain an air quality operating permit.
 - ii. Any source that obtains a federally enforceable limit on PTE shall annually certify that its actual emissions are less than those that would require the source to obtain an air quality operating permit.

H. ARM 17.8.1207 Certification of Truth, Accuracy, and Completeness. The compliance certification submittal required by ARM 17.8.1204(3) shall contain a certification of truth, accuracy, and completeness by a responsible official. This certification and any other certification required under this subchapter shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

III. Best Available Control Technology

A BACT determination is required for each new or altered source. Gillman shall install on the new or altered source the maximum air pollution control capability which is technically practicable and economically feasible, except that BACT shall be utilized.

A BACT determination was not required for the current permit action because the permit change is considered an administrative permit change.

IV. Emission Inventory

Emission Source	Emissions Tons/Year [PTE]						
	PM	PM ₁₀	PM _{2.5}	CO	NO _x	SO ₂	VOC
Rotary Drum Mix Asphalt Plant w/ Baghouse ^(a)	43.25	30.27	30.27	64.19	12.84	1.68	15.80
1994 Childer Asphalt Heater	0.03	0.03	0.03	0.28	0.34	0.002	0.02
Aggregate Handling & Storage Piles	3.38	1.60	0.24				
Aggregate Screening & Conveying	2.31	0.78	0.51				
Lime Silo transfer & Conveying	0.04	0.04	0.04				
Asphalt Storage (Silo Filling)	0.29	0.29	0.29	0.58			6.02
Asphalt Load-Out	0.26	0.26	0.26	0.67			2.05
Unpaved Roadways	10.98	3.03	0.30				
TOTAL EMISSIONS >	60.45	36.29	31.94	65.72	13.17	1.68	23.89

a. Emission Inventory reflects enforceable limits on [hours of operation] to keep allowable emissions below the Title V threshold AND 80 tpy.

CO, carbon monoxide
 NO_x, oxides of nitrogen
 PM, particulate matter
 PM₁₀, particulate matter with an aerodynamic diameter of 10 microns or less
 PM_{2.5}, particulate matter with an aerodynamic diameter of 2.5 microns or less
 SO₂, oxides of sulfur
 TPY, tons per year
 VOC, volatile organic compounds

1970 Cedar Rapids Rotary Drum Dryer-Mix Asphalt Plant with Baghouse (SCC 3-05-002-55)

Production Rate: 250 Tons/Hour (Maximum) 2190000 tons/year (Maximum)
 987500 tons/year (Restricted Maximum)

Operating Schedule: 3950 Hours/Year (Restricted Maximum)

Dryer fuel Configuration: Natural Gas
Note: Asphalt Plant May Operate On Utility/ commercial Power

Stack Test Data: [October 5, 2006]
 Air Flow[Volume] 25547 dscfm
 Stack Test Results 0.037 gr/dscf

Test Throughput
Demonstrated 150 tons/hour

Particulate Emissions: Permit Limit

PM Emissions (controlled):

Emission Rate	0.10 gr/dscf [Permit Limit]		
Calculations	$(0.1 \text{ gr/dscf}) * (25547 \text{ dscfm}) * (60 \text{ min/hr}) * (0.000143 \text{ lb/gr}) =$	21.90 lbs/hr	
	$(21.90 \text{ lbs/hr}) * (3950 \text{ hrs/yr}) * (0.0005 \text{ tons/lb}) =$	43.25 TPY	

PM₁₀ Emissions (controlled):

Emission Rate	0.07 gr/dscf [70% PM ₁₀ to PM, AP-42 Table 11.1-3, 3/04]		
Calculations	$(0.07 \text{ gr/dscf}) * (25547 \text{ dscfm}) * (60 \text{ min/hr}) * (0.000143 \text{ lb/gr}) =$	15.33 lbs/hr	
	$(15.33 \text{ lbs/hr}) * (3950 \text{ hrs/yr}) * (0.0005 \text{ tons/lb}) =$	30.27 TPY	

PM_{2.5} Emissions (controlled):

Emission Rate	0.07 gr/dscf [70% PM ₁₀ to PM, AP-42 Table 11.1-3, 3/04]		
Calculations	$(0.07 \text{ gr/dscf}) * (25547 \text{ dscfm}) * (60 \text{ min/hr}) * (0.000143 \text{ lb/gr}) =$	15.33 lbs/hr	
	$(15.33 \text{ lbs/hr}) * (3950 \text{ hrs/yr}) * (0.0005 \text{ tons/lb}) =$	30.27 TPY	

Particulate Emissions: Emission Factor Determination

PM Emissions (controlled):

Emission Rate	0.033 lbs/ton Processed [AP-42 Table 11.1-3, 3/04]		
Calculations	$(0.033 \text{ lbs/ton}) * (250 \text{ tons/hour}) =$	8.25 lbs/hr	
	$(8.25 \text{ lbs/hr}) * (3950 \text{ hours/year}) * (0.0005 \text{ tons/lbs}) =$	16.29 TPY	

PM₁₀ Emissions (controlled):

Emission Rate	0.023 lbs/ton Processed [AP-42 Table 11.1-3, 3/04]		
Calculations	$(0.023 \text{ lbs/ton}) * (250 \text{ tons/hour}) =$	5.75 lbs/hr	
	$(5.75 \text{ lbs/hr}) * (3950 \text{ hours/year}) * (0.0005 \text{ tons/lbs}) =$	11.36 TPY	

PM_{2.5} Emissions (controlled):

Emission Rate	0.023 lbs/ton Processed [AP-42 Table 11.1-3, 3/04]		
Calculations	$(0.023 \text{ lbs/ton}) * (250 \text{ tons/hour}) =$	5.75 lbs/hr	
	$(5.75 \text{ lbs/hr}) * (3950 \text{ hours/year}) * (0.0005 \text{ tons/lbs}) =$	11.36 TPY	

CO Emissions:

Emission Factor	0.13 lbs/ton processed [AP-42 Table 11.1-7, 3/04]		
Calculations	$(0.13 \text{ lbs/ton}) * (250 \text{ tons/hr}) =$	32.50 lbs/hr	
	$(32.50 \text{ lbs/hr}) * (3950 \text{ hrs/yr}) * (0.0005 \text{ tons/lb}) =$	64.19 TPY	

NO_x Emissions:

Emission Factor	0.026 lbs/ton processed [AP-42 Table 11.1-7, 3/04]		
Calculations	$(0.026 \text{ lbs/ton}) * (250 \text{ tons/hr}) =$	6.50 lbs/hr	
	$(6.50 \text{ lbs/hr}) * (3950 \text{ hrs/yr}) * (0.0005 \text{ tons/lb}) =$	12.84 TPY	

SO₂ Emissions:

Emission Factor	0.0034 lbs/ton processed	[AP-42 Table 11.1-7, 3/04]	
Calculations	$(0.0034 \text{ lbs/ton}) * (250 \text{ tons/hr}) =$		0.85 lbs/hr
	$(0.85 \text{ lbs/hr}) * (3950 \text{ hrs/yr}) * (0.0005 \text{ tons/lb}) =$		1.68 TPY

VOC Emissions:

Emission Factor	0.032 lbs/ton processed	[AP-42 Table 11.1-7, 3/04]	
Calculations	$(0.032 \text{ lbs/ton}) * (250 \text{ tons/hr}) =$		8.00 lbs/hr
	$(8.00 \text{ lbs/hr}) * (3950 \text{ hrs/yr}) * (0.0005 \text{ tons/lb}) =$		15.80 TPY

1994 Childer Asphalt Heater (SSC 3-05-002-06)

Burner Firing Rate: 1.75 MMBtu/hr

Operating Hours: 3950 hrs/year

Fuel Type: Natural Gas

Particulate Emissions:

PM Emissions:

Emission Factor	0.0075 lbs/MMBtu	[AP-42 Table 1.4-2, 7/98]	
Calculations	$(0.0075 \text{ lbs/MMBtu}) * (1.75 \text{ MMBtu/hr}) =$		0.013 lbs/hr
	$(0.013 \text{ lbs/hr}) * (3950 \text{ hrs/yr}) * (0.0005 \text{ tons/lb}) =$		0.03 TPY

PM₁₀ Emissions:

Emission Factor	0.0075 lbs/MMBtu	[AP-42 Table 1.4-2, 7/98]	
Calculations	$(0.0075 \text{ lbs/MMBtu}) * (1.75 \text{ MMBtu/hr}) =$		0.013 lbs/hr
	$(0.013 \text{ lbs/hr}) * (3950 \text{ hrs/yr}) * (0.0005 \text{ tons/lb}) =$		0.03 TPY

PM_{2.5} Emissions:

Emission Factor	0.0075 lbs/MMBtu	[AP-42 Table 1.4-2, 7/98]	
Calculations	$(0.0075 \text{ lbs/MMBtu}) * (1.75 \text{ MMBtu/hr}) =$		0.013 lbs/hr
	$(0.013 \text{ lbs/hr}) * (3950 \text{ hrs/yr}) * (0.0005 \text{ tons/lb}) =$		0.03 TPY

CO Emissions:

Emission Factor	0.082 lbs/MMBtu	[AP-42 Table 1.4-1, 7/98]	
Calculations	$(0.082 \text{ lbs/MMBtu}) * (1.75 \text{ MMBtu/hr}) =$		0.14 lbs/hr
	$(0.14 \text{ lbs/hr}) * (3950 \text{ hrs/yr}) * (0.0005 \text{ tons/lb}) =$		0.28 TPY

NO_x Emissions:

Emission Factor 0.098 lbs/MMBtu [AP-42 Table 1.4-1, 7/98]
 Calculations $(0.098 \text{ lbs/MMBtu}) * (1.75 \text{ MMBtu/hr}) = 0.17 \text{ lbs/hr}$
 $(0.17 \text{ lbs/hr}) * (3950 \text{ hrs/yr}) * (0.0005 \text{ tons/lb}) = 0.34 \text{ TPY}$

SO₂ Emissions:

Emission Factor 0.00059 lbs/MMBtu [AP-42 Table 1.4-2, 7/98]
 Calculations $(0.00059 \text{ lbs/MMBtu}) * (1.75 \text{ MMBtu/hr}) = 0.001 \text{ lbs/hr}$
 $(0.001 \text{ lbs/hr}) * (3950 \text{ hrs/yr}) * (0.0005 \text{ tons/lb}) = 0.002 \text{ TPY}$

VOC Emissions:

Emission Factor 0.0054 lbs/MMBtu [AP-42 Table 1.4-2, 7/98]
 Calculations $(0.0054 \text{ lbs/MMBtu}) * (1.75 \text{ MMBtu/hr}) = 0.009 \text{ lbs/hr}$
 $(0.009 \text{ lbs/hr}) * (3950 \text{ hrs/yr}) * (0.0005 \text{ tons/lb}) = 0.019 \text{ TPY}$

Aggregate Handling & Storage Piles (Pile Load-In / Load-Out to Aggregate Bins)

Process Rate: 250 tons/hour
 Number of Piles: 2 piles
 Operating Hours: 3950 hour/year

Particulate Emissions:

Emission Factor $EF = k (0.0032) * [(U/5)^{1.3} / (M / 2)^{1.4}]$ [AP-42 13.2.4, 11/06]

where: EF, Emission Factor = lbs Emitted / ton Processed

k, Dimensionless Particle Size Multiplier PM₁₀ = 0.74 [AP-42 13.2.4, 11/06]
 k, Dimensionless Particle Size Multiplier PM_{2.5} = 0.35 [AP-42 13.2.4, 11/06]
 k, Dimensionless Particle Size Multiplier PM_{2.5} = 0.053 [AP-42 13.2.4, 11/06]
 U, Mean Wind Speed (mph) = 7.0 [ASOS Data Butte, MT]
 M, Material Moisture Content (%) = 2.1 [AP-42 13.2.4-1, 11/06]

PM Emissions:

Emission Factor $EF = 0.74(0.0032) * [(7.0/5)^{1.3} / (2.1 / 2)^{1.4}] = 0.0034 \text{ lbs/ton}$
 Calculations $(0.0034 \text{ lbs/ton}) * (250 \text{ tons/hr}) * (2 \text{ pile}) = 1.71 \text{ lbs/hr}$
 $(1.71 \text{ lbs/hr}) * (3950 \text{ hrs/year}) * (0.0005 \text{ lbs/ton}) = 3.38 \text{ TPY}$

PM₁₀ Emissions:

Emission Factor	$EF = 0.35(0.0032) * (7.0/5)^{1.3} * (2.1 / 2)^{1.4} =$	0.0016 lbs/ton	
Calculations	$(0.0016 \text{ lbs/ton}) * (250 \text{ tons/hr}) * (2 \text{ Pile}) =$		0.81 lbs/hr
	$(0.81 \text{ lbs/hr}) * (3950 \text{ hrs/year}) * (0.0005 \text{ lbs/ton}) =$		1.60 TPY

PM_{2.5} Emissions:

Emission Factor	$EF = 0.053(0.0032) * (7.0/5)^{1.3} * (2.1 / 2)^{1.4} =$	0.0002 lbs/ton	
Calculations	$(0.0002 \text{ lbs/ton}) * (250 \text{ tons/hr}) * (2 \text{ Pile}) =$		0.12 lbs/hr
	$(0.12 \text{ lbs/hr}) * (3950 \text{ hrs/year}) * (0.0005 \text{ lbs/ton}) =$		0.24 TPY

Aggregate Screening & Conveying (SCC 3-05-020-02 & 3-05-020-06)

Process Rate: 250 tons/hour
 Number of Transfers: 2 Transfers
 Operating Hours: 3950 hours/year

PM Emissions (controlled):

Emission Factor	0.0023 lbs/ton transferred [AP-42 Table 11.19.2-2, 8/04]	
Calculations	$(0.0023 \text{ lbs/ton}) * (250 \text{ tons/hr}) * (2 \text{ Transfers}) =$	1.17 lbs/hr
	$(1.17 \text{ lbs/hr}) * (3950 \text{ hrs/year}) * (0.0005 \text{ lbs/ton}) =$	2.31 TPY

PM₁₀ Emissions (controlled):

Emission Factor	0.0008 lbs/ton transferred [AP-42 Table 11.19.2-2, 8/04]	
Calculations	$(0.0008 \text{ lbs/ton}) * (150 \text{ tons/hr}) * (2 \text{ Transfers}) =$	0.39 lbs/hr
	$(0.39 \text{ lbs/hr}) * (3950 \text{ hrs/year}) * (0.0005 \text{ lbs/ton}) =$	0.78 TPY

PM_{2.5} Emissions (controlled):

Emission Factor	0.0005 lbs/ton transferred [AP-42 Table 11.19.2-2, 8/04]	
Calculations	$(0.0005 \text{ lbs/ton}) * (150 \text{ tons/hr}) * (2 \text{ transfers}) =$	0.26 lbs/hr
	$(0.26 \text{ lbs/hr}) * (3950 \text{ hrs/year}) * (0.0005 \text{ lbs/ton}) =$	0.51 TPY

Lime Silo Product transfer & Conveying (SCC 3-05-016-24)

Process Rate: 250 tons/hour
 Operating Hours: 3950 hours/year

Particulate Emissions:

PM Emissions (controlled):

Emission Factor	0.000088 lbs/ton material transferred	[AP-42 Table 11.17-4, 2/98]	
Calculations	(0.000088 lbs/ton) * (250 tons/hr) =		0.022 lbs/hr
	(0.02 lbs/hr) * (3950 hrs/year) * (0.0005 lbs/ton) =		0.04 TPY

PM₁₀ Emissions (controlled):

Emission Factor	0.000088 lbs/ton material transferred	[AP-42 Table 11.17-4, 2/98]	
Calculations	(0.000088 lbs/ton) * (250 tons/hr) =		0.022 lbs/hr
	(0.02 lbs/hr) * (3950 hrs/year) * (0.0005 lbs/ton) =		0.04 TPY

PM_{2.5} Emissions (controlled):

Emission Factor	0.000088 lbs/ton material transferred	[AP-42 Table 11.17-4, 2/98]	
Calculations	(0.000088 lbs/ton) * (250 tons/hr) =		0.02 lbs/hr
	(0.02 lbs/hr) * (3950 hrs/year) * (0.0005 lbs/ton) =		0.04 TPY

Asphalt Storage & Silo Filling (SCC 3-05-002-13)

Process Rate: 250 tons/hour
 Operating
 Schedule: 3950 tons/year

Particulate Emissions:

Emission Factor	$EF = 0.000332 + 0.00105(-V)^{e((0.0251)(T+460)-20.43)}$	[AP-42 Table 11.1-14, 3/04]	
where:	EF, Emission Factor = lbs emitted / ton HMA produced		
	V, Asphalt Volatility = -0.05 [Default value AP-42 Table 11.1-14, 3/04]		
	T, HMA temperature = 325°F [Default value AP-42 Table 11.1-14, 3/04]		

PM Emissions:

Emission Factor	$EF = 0.000332 + 0.00105 * (0.05) * e^{((0.0251) * (325 + 460) - 20.43)}$		0.00059 lbs/ton HMA
Calculations	(0.00059 lbs/ton) * (250 tons/hr) =		0.15 lbs/hr
	(0.15 lbs/hr) * (3950 tons/year) * (0.0005 lbs/ton) =		0.29 TPY

PM₁₀ Emissions:

Emission Factor	$EF = 0.000332 + 0.00105 * (0.05) * e^{((0.0251) * (325 + 460) - 20.43)}$		0.00059 lbs/ton HMA
Calculations	(0.00059 lbs/ton) * (250 tons/hr) =		0.15 lbs/hr
	(0.15 lbs/hr) * (3950 tons/year) * (0.0005 lbs/ton) =		0.29 TPY

PM_{2.5} Emissions:

Emission Factor	$EF = 0.000332 + 0.00105 * (0.05) * e^{((0.0251) * (325 + 460) - 20.43)}$	
Calculations	$(0.00059 \text{ lbs/ton}) * (250 \text{ tons/hr}) =$	0.00059 lbs/ton HMA
	$(0.15 \text{ lbs/hr}) * (3950 \text{ tons/year}) * (0.0005 \text{ lbs/ton}) =$	0.15 lbs/hr
		0.29 TPY

CO Emissions:

Emission Factor	$EF = 0.00488(-V)^{e^{((0.0251)(T+460)-20.43)}}$	[AP-42 Table 11.1-14, 3/04]
where:	EF, Emission Factor = lbs Emitted / ton Processed	
	V, Asphalt Volatility = -0.05 [Default value AP-42 Table 11.1-14, 3/04]	
	T, HMA temperature = 325°F [Default value AP-42 Table 11.1-14, 3/04]	

CO Emissions:

Emission Factor	$EF = 0.00488 * (0.05) * e^{((0.0251) * (325 + 460) - 20.43)}$	0.0012 lbs/ton HMA
Calculations	$(0.0012 \text{ lbs/ton}) * (250 \text{ tons/hr}) =$	0.29 lbs/hr
	$(0.29 \text{ lbs/hr}) * (3950 \text{ tons/year}) * (0.0005 \text{ lbs/ton}) =$	0.58 TPY

VOC Emissions:

Emission Factor	$EF = 0.0504(-V)^{e^{((0.0251)(T+460)-20.43)}}$	[AP-42 Table 11.1-14, 3/04]
where:	EF, Emission Factor = lbs Emitted / ton Processed	
	V, Asphalt Volatility = -0.05 [Default value AP-42 Table 11.1-14, 3/04]	
	T, HMA temperature = 325°F [Default value AP-42 Table 11.1-14, 3/04]	

VOC Emissions:

Emission Factor	$EF = 0.0504 * (0.05) * e^{((0.0251) * (325 + 460) - 20.43)}$	0.0122 lbs/ton HMA
Calculations	$(0.0122 \text{ lbs/ton}) * (250 \text{ tons/hr}) =$	3.05 lbs/hr
	$(3.05 \text{ lbs/hr}) * (3950 \text{ tons/year}) * (0.0005 \text{ lbs/ton}) =$	6.02 TPY

Asphalt Plant Load-Out (SCC 3-05-002-14)

Process Rate: 250 tons/hour
 Operating Schedule: 3950 hours/year

Particulate Emissions:

Emission Factor $EF = 0.000181 + 0.00141(-V)e^{((0.0251)(T+460)-20.43)}$ [AP-42 Table 11.1-14, 3/04]
 where: EF, Emission Factor = lbs emitted / ton HMA produced
 V, Asphalt Volatility = -0.05 [Default value AP-42 Table 11.1-14, 3/04]
 T, HMA temperature = 325°F [Default value AP-42 Table 11.1-14, 3/04]

PM Emissions:

Emission Factor $EF = 0.000181 + 0.00141 * (0.05) * e^{((0.0251) * (325 + 460) - 20.43)}$ = 0.00052 lbs/ton HMA
 Calculations $(0.00052 \text{ lbs/ton}) * (250 \text{ tons/hr}) = 0.13 \text{ lbs/hr}$
 $(0.13 \text{ lbs/hr}) * (3950 \text{ tons/year}) * (0.0005 \text{ lbs/ton}) = 0.26 \text{ TPY}$

PM₁₀ Emissions:

Emission Factor $EF = 0.000181 + 0.00141 * (0.05) * e^{((0.0251) * (325 + 460) - 20.43)}$ = 0.00052 lbs/ton HMA
 Calculations $(0.00052 \text{ lbs/ton}) * (250 \text{ tons/hr}) = 0.13 \text{ lbs/hr}$
 $(0.13 \text{ lbs/hr}) * (3950 \text{ tons/year}) * (0.0005 \text{ lbs/ton}) = 0.26 \text{ TPY}$

PM_{2.5} Emissions:

Emission Factor $EF = 0.000181 + 0.00141 * (0.05) * e^{((0.0251) * (325 + 460) - 20.43)}$ = 0.00052 lbs/ton HMA
 Calculations $(0.00052 \text{ lbs/ton}) * (250 \text{ tons/hr}) = 0.13 \text{ lbs/hr}$
 $(0.13 \text{ lbs/hr}) * (3950 \text{ tons/year}) * (0.0005 \text{ lbs/ton}) = 0.26 \text{ TPY}$

CO Emissions:

Emission Factor $EF = 0.00558(-V)e^{((0.0251)(T+460)-20.43)}$ [AP-42 Table 11.1-14, 3/04]
 where: EF, Emission Factor = lbs Emitted / ton Processed
 V, Asphalt Volatility = -0.05 [Default value AP-42 Table 11.1-14, 3/04]
 T, HMA temperature = 325°F [Default value AP-42 Table 11.1-14, 3/04]

CO Emissions:

Emission Factor $EF = 0.00558 * (0.05) * e^{((0.0251) * (325 + 460) - 20.43)}$ = 0.00135 lbs/ton HMA
 Calculations $(0.00135 \text{ lbs/ton}) * (250 \text{ tons/hr}) = 0.34 \text{ lbs/hr}$
 $(0.34 \text{ lbs/hr}) * (3950 \text{ tons/year}) * (0.0005 \text{ lbs/ton}) = 0.67 \text{ TPY}$

VOC Emissions:

Emission Factor $EF = 0.0172(-V)^{e((0.0251)(T+460)-20.43)}$ [AP-42 Table 11.1-14, 3/04]

where: EF, Emission Factor = lbs Emitted / ton Processed
 V, Asphalt Volatility = -0.05 [Default value AP-42 Table 11.1-14, 3/04]
 T, HMA temperature = 325°F [Default value AP-42 Table 11.1-14, 3/04]

VOC Emissions:

Emission Factor $EF = 0.0172 * (0.05) * e((0.0251) * (325 + 460) - 20.43) = 0.00416$ lbs/ton HMA

Calculations $(0.00416 \text{ lbs/ton}) * (250 \text{ tons/hr}) = 1.04$ lbs/hr
 $(1.04 \text{ lbs/hr}) * (3950 \text{ tons/year}) * (0.0005 \text{ lbs/ton}) = 2.05$ TPY

Unpaved Roadways

Particulate Emissions:

Emission Factor $EF = k(s/12)^a * (W/3)^b$ [AP-42 13.2.2, 11/06]

where: EF, Emission Factor = lbs Emitted Per Vehicle Mile Traveled (VMT)
 k, Empirical Constant PM = 4.9 [AP-42 Table 13.2.2-2, 11/06]
 k, Empirical Constant PM₁₀ = 1.5 [AP-42 Table 13.2.2-2, 11/06]
 k, Empirical Constant PM_{2.5} = 0.15 [AP-42 Table 13.2.2-2, 11/06]
 s, Surface Material Silt Content (%) = 7.1 [AP-42 Table 13.2.2-1, 11/06]
 W, Mean Vehicle Weight (tons) = 50 [Gillman Provided Data]
 a, Empirical Constant PM = 0.7 [AP-42 Table 13.2.2-2, 11/06]
 a, Empirical Constant PM₁₀ / PM_{2.5} = 0.9 [AP-42 Table 13.2.2-2, 11/06]
 b, Empirical Constant PM - PM_{2.5} = 0.45 [AP-42 Table 13.2.2-2, 11/06]

PM Emissions:

Emission Factor $EF = 4.9 * (7.1/12)^{0.7} * (50/3)^{0.45} = 12.04$ lbs/VMT

Calculations $(12.04 \text{ lbs/VMT}) * (5 \text{ miles/day}) = 60.18$ lbs/day
 $(60.18 \text{ lbs/day}) * (365 \text{ days/yr}) * (0.0005 \text{ tons/lb}) = 10.98$ TPY

YES	NO	
		5a. Is there a reasonable, specific connection between the government requirement and legitimate state interests?
		5b. Is the government requirement roughly proportional to the impact of the proposed use of the property?
	X	6. Does the action have a severe impact on the value of the property? (consider economic impact, investment-backed expectations, character of government action)
	X	7. Does the action damage the property by causing some physical disturbance with respect to the property in excess of that sustained by the public generally?
	X	7a. Is the impact of government action direct, peculiar, and significant?
	X	7b. Has government action resulted in the property becoming practically inaccessible, waterlogged or flooded?
	X	7c. Has government action lowered property values by more than 30% and necessitated the physical taking of adjacent property or property across a public way from the property in question?
	X	Takings or damaging implications? (Taking or damaging implications exist if YES is checked in response to question 1 and also to any one or more of the following questions: 2, 3, 4, 6, 7a, 7b, 7c; or if NO is checked in response to questions 5a or 5b; the shaded areas)

Based on this analysis, the Department determined there are no taking or damaging implications associated with this permit action.

IX. Environmental Assessment

This permitting action will not result in an increase of emissions from the facility and is considered an administrative action; therefore, an environmental assessment is not required.

Analysis Prepared By: John P. Proulx
Date: May 7, 2015