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February 24, 2012

Mr. Jeremiah Bowser  
Helena Sand & Gravel, Inc.  
P.O. Box 5960  
Helena, MT 59604-5960

Dear Mr. Bowser:

Montana Air Quality Permit #2673-06 is deemed final as of February 24, 2012, by the Department of Environmental Quality (Department). This permit is for a portable crushing screening operation. 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,

Vickie Walsh  
Air Permitting Program Supervisor  
Air Resources Management Bureau  
(406) 444-9741

Stephen Coe P.E.  
Environmental Engineer  
Air Resources Management Bureau  
(406) 782-2689 x209

VW:SC

Enclosure

cc: Pat Drynan – Helena Sand and Gravel Inc.

Montana Department of Environmental Quality  
Permitting and Compliance Division

Montana Air Quality Permit #2673-06

Helena Sand & Gravel, Inc.  
P.O. Box 5960  
Helena, MT 59604-5960

February 24, 2012



## MONTANA AIR QUALITY PERMIT

Issued To: Helena Sand & Gravel  
P.O. Box 5960  
Helena, Montana 59604

Permit #2673-06  
Administrative Amendment (AA)  
Request Received: 01/09/2012  
Department Decision Issued: 02/08/2012  
Permit Final: 02/24/12  
AFS Number: 777-2673

An air quality permit is hereby granted to Helena Sand & Gravel (HSG) pursuant to Sections 75-2-204 and 211 of the Montana Codes Annotated (MCA), as amended, and Administrative Rules of Montana (ARM) 17.8.740 *et seq.*, as amended, for the following:

### Section I: Permitted Facilities

#### A. Plant Location

HSG operates a portable crushing/screening facility that moves to various locations throughout Montana. Permit #2673-06 applies while operating at any location in Montana, except within those areas having a Department of Environmental Quality (Department) approved permitting program or those areas considered tribal lands. *A Missoula County air quality permit will be required for locations within Missoula County.* Addendum #1 applies to the Helena Sand & Gravel facility while operating at any location in or within 10 kilometers (km) of certain particulate matter with an aerodynamic of 10 microns or less (PM<sub>10</sub>) nonattainment areas during the summer months (April 1- September 30) and at sites approved by the Department during the winter months (October 1 – March 31), including the initial site location at Section 19, Township 10 North, Range 2 West, in Lewis and Clark County, Montana. A complete list of permitted equipment is contained in Section I.A. of the permit analysis.

#### B. Current Permit Action

On January 9, 2012 HSG submitted an application for administrative amendment under the Department's S source project, indicating HSG's participation in the program as described within Section I.D of the permit analysis. HSG's MAQP was amended to incorporate limits and conditions to maintain allowable emissions below 80 tons per year (tpy). In addition, the permit updates the rule references, permit format, and the emissions inventory.

### Section II: Limitations and Conditions

#### A. Emission Limitations

1. All visible emissions from any Standards of Performance for New Stationary Source (NSPS) – affected crusher shall not exhibit an opacity in excess of the following averaged over 6 consecutive minutes (ARM 17.8.340 and 40 CFR 60, Subpart OOO):
  - For crushers that commence construction, modification, or reconstruction on or after April 22, 2008: 12% opacity
  - For crushers that commence construction, modification, or reconstruction after August 31, 1983, but before April 22, 2008: 15% opacity

2. All visible emission from any other NSPS-affected equipment (such as screens and conveyors) shall not exhibit an opacity in excess of the following averaged over 6 consecutive minutes. (ARM 17.8.340, ARM 17.8.752, and 40 CFR 60, Subpart OOO).
  - For equipment that commence construction, modification, or reconstruction on or after April 22, 2008: 7% opacity
  - For equipment that commence construction, modification, or reconstruction after August 31, 1983 but before April 22, 2008: 10% opacity
3. All visible emissions from any non-NSPS affected equipment shall not exhibit an opacity of 20% or greater averaged over 6-consecutive minutes (ARM 17.8.304).
4. Water spray bars, water, and/or chemical dust suppressant shall be available on site at all times and operated as necessary to maintain compliance with the opacity limitations in Sections II.A.1, II.A.2, and II.A.3 (ARM 17.8.749 and ARM 17.8.752).
5. HSG 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).
6. HSG 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.5 (ARM 17.8.749).
7. HSG shall not operate more than three (3) crushers at any given time and the maximum combined rated design capacity of the crushers shall not exceed 1,100 tons per hour (TPH) (ARM 17.8.749).
8. HSG shall not operate more than three (3) screens at any given time and the maximum combined rated design capacity of the screens shall not exceed 1,300 TPH (ARM 17.8.749).
9. HSG shall not operate more than one (1) diesel engine/generator at any given time and the maximum rated capacity shall not exceed 1,495 horsepower (hp) and shall not exceed 4,350 hours 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 Helena Sand & Gravel, at the same site, production shall be limited to correspond with an emission level that does not exceed 250 tons/year during any rolling 12-month time period. Any calculations used to establish production levels shall be approved by the Department (ARM 17.8.749).
11. HSG shall comply with all applicable standards and limitations, and the reporting, record keeping, and notification requirements contained in 40 CFR Part 60, Subpart OOO, for the crushing/screening plant (ARM 17.8.340 and 40 CFR 60, Subpart OOO).

12. HSG shall comply with all applicable standards and limitations, and the reporting, recordkeeping, and notification requirements contained in 40 CFR 60, Subpart IIII - *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (CI ICE)* and 40 CFR 63, Subpart ZZZZ, *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*, for any applicable diesel engine (ARM 17.8.340; 40 CFR 60, Subpart IIII; ARM 17.8.342 and 40 CFR 63, Subpart ZZZZ).

B. Emissions Testing Requirements

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

C. Operational Reporting Requirements

1. If this crushing/screening plant is moved to another location, an Intent to Transfer form must be sent to the Department and 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, at least 15 days prior to the move. The proof of publication (affidavit) of the Public Notice Form for Change of Location must be submitted to the Department prior to the move. These forms are available from the Department (ARM 17.8.749 and ARM 17.8.765).
2. HSG shall maintain on-site records showing daily hours of operation and daily production rates for the last 12 months. The records compiled in accordance with this permit shall be maintained by HSG as a permanent business record for at least 5 years following the date of the measurement, must be available at the plant site for inspection by the Department, and must be submitted to the Department upon request (ARM 17.8.749).
3. HSG shall supply the Department with annual production information for all emission points, as required by the Department in the annual emission inventory request. 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 (ARM 17.8.505).

4. HSG shall document, by month, the hours of operation of the diesel engine/generator. By the 25<sup>th</sup> day of each month, Helena Sand & Gravel shall calculate the hours of operation for the diesel engine/generator for the previous month. The monthly information will be used to demonstrate 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, ARM 17.8.1204).
5. HSG 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).

6. HSG 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 in ARM 17.8.1204. The annual certification shall comply with the certification requirements of ARM 17.8.1207. The annual certification shall be submitted with the annual emission inventory information (ARM 17.8.749, ARM 17.8.1204 and ARM 17.8.1207).

### Section III: General Conditions

- A. Inspection – HSG shall allow the Department's representatives access to the source at all reasonable times for the purpose of making inspections, surveys, collecting samples, obtaining data, auditing any monitoring equipment 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 Helena Sand & Gravel fails to appeal as indicated below.
- C. Compliance with Statutes and Regulations - Nothing in this permit shall be construed as relieving Helena Sand & Gravel 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.* (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 HSG may be grounds for revocation of this permit, as required by that section and rules adopted thereunder by the Board.

- H. 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.
- I. Helena Sand & Gravel shall comply with the conditions contained in this permit while operating at any location in Montana, except within those areas that have a Department approved permitting program.

Montana Air Quality Permit (MAQP) Analysis  
Helena Sand & Gravel  
MAQP #2673-06

I. Introduction/Process Description

Helena Sand and Gravel (HSG) owns and operates a portable crushing and screening operation.

A. Permitted Equipment

Helena Sand & Gravel operates a portable crushing/screening facility consisting of three portable crushers (up to 1,100 tons per hour (TPH)), three screens (up to 1,300 TPH), a wash plant, a diesel engine/generator (up to 1,495 horsepower (hp)), and associated equipment.

B. Process Description

HSG will initially be located at Section 19, Township10 North, Range 2 West, in Lewis and Clark County, Montana. Permit #2673-06 will apply to the source while operating at any location in Montana, except within those areas having a Department of Environmental Quality (Department) approved permitting program, those areas considered tribal lands, or those areas in or within 10 kilometers (km) of certain particulate matter with an aerodynamic diameter of 10 microns or less (PM<sub>10</sub>) nonattainment areas. *A Missoula County air quality permit will be required for locations within Missoula County, Montana.* HSG has obtained an addendum to this air quality permit to operate at locations in or within 10 km of certain PM<sub>10</sub> nonattainment areas.

HSG proposes to use this crushing/screening plant and associated equipment to crush and screen sand and gravel materials for use in various construction operations. For a typical operational setup the materials are loaded into the crushing plant by a feeder, transferred by conveyor, passed through the crusher, and sent to stockpile for sale and use in construction operations.

C. Permit History

On February 15, 1991, Permit **#2673-00** was issued to Helena Sand & Gravel for the operation of a 1990 Torgerson crusher and associated equipment. The permit also contained specific conditions for any operations on Wolf Road in Lewis and Clark County.

On August 23, 1995, Permit **#2673-01** was issued to Helena Sand & Gravel. As part of this permit alteration, a 1994 Pioneer jaw crusher (including one screen, and two conveyors as part of the machinery) was added to the existing equipment. The existing equipment consisted of a 1990 Torgerson crusher (which includes one screen and two conveyors as part of the machinery).

On November 26, 1997, Permit **#2673-02** was issued to Helena Sand & Gravel. Helena Sand & Gravel proposed to add a 200 TPH 1984 El Jay Rollercone crusher to their facility. The emission inventory was updated with current emission factors. Helena Sand & Gravel agreed to an annual operational limit to allow the facility to stay below the Title V threshold. The rule references in the permit were also updated during the alteration.

Helena Sand & Gravel was issued Permit **#2673-03** on May 19, 1999. The alteration included the addition of a 1998 Nordberg HP300 cone crusher (maximum capacity 250 TPH), a 1998 Nordberg HP400 cone crusher (maximum capacity 250 TPH), a 1998

Diester screen (maximum capacity 350 TPH), and a 1996 El Jay screen (maximum capacity 350 TPH) to the existing permit. Helena Sand & Gravel agreed to a 4,800 hour per year operational limit in order to operate the new equipment with the existing equipment and stay below the Title V threshold. Permit #2673-03 replaced Permit #2673-02.

On May 15, 2002, Helena Sand & Gravel requested a permit modification for the removal of the 1990 Torgerson crusher, and the 1984 Rollercone crusher. In addition, Helena Sand & Gravel requested clarification for the size of the diesel engine/generator (910 kW). Permit #2673-04 replaced Permit #2673-03.

On April 17, 2006, Helena Sand & Gravel submitted a request for a modification to Permit #2673-04 to add a portable Kolberg feeder and washplant. In addition, Helena Sand & Gravel requested the addition of an addendum to Permit #2673-05 to provide the flexibility of operating in or within 10 kilometers (km) of a certain particulate matter with an aerodynamic diameter of 10 microns or less (PM<sub>10</sub>) nonattainment area.

On March 5, 2007, Helena Sand & Gravel submitted an application for a modification to replace the existing back-up power generator with a 1500 kW unit; and add a diesel fuel storage tank for the back-up power generator. The Department of Environmental Quality (Department) also updated the permit to reflect current rule references, emission factors, and de minimis friendly permit conditions. Permit #2673-05 replaced Permit #2673-04.

#### D. Current Permit Action

On January 9, 2012, the Department received an application for administrative amendment indicating HSG's participation in the Department's S source project. The Department under took this project in the last quarter of 2011 to reduce the number of sources subject to the Compliance Monitoring Strategy (CMS) program; whereby reducing the Department's burden associated with maintaining the CMS. Sources with MAQP's containing federally enforceable permit limitations to remain a minor source of emissions with respect to Title V and that had permit allowable emissions at or above 80 tons per year (tpy) were eligible for the S source project. These sources were provided the option to amend their permits so that limits could be incorporated which maintain allowable emissions below 80 tpy. HSG's MAQP was amended to incorporate limits and conditions to maintain allowable emissions below this threshold. In addition, the permit updates the rule references, permit format, and the emissions inventory. **MAQP #2673-06** replaces MAQP #2673-05.

#### E. Additional Information

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

## II. Applicable Rules and Regulations

The following are partial quotations of some applicable rules and regulations, which 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 includes a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.
  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.*, Montana Code Annotated (MCA).  
  
Helena Sand & Gravel 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. (2) 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. (1) 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. (2) 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 (SO<sub>2</sub>)
  2. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide
  3. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide (CO)
  4. ARM 17.8.213 Ambient Air Quality Standards for Ozone
  5. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter (PM)
  6. ARM 17.8.221 Ambient Air Quality Standard for Visibility
  7. ARM 17.8.223 Ambient Air Quality Standard for Particulate Matter with an Aerodynamic Diameter of 10 Microns or Less (PM<sub>10</sub>)

HSG must maintain compliance with the applicable ambient air quality standards.

- C. ARM 17.8, Subchapter 3 - Emission Standards, including, but not limited to:
1. ARM 17.8.304 Visible Air Contaminants. This rule requires that no person may cause or authorize emissions to be discharged to an outdoor atmosphere from any source installed after Nov. 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes.

2. 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 rule, Helena Sand & Gravel 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.
3. ARM 17.8.309 Particulate Matter, Fuel Burning Equipment. This rule requires that no person shall cause or authorize to be discharged into the atmosphere particulate matter caused by the combustion of fuel in excess of the amount determined by this section.
4. 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.
5. ARM 17.8.322 Sulfur Oxide Emissions--Sulfur in Fuel. This rule requires that no person shall burn liquid, solid, or gaseous fuel in excess of the amount set forth in this section.
6. ARM 17.8.324 Hydrocarbon Emissions--Petroleum Products. (3) No person shall load or permit the loading of gasoline into any stationary tank with a capacity of 250 gallons or more from any tank truck or trailer, except through a permanent submerged fill pipe, unless such tank truck or trailer is equipped with a vapor loss control device as described in (1) of this rule.
7. ARM 17.8.340 Standard of Performance for New Stationary Sources. This rule incorporates, by reference, 40 CFR 60, Standards of Performance for New Stationary Sources (NSPS). Helena Sand & Gravel is considered an NSPS-affected facility under 40 CFR 60 and is subject to the requirements of Subpart OOO and Subpart IIII.
  1. 40 CFR 60, Subpart A – General Provisions apply to all equipment or facilities subject to an NSPS Subpart as listed below:
  2. 40 CFR 60, Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants. In order for a crushing plant to be subject to this subpart, the facility must meet the definition of an affected facility and, the affected equipment must have been constructed, reconstructed, or modified after August 31, 1983. Based on the information submitted by HSG, the portable crushing equipment to be used under MAQP #2673-06 is subject to this subpart because the date of manufacture date of the equipment was after August 31, 1983 (40 CFR Part 60, Subpart A General Provisions, and Subpart OOO, Non-Metallic Mineral Processing Plants).
  3. 40 CFR 60, Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (CI ICE). Owners and operators of stationary CI ICE that commence construction after July 11, 2005, where the stationary CI ICE are manufactured after April 1, 2006, and are not fire pump engines, and owners and operators of stationary CI ICE that modify or reconstruct their stationary CI ICE after July 11, 2005, are subject to this subpart.

Based on the information submitted by HSG, the CI ICE equipment to be used under MAQP #2673-00 is not currently subject to this subpart because it is intended to be a portable unit. However, this subpart would become applicable if a CI ICE were to remain in a location for more than 12 months.

8. 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. HSG is considered a NESHAP-affected facility under 40 CFR Part 63 and is subject to the requirements of the following subparts.
  1. 40 CFR 63, Subpart A – General Provisions apply to all equipment or facilities subject to a NESHAPs Subpart as listed below.
  2. 40 CFR 63, Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants (HAPs) for Stationary Reciprocating Internal Combustion Engines (RICE). An owner or operator of a stationary reciprocating internal combustion engine (RICE) at a major or area source of HAP emissions is subject to this rule except if the stationary RICE is being tested at a stationary RICE test cell/stand. An area source of HAP emissions is a source that is not a major source.

Based on the information submitted by HSG, the RICE equipment to be used under MAQP #2673-06 may potentially be subject to this subpart because it operates a compression ignition RICE at an area source of HAP emissions. However since the RICE is intended to be portable HSG does not have to comply with the applicable emission limitations and operating limitations of 40 CFR 63, subpart ZZZZ. However, this subpart would become applicable if a RICE were modified, constructed, or reconstructed after June 12, 2005, and if they remain in a location for more than 12 months.

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. This rule requires that Helena Sand & Gravel 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. HSG was not required to submit an application fee for the current permit action because it is considered an administrative permit action.
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 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, as 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 prorate 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. Helena Sand & Gravel has the potential to emit more than 15 tons per year (TPY) of particulate matter (PM), particulate matter with an aerodynamic diameter of 10 microns or less (PM10), nitrogen oxides (NOx), 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, modification, or use of a source. Helena Sand & Gravel submitted the appropriate permit application for the current permit modification. (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. No public notification is required for this permit action because it is an administrative amendment.
  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 BACT analysis is contained in Section IV 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 Helena Sand & Gravel 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 17.8.762 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 1 year after the permit is issued.
  12. ARM 17.8.763 Revocation of Permit. An air quality permit may be revoked upon written request of Helena Sand & Gravel, 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).
  13. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be amended for the 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.
  14. 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 Modification--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 that it would emit, except as this subchapter would otherwise allow.

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

- G. ARM 17.8, Subchapter 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 a lesser quantity as the Department may establish by rule; or
    - c. Sources with the PTE > 70 tons/year of PM<sub>10</sub> in a serious PM<sub>10</sub> 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 Air Quality Permit #2673-06 for Helena Sand & Gravel, the following conclusions were made:
    - a. The facility's PTE is greater than 100 ton/year for NO<sub>x</sub> pollutant. HSG has requested federally-enforceable permit operating limits be established to maintain the facility's PTE to less than the 100 ton/year threshold.
    - 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 PM<sub>10</sub> nonattainment area.
    - d. This facility is subject to a current NSPS.
    - e. This facility is not subject to any current NESHAP standards.
    - f. This source is not a Title IV affected source nor a solid waste combustion unit.
    - g. This source is not an EPA designated Title V source.

HSG 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. However, in the event that the EPA makes minor sources that are subject to NSPS obtain a Title V Operating Permit, this source will be 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 the source's potential to emit.
  - i. In applying for an exemption under this section, the owner or operator of the source shall certify to the Department that the source's potential to emit does not require the source to obtain an air quality operating permit.
  - ii. Any source that obtains a federally enforceable limit on potential to emit shall annually certify that its actual emissions are less than those that would require the source to obtain an air quality operating permit.

The Department has determined that the annual reporting requirements contained in the permit are sufficient to satisfy this requirement.

- 3. ARM 17.8.1207 Certification of Truth, Accuracy, and Completeness. The compliance certification submittal required by 17.8.1204(3) shall contain certification by a responsible official of truth, accuracy, and completeness. 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. BACT Determination

A BACT determination is required for each new or altered source. Helena Sand & Gravel 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.

This permit action is considered an administrative amendment and is placing additional permit conditions upon HSG to maintain emissions below 80 TPY and does not require a BACT analysis.

### IV. Emission Inventory

Source	Ton/Year						
	PM	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	VOC	CO	SO <sub>x</sub>
3 Crushers (up to 1100 TPH combined)	5.78	2.60	0.48				
3 Screens (up to 1300 TPH combined)	12.53	4.21	0.28				
Truck Unloading	0.91	0.09	0.01				
Material Transfers	8.77	2.88	0.81				
Pile Forming (2 Piles) controlled 50% water sprays	18.22	8.54	1.37				
Engine/Generator (up to 1495 hp)	2.28	2.28	2.28	78.04	2.29	17.88	6.67
Diesel Storage Tank (up to 10,000 gal)					13.53		
Haul Roads	29.98	8.52	0.73				
<b>Total</b>	78.46	29.12	5.97	78.04	15.82	17.88	6.67

Inventory reflects maximum allowable emissions for all pollutants based on maximum production and year-round operation (8,760 hours), with the exception of the engine/generator. The engine/generator operations have been limited to 4,350 hours per year to limit NOx emissions below 80 TPY. Diesel Storage tank emissions were derived from EPA Tanks.

**Crusher - , controlled**  
**3 Crushers (up to 1100 TPH combined)**

Maximum Process Rate:: 1100 ton/hr  
 Adjusted Process Rate: 1100 ton/hr  
 Hours of operation: 8760 hr/yr  
 12,100 tons/day

PM Emissions:  
 (AP-42, Section 11.19.2-2, 8/04)  
 Emission Factor: 0.0012 lb/ton  
 Hourly Calculations: 0.0012 lb/ton \* 1100 ton/hr = 1.32 lb/hr  
 Annual Calculations: 1.32 lb/hr \* 8760 hr/yr \* 0.0005 ton/lb = 5.78 ton/yr

PM-10 Emissions:  
 (AP-42, Section 11.19.2-2, 8/04)  
 Emission Factor: 0.00054 lb/ton  
 Hourly Calculations: 0.00054 lb/ton \* 1100 ton/hr = 0.59 lb/hr  
 Annual Calculations: 0.594 lb/hr \* 8760 hr/yr \* 0.0005 ton/lb = 2.60 ton/yr

PM-2.5 Emissions:  
 (AP-42, Section 11.19.2-2, 8/04)  
 Emission Factor: 0.00010 lb/ton  
 Hourly Calculations: 0.0001 lb/ton \* 1100 ton/hr = 0.11 lb/hr  
 Annual Calculations: 0.11 lb/hr \* 8760 hr/yr \* 0.0005 ton/lb = 0.48 ton/yr

**Screen - controlled**  
**3 Screens (up to 1300 TPH combined)**

Maximum Process Rate: 1300 ton/hr  
 Adjusted Process Rate: 1300 ton/hr  
 Hours of operation: 8760 hr/yr  
 14,300 tons/day

PM Emissions:  
 (AP-42, Section 11.19.2-2, 8/04)  
 Emission Factor: 0.0022 lb/ton  
 Hourly Calculations: 0.0022 lb/ton \* 1300 ton/hr = 2.86 lb/hr  
 Daily Calculations: 2.86 lb/hr \* 11 hr/day = 31.46 lb/day  
 Annual Calculations: 2.86 lb/hr \* 8760 hr/yr \* 0.0005 ton/lb = 12.53 ton/yr

PM-10 Emissions:  
 (AP-42, Section 11.19.2-2, 8/04)  
 Emission Factor: 0.00074 lb/ton  
 Hourly Calculations: 0.00074 lb/ton \* 1300 ton/hr = 0.96 lb/hr  
 Annual Calculations: 0.962 lb/hr \* 8760 hr/yr \* 0.0005 ton/lb = 4.21 ton/yr

PM-2.5 Emissions:  
 (AP-42, Section 11.19.2-2, 8/04)  
 Emission Factor: 0.00005 lb/ton

Hourly Calculations:	$0.00005 \text{ lb/ton} * 1300 \text{ ton/hr} =$	$0.07 \text{ lb/hr}$
Annual Calculations:	$0.065 \text{ lb/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} =$	$0.28 \text{ ton/yr}$

**Material Transfer - controlled Truck**

**Unloading**

Maximum Process Rate:	1300 ton/hr
Adjusted Process Rate:	1300 ton/hr
Number of Material Transfer	1 Load
Hours of operation:	8760 hr/yr

**PM**

Emissions:

Emission Factor:	0.00016 lb/ton	(AP-42, Section 11.19.2-2, 8/04)
Hourly Calculations:	$0.00016 \text{ lb/ton} * 1300 \text{ ton/hr} * 1 \text{ Load} =$	$0.21 \text{ lb/hr}$
Annual Calculations:	$0.208 \text{ lb/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} =$	$0.91 \text{ ton/yr}$

**PM-10**

Emissions:

Emission Factor:	0.000016 lb/ton	(AP-42, Section 11.19.2-2, 8/04)
Hourly Calculations:	$0.000016 \text{ lb/ton} * 1300 \text{ ton/hr} * 1 \text{ Load} =$	$0.02 \text{ lb/hr}$
Annual Calculations:	$0.0208 \text{ lb/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} =$	$0.09 \text{ ton/yr}$

**PM-2.5**

Emissions:

Emission Factor:	0.0000024 lb/ton	(AP-42, Section 11.19.2-2, 8/04)
Hourly Calculations:	$0.0000024 \text{ lb/ton} * 1300 \text{ ton/hr} * 1 \text{ Load} =$	$0.003 \text{ lb/hr}$
Annual Calculations:	$0.00312 \text{ lb/hr} * 1 \text{ Load} * 0.0005 \text{ ton/lb} =$	$0.014 \text{ ton/yr}$

**Material Transfers**

Maximum Process Rate:	1300 ton/hr
Adjusted Process Rate:	1300 ton/hr
Number of Material Transfer	11 number of Transfers
Hours of operation:	8760 hr/yr

**PM**

Emissions:

Emission Factor:	0.00014 lb/ton	(AP-42, Section 11.19.2-2, 8/04)
Hourly Calculations:	$0.00014 \text{ lb/ton} * 1300 \text{ ton/hr} * 11 \text{ number of Transfers} =$	$2.00 \text{ lb/hr}$
Annual Calculations:	$2.002 \text{ lb/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} =$	$8.77 \text{ ton/yr}$

PM-10

Emissions:

Emission Factor:	0.000046 lb/ton	(AP-42, Section 11.19.2-2, 8/04)	
Hourly Calculations:	0.000046 lb/ton * 1300 ton/hr * 11 number of Transfers =		0.66 lb/hr
Annual Calculations:	0.6578 lb/hr * 8760 hr/yr * 0.0005 ton/lb =		2.88 ton/yr

PM-2.5

Emissions:

Emission Factor:	0.000013 lb/ton	(AP-42, Section 11.19.2-2, 8/04)	
Hourly Calculations:	0.000013 lb/ton * 1300 ton/hr * 11 number of Transfers =		0.19 lb/hr
Annual Calculations:	0.1859 lb/hr * 8760 hr/yr * 0.0005 ton/lb =		0.81 ton/yr

**Pile Forming (2 Piles) controlled 50% water sprays**

Maximum Process Rate:	1300 ton/hr
Adjusted Process Rate:	1300 ton/hr
Number of Piles	2 Piles
Hours of operation:	8760 hr/yr

PM

Emissions:

Emission Factor:	0.0032 lb/ton	(AP-42, Section 13.2.4, 1/95)	
Hourly Calculations:	0.0032 lb/ton * 1300 ton/hr * 2 Piles*50% =		4.16 lb/hr
Annual Calculations:	4.16 lb/hr * 8760 hr/yr * 0.0005 ton/lb =		18.22 ton/yr

PM-10

Emissions:

Emission Factor:	0.0015 lb/ton	(AP-42, Section 13.2.4, 1/95)	
Hourly Calculations:	0.0015 lb/ton * 1300 ton/hr * 2 Piles*50% =		1.95 lb/hr
Annual Calculations:	1.95 lb/hr * 8760 hr/yr * 0.0005 ton/lb =		8.54 ton/yr

PM-2.5

Emissions:

Emission Factor:	0.00024 lb/ton	(AP-42, Section 13.2.4, 1/95)	
Hourly Calculations:	0.00024 lb/ton * 1300 ton/hr * 2 Piles*50% =		0.31 lb/hr
Annual Calculations:	0.312 lb/hr * 8760 hr/yr * 0.0005 ton/lb =		1.37 ton/yr

**Engine/Generator (up to 1495 hp)**

Horsepower rating= 1,495.00 hp

Hours of Operation: 4350 hr/yr

PM

Emissions:

Emission Factor	7.00E-04 lb/hp-hr	(AP-42 Table 3.3-1,10/96)
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Hourly Calculations	$1495 \text{ hp} * 0.0007 \text{ lb/hp-hr} =$	1.05	lb/hr
Annual Calculations	$1495 \text{ hp} * 0.0007 \text{ lb/hp-hr} * 4350 \text{ hr/yr} * 0.0005 \text{ tons/lb} =$	2.28	ton/yr
<b>PM-10</b>			
Emissions:			
Emission Factor	7.00E-04 lb/hp-hr (AP-42 Table 3.3-1,10/96)		
Hourly Calculations	$1495 \text{ hp} * 0.0007 \text{ lb/hp-hr} =$	1.05	lb/hr
Annual Calculations	$1495 \text{ hp} * 0.0007 \text{ lb/hp-hr} * 4350 \text{ hr/yr} * 0.0005 \text{ tons/lb} =$	2.28	ton/yr
<b>PM-2.5</b>			
Emissions:			
Emission Factor	7.00E-04 lb/hp-hr (AP-42 Table 3.3-1,10/96)		
Hourly Calculations	$1495 \text{ hp} * 0.0007 \text{ lb/hp-hr} =$	1.05	lb/hr
Daily Calculations	$4350 \text{ hr/yr} * 0.0007 \text{ lb/hp-hr} * =$	11.51	lb/day
Annual Calculations	$4350 \text{ hr/yr} * 1495 \text{ hp} * 0.0007 \text{ lb/hp-hr} * 11 \text{ hr/day} = * * 0.0005 \text{ tons/lb} =$	2.28	ton/yr
<b>NOx</b>			
Emissions:			
Emission Factor	0.024 lb/hp-hr (AP-42 Table 3.3-1,10/96)		
Hourly Calculations	$1495 \text{ hp} * 0.024 \text{ lb/hp-hr} =$	35.88	lb/hr
Annual Calculations	$1495 \text{ hp} * 0.024 \text{ lb/hp-hr} * 4350 \text{ hr/yr} * 0.0005 \text{ tons/lb} =$	78.04	ton/yr
<b>VOC</b>			
Emissions:			
Emission Factor	7.05E-04 lb/hp-hr (AP-42 Table 3.3-1,10/96)		
Hourly Calculations	$1495 \text{ hp} * 0.000705 \text{ lb/hp-hr} =$	1.05	lb/hr
Annual Calculations	$1495 \text{ hp} * 0.000705 \text{ lb/hp-hr} * 4350 \text{ hr/yr} * 0.0005 \text{ tons/lb} =$	2.29	ton/yr
<b>CO</b>			
Emissions:			
Emission Factor	5.50E-03 lb/hp-hr (AP-42 Table 3.3-1,10/96)		
Hourly Calculations	$1495 \text{ hp} * 0.0055 \text{ lb/hp-hr} =$	8.22	lb/hr
Daily Calculations	$1495 \text{ hp} * 0.0055 \text{ lb/hp-hr} * 11 \text{ hr/day} =$	42.92	lb/day
Annual Calculations	$1495 \text{ hp} * 0.0055 \text{ lb/hp-hr} * 4350 \text{ hr/yr} * 0.0005 \text{ tons/lb} =$	17.88	ton/yr
<b>SOx</b>			
Emissions:			
Emission Factor	2.05E-03 lb/hp-hr (AP-42 Table 3.3-1,10/96)		
Hourly Calculations	$1495 \text{ hp} * 0.00205 \text{ lb/hp-hr} =$	3.06	lb/hr
Annual Calculations	$1495 \text{ hp} * 0.00205 \text{ lb/hp-hr} * 4350 \text{ hr/yr} * 0.0005 \text{ tons/lb} =$	6.67	ton/yr

### Haul Roads

Vehicle miles traveled: 10 VMT/day {Estimated}

#### PM

##### Emissions:

PM Emission Factor (Rated Load Capacity <50 tons): 13.90 Lbs/VMT (AP-42, Section 13.2.2, 12/03)

PM (TPY) = 164.27 lbs/day \* 365 day/yr \* 0.0005 tons/lb 25.37 tons/yr

#### PM10

##### Emissions:

PM10 Emission Factor (Rated Load Capacity <50 tons): 3.95 Lbs/VMT (AP-42, Section 13.2.2, 12/03)

46.68 lbs/day \* 365 day/yr \* 0.0005 tons/lb 7.21 tons/yr

#### PM2.5

##### Emissions:

PM2.5 Emission Factor (Rated Load Capacity <50 tons): 0.34 Lbs/VMT (AP-42, Section 13.2.2, 12/03)

4.02 lbs/day \* 365 day/yr \* 0.0005 tons/lb 0.62 tons/yr

## V. Existing Air Quality and Impacts

Permit #2673-06 is issued for the operation of a portable crushing/screening facility to operate at various locations throughout Montana. This facility would be allowed to operate at any area designated as attainment or unclassified for all National Ambient Air Quality Standards (NAAQS); excluding those counties that have a Department-approved permitting program, those areas considered tribal lands, or those areas in or within 10 km of certain PM<sub>10</sub> nonattainment areas. A Missoula County air quality permit would be required for locations within Missoula County, Montana. Addendum #1 of Permit #2673-06 would cover this portable crushing/screening plant while operating at locations in or within 10 km of a PM<sub>10</sub> nonattainment area during the winter season (October 1 through March 31). Addendum #1 of Permit #2673-06 would also allow for summertime operations (April 1-September 30) at any location in or within 10 km of the Butte, Columbia Falls, Libby, Kalispell, Thompson Falls, and Whitefish PM<sub>10</sub> nonattainment areas.

## VI. Air Quality Impacts

Based on the information provided and the conditions established in Permit #2673-06, the Department believes that the amount of controlled emissions generated by this facility will not exceed any ambient air quality standard established for any of Montana's attainment or unclassified ambient air quality areas. Additionally, the limitations and conditions established in Addendum #1 would further reduce the facility emissions generated while operating in the nonattainment areas and would also be protective of corresponding ambient air quality standards. In addition, this source is portable and any air quality impacts will be minimal.

VII. Taking or Damaging Implication Analysis

As required by 2-10-105, MCA, the Department conducted the following private property taking and damaging assessment.

YES	NO	
X		1. Does the action pertain to land or water management or environmental regulation affecting private real property or water rights?
	X	2. Does the action result in either a permanent or indefinite physical occupation of private property?
	X	3. Does the action deny a fundamental attribute of ownership? (ex.: right to exclude others, disposal of property)
	X	4. Does the action deprive the owner of all economically viable uses of the property?
	X	5. Does the action require a property owner to dedicate a portion of property or to grant an easement? [If no, go to (6)].
		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.

VIII. Environmental Assessment

An environmental assessment was not required for this permit change because it is considered an Administrative Amendment.

Addendum 1  
Helena Sand & Gravel  
MAQP #2673-06

An addendum to air quality Permit #2673-06, with conditions, is hereby granted to Helena Sand & Gravel pursuant to Sections 75-2-204 and 75-2-211 of the Montana Code Annotated (MCA), as amended, and Administrative Rules of Montana (ARM) 17.8.765, *et seq.*, as amended, for the following:

I. Permitted Equipment

Helena Sand & Gravel owns and operates a portable crushing/screening facility consisting of 3 portable crushers, (up to 1,100 tons per hour (TPH)), three portable screens (up to 1,300 TPH), one diesel engine/generator (up to 1,495 horsepower (hp)), and associated equipment. Helena Sand & Gravel operates at various locations throughout Montana, including locations in or within 10 kilometers (km) of the following PM<sub>10</sub> (particulate matter with an aerodynamic diameter of 10 microns or less) Nonattainment Areas (NAAs): Butte, Columbia Falls, Kalispell, Libby, Thompson Falls, and Whitefish.

II. Seasonal and Site Restrictions

Addendum 1 to Permit #2673-06 applies to the Helena Sand & Gravel facility while operating at any location in or within 10 kilometers of certain PM<sub>10</sub> NAAs. Additionally, seasonal and site restrictions apply to the facility as follows.

- A. During the winter season (October 1 - March 31) – The only location(s) in or within 10 km of a PM<sub>10</sub> nonattainment area where Helena Sand & Gravel may operate is:
- The Kalispell PM<sub>10</sub> nonattainment area.
  - Any other site that may be approved, in writing, by the Department of Environmental Quality (Department).
- B. During the summer season (April 1-September 30) – Helena Sand & Gravel may operate at any location in or within 10 km of certain PM<sub>10</sub> NAAs, including, but not limited to Butte, Columbia Falls, Kalispell, Libby, Thompson Falls, and Whitefish **PM<sub>10</sub> nonattainment areas.**
- C. Helena Sand & Gravel shall comply with the limitations and conditions contained in Addendum 1 to Permit #2673-06. Addendum 1 shall be valid until revoked or modified. The Department reserves the authority to modify Addendum 1 at any time based on local conditions of any future site. These conditions may include, but are not limited to, local terrain, meteorological conditions, proximity to residences or other businesses, etc.

III. Limitations and Conditions

- A. Operational Limitations and Conditions – **Winter Season (October 1 – March 31)**
1. Water spray bars must be available on site at all times, and operated as necessary, on the crushers, screens, and all transfer points whenever the crushing/screening plant is operating (ARM 17.8.749).
  2. All visible emissions from the crushing/screening plant may not exhibit an opacity of 10% or greater averaged over 6 consecutive minutes (ARM 17.8. 749).

3. HSG shall not cause or authorize to be discharged into the atmosphere from any other equipment, such as transfer points, any visible emissions that exhibit an opacity of 10% or greater averaged over 6 consecutive minutes (ARM 17.8.749).
4. HSG shall not cause or authorize to be discharged into the atmosphere from haul roads, access roads, parking lots, or the general plant property any visible fugitive emissions that exhibit an opacity of 10% or greater (ARM 17.8.749).
5. HSG shall treat all unpaved portions of the access roads, parking lots, and general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the 10% opacity limitation (ARM 17.8.749).
6. The combined HSG crusher production for the facility shall not exceed 11,000 tons during any rolling 24-hour time period (ARM 17.8.749).
7. The HSG screen production shall not exceed 7,000 tons during any rolling 24-hour time period (ARM 17.8.749).
8. The hours of operation of the diesel-fired engine/generator shall not exceed 10 hours during any rolling 24-hour time period (ARM 17.8.749).

**B. Operational Limitations and Conditions – Summer Season (April 1 – September 30)**

1. Water spray bars must be available on site at all times, and used, as necessary on the crushers, screens, and all transfer points whenever the crushing/screening plant is operating (ARM 17.8.749).
2. All visible emissions from the crushing/screening plant may not exhibit an opacity of 10% or greater averaged over 6 consecutive minutes (ARM 17.8.749).
3. HSG shall not cause or authorize to be discharged into the atmosphere from any other equipment, such as transfer points, any visible emissions that exhibit an opacity of 10% or greater averaged over 6 consecutive minutes (ARM 17.8.749).
4. HSG shall not cause or authorize to be discharged into the atmosphere from haul roads, access roads, parking lots, or the general plant property any visible fugitive emissions that exhibit an opacity of 10% or greater averaged over 6 consecutive minutes (ARM 17.8.749).
5. HSG shall treat all unpaved portions of the haul roads, access roads, parking lots, and general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the 10% opacity limitation (ARM 17.8.749).
6. HSG shall not operate more than one diesel engine/generator at any given time and the maximum rated design capacity shall not exceed 1,495 hp and shall not exceed 4,350 hours during any rolling 12-month time period (ARM 17.8.749).

**C. Operational Reporting Requirements**

1. If this crushing/screening plant is moved to another nonattainment location, an Intent to Transfer form must be sent to the Department and 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, at least 15 days prior to the move.

The proof of publication (affidavit) of the Public Notice Form for Change of Location must be submitted to the Department prior to the move. These forms are available from the Department (ARM 17.8.749 and ARM 17.8.765).

2. Production information for the sites covered by this addendum must be submitted to the Department with the annual emissions inventory request or within 30 days of completion of the project. The information must include (ARM 17.8.749):
  - a. Tons of material crushed by each crusher at each site;
  - b. Tons of material screened by each screen at each site;
  - c. Tons of bulk material loaded at each site;
  - d. Daily hours of operation at each site;
  - e. Gallons of diesel fuel used for the generators/engines at each site;
  - f. Fugitive dust information consisting of all plant vehicles, including the following:
    - i. Number of vehicles
    - ii. Vehicle type
    - iii. Vehicle weight, loaded
    - iv. Vehicle weight, unloaded
    - v. Number of tires on vehicle
    - vi. Average trip length
    - vii. Number of trips per day per vehicle
    - viii. Average vehicle speed
    - ix. Area of activity
    - x. Vehicle fuel usage (gasoline and diesel) annual total
  - g. Fugitive dust control for haul roads and general plant area:
    - i. Hours of operation of water trucks
    - ii. Application schedule for chemical dust suppressant, if applicable.
9. Helena Sand & Gravel shall document, by day, the combined total crushing production during the winter season. Helena Sand & Gravel shall sum the combined total crushing production during the previous 24 hours to verify compliance with the limitations in Section III.A.6. A written report of compliance and the emissions inventory shall be submitted to the Department annually. The report for the previous calendar year shall be submitted along with the annual emissions inventory (ARM 17.8.749).
10. Helena Sand & Gravel shall document, by day, the total screening production during the winter season. Helena Sand & Gravel shall sum the total screening production during the previous 24 hours to verify compliance with the limitations in Section III.A.7. A written report of compliance and the emissions inventory shall be submitted to the Department annually. The report for the previous calendar year shall be submitted along with the annual emissions inventory (ARM 17.8.749).

11. Helena Sand & Gravel shall document, by day the hours of operation of the diesel engine/generator during the winter season. Helena Sand & Gravel shall total the hours of operation of the diesel engine/generator during the previous 24 hours to verify compliance with the limitations in Section III.A.8. A written report of compliance verification and the emissions inventory shall be submitted to the Department annually. The report for the previous calendar year shall be submitted along with the annual emission inventory (ARM 17.8.749).
12. Helena Sand & Gravel shall document, by month the hours of operation of the diesel engine/generator during the summer season. Helena Sand & Gravel shall total the hours of operation of the diesel engine/generator during the previous 12 months to verify compliance with the limitations in Section III.B.6. A written report of compliance verification and the emissions inventory shall be submitted to the Department annually. The report for the previous calendar year shall be submitted along with the annual emission inventory (ARM 17.8.749).

Addendum 1 Analysis  
Helena Sand & Gravel  
MAQP #2673-06

I. Helena Sand & Gravel (HSG) will operate a portable crushing/screening facility consisting of up to 3 crushers (up to 1100 TPH), up to 3 screens (up to 1300 TPH), one diesel engine/generator (up to 1,495 hp), and associated equipment. at various locations throughout Montana, except within those areas having a Department of Environmental Quality (Department) approved permitting program. *A Missoula County air quality permit will be required for locations within Missoula County.*

II. Permit History

On February 15, 1991, Permit **#2673-00** was issued to HSG for the operation of a 1990 Torgerson crusher and associated equipment. The permit also contained specific conditions for any operations on Wolf Road in Lewis and Clark County.

On August 23, 1995, Permit **#2673-01** was issued to HSG. As part of this permit alteration, a 1994 Pioneer jaw crusher (including one screen, and two conveyors as part of the machinery) was added to the existing equipment. The existing equipment consisted of a 1990 Torgerson crusher (which includes one screen and two conveyors as part of the machinery).

On November 26, 1997, Permit **#2673-02** was issued to HSG. Helena Sand & Gravel proposed to add a 200 TPH 1984 El Jay Rollercone crusher to their facility. The emission inventory was updated with current emission factors. Helena Sand & Gravel agreed to an annual operational limit to allow the facility to stay below the Title V threshold. The rule references in the permit were also updated during the alteration.

HSG was issued Permit **#2673-03** on May 19, 1999. The alteration included the addition of a 1998 Nordberg HP300 cone crusher (maximum capacity 250 TPH), a 1998 Nordberg HP400 cone crusher (maximum capacity 250 TPH), a 1998 Diester screen (maximum capacity 350 TPH), and a 1996 El Jay screen (maximum capacity 350 TPH) to the existing permit. HSG agreed to a 4,800 hour per year operational limit in order to operate the new equipment with the existing equipment and stay below the Title V threshold. Permit #2673-03 replaced Permit #2673-02.

On May 15, 2002, HSG requested a permit modification for the removal of the 1990 Torgerson crusher, and the 1984 Rollercone crusher. In addition, HSG requested clarification for the size of the diesel engine/generator (910 kW). Permit **#2673-04** replaced Permit #2673-03.

On April 17, 2006, HSG submitted a request for a modification to Permit #2673-04 to add a portable Kolberg feeder and washplant. In addition, HSG requested the addition of an addendum to Permit #2673-05 to provide the flexibility of operating in or within 10 km of a PM<sub>10</sub> nonattainment area.

On March 5, 2007, HSG submitted an application for a modification to replace the existing back-up power generator with a 1500 kW unit; and add a diesel fuel storage tank for the back-up power generator. The Department also updated the permit to reflect current rule references, emission factors, and de minimis friendly permit conditions. Permit **#2673-05** replaces Permit #2673-04.

### III. Current Permit Action

On January 9, 2012, the Department received an application for administrative amendment indicating HSG's participation in the Department's S source project. The Department undertook this project in the last quarter of 2011 to reduce the number of sources subject to the Compliance Monitoring Strategy (CMS) program; whereby reducing the Department's burden associated with maintaining the CMS. Sources with MAQP's containing federally enforceable permit limitations to remain a minor source of emissions with respect to Title V and that had permit allowable emissions at or above 80 tons per year (tpy) were eligible for the S source project. These sources were provided the option to amend their permits so that limits could be incorporated which maintain allowable emissions below 80 tpy. HSG's MAQP was amended to incorporate limits and conditions to maintain allowable emissions below this threshold. In addition, the permit updates the rule references, permit format, and the emissions inventory. **MAQP #2673-06** replaces MAQP #2673-05.

### IV. Applicable Rules and Regulations

The following rules are partial quotations 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.

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

- A. ARM 17.8.749 Conditions for Issuance of Permit. This rule requires that the source demonstrate compliance with applicable rules and standards before a permit can be issued. Also, a permit may be issued with such conditions as are necessary to assure compliance with all applicable rules and standards. Helena Sand & Gravel demonstrated compliance with all applicable rules and standards as required for permit issuance.
- B. ARM 17.8.764 Modification of Permit. An air quality permit may be modified 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 in emissions because of the changed conditions. A source may not increase its emissions beyond those found in its permit unless the source applies for and receives another permit.
- C. ARM 17.8.765 Transfer of Permit. An air quality permit may be transferred from one location to another if:
  - 1. Written notice of Intent to Transfer location and public notice is sent to the Department.
  - 2. The source will operate in the new location for a period of less than 1 year.
  - 3. The source will not have any significant impact on any nonattainment area or any Class I area.

Helena Sand & Gravel must submit proof of compliance with the transfer and public notice requirements when they transfer to the location(s) covered by this addendum, and will only be allowed to stay in the new location for a period of less than 1 year. Also, implementing the conditions and controls of this addendum will keep Helena Sand & Gravel from having a significant impact on any PM<sub>10</sub> nonattainment area.

V. Emission Inventory

**Winter Season-Emission Inventory**

Source	lbs/day						
	PM	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	VOC	CO	SO <sub>x</sub>
3 Crushers (up to 1100 TPH combined)	14.52	6.53	1.21				
3 Screens (up to 1300 TPH combined)	31.46	10.58	0.72				
Truck Unloading	2.29	0.23	0.03				
Material Transfers	22.02	7.24	0.03				
Pile Forming (2 Piles) controlled 50% water sprays	45.76	21.45	2.04				
Engine/Generator (up to 1495 hp)	11.51	11.51	11.51	394.68	11.59	42.92	33.71
Diesel Storage Tank (up to 10,000 gal)					74.16		
Haul Roads	75.29	21.40	1.84				
<b>Total</b>	202.85	78.94	17.39	394.68	85.75	42.92	33.71

Inventory reflects maximum allowable emissions for all pollutants based on maximum production and 9 hour per day operation. The operations have been limited to 11 hours per day to limit PM-10 below 82 lbs/day and NOx emissions below 547 lbs/day. Diesel Storage tank emissions were derived from EPA Tanks.

**Crusher - , controlled**

**3 Crushers (up to 1100 TPH combined)**

Maximum Process Rate:: 1100 ton/hr  
 Adjusted Process Rate: 1100 ton/hr  
 Hours of operation: 8760 hr/yr or 11 hr/day  
 12,100 tons/day

PM

Emissions:

(AP-42, Section 11.19.2-2, 8/04)  
 Emission Factor: 0.0012 lb/ton  
 Hourly Calculations: 0.0012 lb/ton \* 1100 ton/hr = 1.32 lb/hr  
 Daily Calculations: 1.32 lb/hr \* 11 hr/day = 14.52 lb/day  
 Annual Calculations: 1.32 lb/hr \* 8760 hr/yr \* 0.0005 ton/lb = 5.78 ton/yr

PM-10

Emissions:

(AP-42, Section 11.19.2-2, 8/04)  
 Emission Factor: 0.00054 lb/ton  
 Hourly Calculations: 0.00054 lb/ton \* 1100 ton/hr = 0.59 lb/hr  
 Daily Calculations: 0.594 lb/hr \* 11 hr/day = 6.53 lb/day  
 Annual Calculations: 0.594 lb/hr \* 8760 hr/yr \* 0.0005 ton/lb = 2.60 ton/yr

PM-2.5

Emissions:

(AP-42, Section 11.19.2-2, 8/04)  
 Emission Factor: 0.00010 lb/ton  
 Hourly Calculations: 0.0001 lb/ton \* 1100 ton/hr = 0.11 lb/hr  
 Daily Calculations: 0.11 lb/hr \* 1100 ton/hr = 1.21 lb/day  
 Annual Calculations: 0.11 lb/hr \* 8760 hr/yr \* 0.0005 ton/lb = 0.48 ton/yr

**Screen - controlled**

**3 Screens (up to 1300 TPH combined)**

Maximum Process Rate: 1300 ton/hr  
 Adjusted Process Rate: 1300 ton/hr  
 Hours of operation: 8760 hr/yr or 11 hr/day

operation:

14,300 tons/day

PM

Emissions:

Emission Factor:	0.0022 lb/ton	(AP-42, Section 11.19.2-2, 8/04)	
Hourly Calculations:	0.0022 lb/ton * 1300 ton/hr =		2.86 lb/hr
Daily Calculations:	2.86 lb/hr * 11 hr/day =		31.46 lb/day
Annual Calculations:	2.86 lb/hr * 8760 hr/yr * 0.0005 ton/lb =		12.53 ton/yr

PM-10

Emissions:

Emission Factor:	0.00074 lb/ton	(AP-42, Section 11.19.2-2, 8/04)	
Hourly Calculations:	0.00074 lb/ton * 1300 ton/hr =		0.96 lb/hr
Daily Calculations:	0.962 lb/hr * 11 hr/day =		10.58 lb/day
Annual Calculations:	0.962 lb/hr * 8760 hr/yr * 0.0005 ton/lb =		4.21 ton/yr

PM-2.5

Emissions:

Emission Factor:	0.00005 lb/ton	(AP-42, Section 11.19.2-2, 8/04)	
Hourly Calculations:	0.00005 lb/ton * 1300 ton/hr =		0.07 lb/hr
Daily Calculations:	0.065 lb/hr * 11 hr/day =		0.72 lb/day
Annual Calculations:	0.065 lb/hr * 8760 hr/yr * 0.0005 ton/lb =		0.28 ton/yr

**Material Transfer - controlled  
Truck  
Unloading**

Maximum Process Rate:	1300 ton/hr	
Adjusted Process Rate:	1300 ton/hr	
Number of Material Transfer Hours of operation:	1 Load 8760 hr/yr or 11 hr/day	

PM

Emissions:

Emission Factor:	0.00016 lb/ton	(AP-42, Section 11.19.2-2, 8/04)	
Hourly Calculations:	0.00016 lb/ton * 1300 ton/hr * 1 Load =		0.21 lb/hr
Daily Calculations:	0.208 lb/hr * 11 hr/day =		2.29 lb/day
Annual Calculations:	0.208 lb/hr * 8760 hr/yr * 0.0005 ton/lb =		0.91 ton/yr

PM-10

Emissions:

Emission Factor:	0.000016 lb/ton	(AP-42, Section 11.19.2-2, 8/04)	
Hourly Calculations:	0.000016 lb/ton * 1300 ton/hr * 1 Load =		0.02 lb/hr
Daily Calculations:	0.0208 lb/hr * 11 hr/day =		0.23 lb/day
Annual Calculations:	0.0208 lb/hr * 8760 hr/yr * 0.0005 ton/lb =		0.09 ton/yr

PM-2.5

Emissions:

Emission Factor:	0.0000024 lb/ton	(AP-42, Section 11.19.2-2, 8/04)	
Hourly Calculations:	0.0000024 lb/ton * 1300 ton/hr * 1 Load =		0.003 lb/hr
Daily Calculations:	0.00312 lb/hr * 18.2208 =		0.034 lb/day
Annual Calculations:	0.00312 lb/hr * 1 Load * 0.0005 ton/lb =		0.014 ton/yr

**Material Transfers**

Maximum Process Rate: 1300 ton/hr  
Adjusted Process Rate: 1300 ton/hr  
Number of Material Transfer Hours of operation: 11 number of Transfers  
8760 hr/yr or 11 hr/day

**PM Emissions:**

Emission Factor: 0.00014 lb/ton (AP-42, Section 11.19.2-2, 8/04)  
Hourly Calculations:  $0.00014 \text{ lb/ton} * 1300 \text{ ton/hr} * 11 \text{ number of Transfers} = 2.00 \text{ lb/hr}$   
Daily Calculations:  $2.002 \text{ lb/hr} * 11 \text{ hr/day} = 22.02 \text{ lb/day}$   
Annual Calculations:  $2.002 \text{ lb/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 8.77 \text{ ton/yr}$

**PM-10 Emissions:**

Emission Factor: 0.000046 lb/ton (AP-42, Section 11.19.2-2, 8/04)  
Hourly Calculations:  $0.000046 \text{ lb/ton} * 1300 \text{ ton/hr} * 11 \text{ number of Transfers} = 0.66 \text{ lb/hr}$   
Daily Calculations:  $0.6578 \text{ lb/hr} * 11 \text{ hr/day} = 7.24 \text{ lb/day}$   
Annual Calculations:  $0.6578 \text{ lb/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 2.88 \text{ ton/yr}$

**PM-2.5 Emissions:**

Emission Factor: 0.000013 lb/ton (AP-42, Section 11.19.2-2, 8/04)  
Hourly Calculations:  $0.000013 \text{ lb/ton} * 1300 \text{ ton/hr} * 11 \text{ number of Transfers} = 0.19 \text{ lb/hr}$   
Daily Calculations:  $0.1859 \text{ lb/hr} * 11 \text{ hr/day} = 2.04 \text{ lb/day}$   
Annual Calculations:  $0.1859 \text{ lb/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.81 \text{ ton/yr}$

**Pile Forming (2 Piles) controlled 50% water sprays**

Maximum Process Rate: 1300 ton/hr  
Adjusted Process Rate: 1300 ton/hr  
Number of Piles: 2 Piles  
Hours of operation: 8760 hr/yr or 11 hr/day

**PM Emissions:**

Emission Factor: 0.0032 lb/ton (AP-42, Section 13.2.4, 1/95)  
Hourly Calculations:  $0.0032 \text{ lb/ton} * 1300 \text{ ton/hr} * 2 \text{ Piles} * 50\% = 4.16 \text{ lb/hr}$   
Daily Calculations:  $4.16 \text{ lb/hr} * 11 \text{ hr/day} = 45.76 \text{ lb/day}$   
Annual Calculations:  $4.16 \text{ lb/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 18.22 \text{ ton/yr}$

**PM-10 Emissions:**

Emission Factor: 0.0015 lb/ton (AP-42, Section 13.2.4, 1/95)  
Hourly Calculations:  $0.0015 \text{ lb/ton} * 1300 \text{ ton/hr} * 2 \text{ Piles} * 50\% = 1.95 \text{ lb/hr}$   
Daily Calculations:  $1.95 \text{ lb/hr} * 11 \text{ hr/day} = 21.45 \text{ lb/day}$   
Annual Calculations:  $1.95 \text{ lb/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 8.54 \text{ ton/yr}$

**PM-2.5 Emissions:**

Emission Factor: 0.00024 lb/ton (AP-42, Section 13.2.4, 1/95)

Hourly Calculations:	$0.00024 \text{ lb/ton} * 1300 \text{ ton/hr} * 2 \text{ Piles} * 50\% =$	0.31	lb/hr
Daily Calculations:	$0.312 \text{ lb/hr} * 11 \text{ hr/day} =$	3.43	lb/day
Annual Calculations:	$0.312 \text{ lb/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} =$	1.37	ton/yr

### Engine/Generator (up to 1495 hp)

Horsepower rating= 1,495.00 hp

Hours of Operation: 4350 hr/yr or 11 hr/day

#### PM Emissions:

Emission Factor 7.00E-04 lb/hp-hr (AP-42 Table 3.3-1,10/96)

Hourly Calculations  $1495 \text{ hp} * 0.0007 \text{ lb/hp-hr} =$  1.05 lb/hr

Daily Calculations  $1495 \text{ hp} * 0.0007 \text{ lb/hp-hr} * 11 \text{ hr/day} =$  11.51 lb/day

Annual Calculations  $1495 \text{ hp} * 0.0007 \text{ lb/hp-hr} * 4350 \text{ hr/yr} * 0.0005 \text{ tons/lb} =$  2.28 ton/yr

#### PM-10 Emissions:

Emission Factor 7.00E-04 lb/hp-hr (AP-42 Table 3.3-1,10/96)

Hourly Calculations  $1495 \text{ hp} * 0.0007 \text{ lb/hp-hr} =$  1.05 lb/hr

Daily Calculations  $1495 \text{ hp} * 0.0007 \text{ lb/hp-hr} * 11 \text{ hr/day} =$  11.51 lb/day

Annual Calculations  $1495 \text{ hp} * 0.0007 \text{ lb/hp-hr} * 4350 \text{ hr/yr} * 0.0005 \text{ tons/lb} =$  2.28 ton/yr

#### PM-2.5 Emissions:

Emission Factor 7.00E-04 lb/hp-hr (AP-42 Table 3.3-1,10/96)

Hourly Calculations  $1495 \text{ hp} * 0.0007 \text{ lb/hp-hr} =$  1.05 lb/hr

Daily Calculations  $4350 \text{ hr/yr} * 0.0007 \text{ lb/hp-hr} * =$  11.51 lb/day

Annual Calculations  $4350 \text{ hr/yr} * 1495 \text{ hp} * 0.0007 \text{ lb/hp-hr} * 11 \text{ hr/day} = * *$   
 $0.0005 \text{ tons/lb} =$  2.28 ton/yr

#### NOx Emissions:

Emission Factor 0.024 lb/hp-hr (AP-42 Table 3.3-1,10/96)

Hourly Calculations  $1495 \text{ hp} * 0.024 \text{ lb/hp-hr} =$  35.88 lb/hr

Daily Calculations  $1495 \text{ hp} * 0.024 \text{ lb/hp-hr} * 11 \text{ hr/day} =$  394.68 lb/day

Annual Calculations  $1495 \text{ hp} * 0.024 \text{ lb/hp-hr} * 4350 \text{ hr/yr} * 0.0005 \text{ tons/lb} =$  78.04 ton/yr

#### VOC Emissions:

Emission Factor 7.05E-04 lb/hp-hr (AP-42 Table 3.3-1,10/96)

Hourly Calculations  $1495 \text{ hp} * 0.000705 \text{ lb/hp-hr} =$  1.05 lb/hr

Daily Calculations  $1495 \text{ hp} * 0.000705 \text{ lb/hp-hr} * 11 \text{ hr/day} =$  11.59 lb/day

Annual Calculations  $1495 \text{ hp} * 0.000705 \text{ lb/hp-hr} * 4350 \text{ hr/yr} * 0.0005 \text{ tons/lb} =$  ton/yr

**CO****Emissions:**

Emission Factor	5.50E-03 lb/hp-hr	(AP-42 Table 3.3-1,10/96)		
Hourly Calculations	1495 hp * 0.0055 lb/hp-hr =		8.22	lb/hr
Daily Calculations	1495 hp * 0.0055 lb/hp-hr * 11 hr/day =		42.92	lb/day
Annual Calculations	1495 hp * 0.0055 lb/hp-hr * 4350 hr/yr * 0.0005 tons/lb =		17.88	ton/yr

**SOx****Emissions:**

Emission Factor	2.05E-03 lb/hp-hr	(AP-42 Table 3.3-1,10/96)		
Hourly Calculations	1495 hp * 0.00205 lb/hp-hr =		3.06	lb/hr
Daily Calculations	1495 hp * 0.00205 lb/hp-hr * 11 hr/day =		33.71	lb/day
Annual Calculations	1495 hp * 0.00205 lb/hp-hr * 4350 hr/yr * 0.0005 tons/lb =		6.67	ton/yr

**Haul Roads**

Vehicle miles traveled: 10 VMT/day {Estimated}

**PM****Emissions:**

PM Emission Factor (Rated Load Capacity <50 tons):	13.90 Lbs/VMT	(AP-42, Section 13.2.2, 12/03)		
PM= (10 VMT/day)(13.90 Lbs/VMT)* 11 hrs/24 hrs/day="			75.29	Lbs/day
PM (TPY) =164.27 lbs/day *365 day/yr * 0.0005 tons/lb			29.98	tons/yr

**PM10****Emissions:**

PM10 Emission Factor (Rated Load Capacity <50 tons):	3.95 Lbs/VMT	(AP-42, Section 13.2.2, 12/03)		
PM= (10 VMT/day)(3.95 Lbs/VMT)* 11 hrs/24 hrs/day="			21.40	Lbs/day
46.68 lbs/day *365 day/yr * 0.0005 tons/lb			8.52	tons/yr

**PM2.5****Emissions:**

PM2.5 Emission Factor (Rated Load Capacity <50 tons):	0.34 Lbs/VMT	(AP-42, Section 13.2.2, 12/03)		
PM2.5= (10 VMT/day)(0.34 Lbs/VMT) *13hrs/24hrs="			1.84	Lbs/day
4.02 lbs/day *365 day/yr * 0.0005 tons/lb			0.73	tons/yr

**VI. Existing Air Quality**

On July 1, 1987, the Environmental Protection Agency (EPA) promulgated new National Ambient Air Quality Standards (NAAQS) for PM<sub>10</sub>. Due to exceedances of the national standards for PM<sub>10</sub>, the cities of Kalispell (and the nearby Evergreen area), Columbia Falls, Butte, Whitefish, Libby, Missoula, and Thompson Falls were designated by EPA as nonattainment for PM<sub>10</sub>. As a result of this designation, EPA required the Department and the City-County Health Departments to submit PM<sub>10</sub> State Implementation Plans (SIP). The SIPs consisted of emission control plans that controlled fugitive dust emissions from roads, parking lots, construction, and demolition, since technical studies determined these sources to be the major contributors to PM<sub>10</sub> emissions.

MAQP #2673-06 and Addendum 1 are for a portable crushing/screening plant to locate at sites in or within 10 km of certain PM<sub>10</sub> nonattainment areas during the winter season (October 1 through March 31). The more stringent operating conditions contained in the addendum will minimize any potential impact on the nonattainment areas and will protect the national ambient air quality standards. Also, this facility is a portable source that would be expected to operate on an intermittent and temporary basis and any effects on air quality would be expected to be minor and short-lived.

#### VII. Air Quality Impacts

Helena Sand and Gravel is allowed to operate a portable crushing/screening plant to be located at various locations throughout Montana. MAQP #2673-06 and Addendum #1 will cover the Helena Sand and Gravel crushing/screening plant while operating at any location within Montana, excluding those counties that have a Department-approved permitting program and those areas considered tribal lands. In the view of the Department, the amount of controlled particulate emissions generated by this project will not cause concentrations of PM<sub>10</sub> in the ambient air that exceed the ambient air quality standards. In addition, this source is portable and any air quality impacts will be minimal.

#### VIII. Taking or Damaging Analysis

As required by 2-10-101 through 105, MCA, the Department conducted a private property taking and damaging assessment and determined there are no taking or damaging implications.

#### IX. Environmental Assessment

An environmental assessment was not required for this permit change because it is considered an Administrative Amendment.