

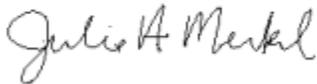
November 9, 2017

Luci Snowden
Knife River Corporation - North Central Asphalt Plant 1
3303 Rock Island Place
Bismarck, ND 58504

Dear Ms. Snowden:

Montana Air Quality Permit #5188-00 is deemed final as of November 9, 2017, by the Department of Environmental Quality (Department). This permit is for a new 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,



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



Loni Patterson
Environmental Engineer
Air Quality Bureau
(406) 444-1452

JM:LP
Enclosure

MONTANA AIR QUALITY PERMIT

Issued To: Knife River Corporation
North Central Asphalt Plant 1
3303 Rock Island Place
Bismarck, ND 58504

MAQP: #5188-00
Application Complete: 8/18/17
Preliminary Determination Issued: 9/21/2017
Department Decision Issued: 10/24/2017
Permit Final: 11/9/2017

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to Knife River Corporation (Knife River) for the North Central Asphalt Plant 1, pursuant to Sections 75-2-204 and 211 of the Montana Code 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. Permitted Equipment

Knife River proposes to install and operate a portable parallel flow drum mix-asphalt plant and associated equipment up to 400 tons per hour (TPH) maximum production capacity. This plant is referred to as North Central Asphalt Plant 1. A complete list of permitted equipment is contained in Section I.A of the permit analysis.

B. Plant Location

The Knife River North Central Asphalt Plant 1 hot-mix asphalt plant will initially be located at Section 13, Township 24 North, Range 59 East, in Richland County, Montana. However, MAQP #5188-00 applies while operating at any location within Montana, except within those areas having a Department of Environmental Quality (Department)-approved permitting program or tribal lands. *A Missoula County air quality permit will be required for locations within Missoula County.* An addendum will be required for locations in or within 10 km of certain PM₁₀ nonattainment areas.

Section II: Conditions and Limitations

A. Operational and Emission Limitations

1. Asphalt plant particulate matter emissions shall be limited to 0.04 grains per dry standard cubic foot (gr/dscf) (ARM 17.8.752, ARM 17.8.340 and 40 Code of Federal Regulations (CFR) 60 Subpart I).
2. Knife River shall not cause or authorize to be discharged into the atmosphere, from the asphalt plant, stack emissions that exhibit 20% opacity or greater averaged over 6 consecutive minutes (ARM 17.8.752, ARM 17.8.340 and 40 CFR 60 Subpart I).
3. Knife River 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 17.8.752, ARM 17.8.340, and 40 CFR 60 Subpart I).

4. All visible emissions from any non-New Source Performance Standard (NSPS) affected equipment shall not exhibit an opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.304).
5. Knife River 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 and ARM 17.8.752).
6. Knife River shall treat all unpaved portions of the haul roads, access roads, aggregate piles, waste piles and 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 17.8.752).
7. Knife River shall install, operate, and maintain a baghouse for control of particulate matter per the manufacturer's recommendations. A device to measure the pressure drop (magnahelic gauge, manometer etc.) on the control device (baghouse) must be installed and maintained. Pressure drop must be measured in inches of water (ARM 17.8.749 and ARM 17.8.752).
8. Knife River shall be limited to a maximum of 920,000 tons of asphalt production during any rolling 12-month period (ARM 17.8.749 and ARM 17.8.1204).
9. The asphalt production rate shall be limited to the average production rate during the last source test demonstrating compliance (ARM 17.8.749).
10. Knife River shall not operate, or have on site, more than one diesel-fired engine/generator set at any given time (associated with this permit) and the maximum rated combined design capacity of the diesel engines driving the generator sets shall not exceed 1877 brake-horsepower (bhp) (ARM 17.8.749).
11. Operation of the hot-mix asphalt plant, including the diesel-fired engine/generator set, shall not exceed 2,300 hours during any rolling 12-month time period (ARM 17.8.749 and ARM 17.8.1204).
12. Knife River shall comply with all applicable standards and limitations, and the reporting, recordkeeping, testing, and notification requirements contained in 40 CFR 60, Subpart I, Standards of Performance for Hot Mix Asphalt Facilities (ARM 17.8.340 and 40 CFR 60, Subpart I).
13. Knife River shall comply with all applicable standards and limitations, and the reporting, recordkeeping, testing, and notification requirements contained in 40 CFR 60, Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines and 40 CFR 63, Subpart ZZZZ, National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines, for any applicable

diesel-fired engine (ARM 17.8.340, 40 CFR 60, Subpart IIII; ARM 17.8.342 and 40 CFR 63, Subpart ZZZZ).

14. If the permitted equipment is used in conjunction with any other equipment owned or operated by Knife River, at the same site, production shall be limited to correspond with an emission level that does not exceed 250 tons of emissions 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. Testing Requirements

1. Within 60 days after achieving maximum production, but no later than 180 days after initial start-up, an Environmental Protection Agency (EPA) Methods 1-5 and Method 9 source test shall be performed on the asphalt drum mix dryer exhaust stack to demonstrate compliance with Section II.A.1 and Section II.A.2. Testing shall continue on an every 4-year basis or according to another testing/monitoring schedule as may be approved by the Department (ARM 17.8.105, ARM 17.8.340, ARM 17.8.749, and 40 CFR 60, Subpart I). Additional testing may be required by 40 CFR 60, Subpart I (ARM 17.8.340 and 40 CFR 60, Subpart I).
2. Since asphalt production will be limited to the average production rate during the compliance source test, it is suggested that the test be performed at the highest practical production rate (ARM 17.8.749).
3. Pressure across the baghouse must be recorded at least once daily whenever the asphalt plant is operated and kept on site according to Section II.A.7 (ARM 17.8.749).
4. Pressure drop across the baghouse must be recorded during the compliance source test and reported as part of the test results (ARM 17.8.749).
5. Knife River may retest at any time in order to test at a higher production rate (ARM 17.8.749).
6. All compliance source tests shall conform to the requirements of the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).
7. The Department may require further testing (ARM 17.8.105).

C. Operational Recordkeeping and Reporting Requirements

1. If the 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 where the transfer is to be made, at least 15 days prior to the move. The Intent to Transfer Form and 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 17.8.765).

2. Knife River shall maintain on-site records showing daily hours of operation, daily production rates, and daily pressure drop for the last 12-months. The records compiled in accordance with this permit shall be maintained by Knife River as a permanent business record for at least 5 years following the date of the measurement, shall be submitted to the Department upon request, and shall be available at the plant for inspection by the Department (ARM 17.8.749).
3. Knife River shall maintain on-site records showing any inspection, maintenance and repairs on the rotary drum baghouse (ARM 17.8.749).
4. Knife River 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 is not limited to, all sources identified in the most recent emission inventory report and sources identified in Section I.A of 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 units, as required by the Department. This information may be used for calculating fees, based on actual emissions from the facility, and/or to verify compliance with permit limitations (ARM 17.8.505).

5. Knife River 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 start up 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(1)(d) (ARM 17.8.745).
6. Knife River shall document, by month, the total plant production of asphalt in tons. By the 25th day of each month, Knife River shall total the production of asphalt for 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).
7. Knife River shall document, by month, the hours of operation of the diesel engine/generator sets and hours of operation of the asphalt plant. By the 25th day of each month, Knife River shall total the hours of operation of the engine/generator sets for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.11. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).

8. Knife River shall annually certify that its 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. The annual certification shall be submitted along with the annual emissions inventory information (ARM 17.8.749 and ARM 17.8.1204).

D. Notification

1. Within 30 days of commencement of construction of any New Source Performance Standard (NSPS)-affected equipment, Knife River shall notify the Department of the date of commencement of construction of the affected equipment (ARM 17.8.340 and 40 CFR 60, Subpart A and Subpart I).
2. Within 15 days of the actual start-up date of any NSPS-affected equipment, Knife River shall submit written notification to the Department of the initial start-up date of the affected equipment (ARM 17.8.340 and 40 CFR 60, Subpart A and Subpart I).
3. Within 15 days of the actual start-up date of any non-NSPS-affected equipment, Knife River shall submit written notification to the Department of the initial start-up date of the affected equipment (ARM 17.8.749).

Section III: General Conditions

- A. Inspection – Knife River 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 (CEMS, 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 Knife River fails to appeal as indicated below.
- C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving Knife River 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. Permit Fee – Pursuant to Section 75-2-220, MCA, failure to pay the annual operation fee by Knife River 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. Knife River 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
Knife River Corporation – North Central Asphalt Plant 1
MAQP #5188-00

I. Introduction/Process Description

Knife River Corporation (Knife River) proposes to install and operate a portable rotary drum mix asphalt plant with a maximum rated design capacity up to 400 tons per hour (TPH) of asphalt production. This plant is referred to as North Central Asphalt Plant 1.

A. Permitted Equipment

The following list of permitted equipment is provided for reference, as portions of MAQP #5188-00 are written de minimis friendly, whereby operational flexibility is provided so that alternate equipment may be utilized as long as maximum permitted capacities are not exceeded. See Section II of the MAQP for specific equipment limitations and/or conditions. Equipment permitted under this action includes, but is not limited to the following:

- Gencor 400 UDP-62009-98-4A parallel flow drum mixer (400 tons per hour (tph) capacity) with baghouse for particulate control
- One diesel-fired engine/generators set 1877 brake-horse power (bhp)
- Asphalt cement heater/hot oil heater
- Two 200 ton hot mix asphalt storage silos
- Collecting feed conveyor, 400 tph capacity
- Plant feed conveyor, 400 tph capacity
- And associated equipment

B. Source Description

For a typical operational set-up, aggregate materials are taken from the on-site aggregate stockpiles and dumped via a front end loader and dumped into the cold aggregate feed bins. The cold aggregate is then transferred from the cold aggregate feed bins via conveyor to the rotary drum. The cold aggregate is dried and heated within the drum mixer. The dryer exhaust vents to the baghouse. Hot asphalt is transferred to the asphalt silo and then loaded into trucks for transport to project sites.

C. Response to Public Comment

Person/Group Commenting	Permit Reference	Comment	Department Response
Department review	Section II.B.1	Testing requirements condition was missing the Method 9 source test and Section II.A.2 reference.	Implemented /corrected.

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 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 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).

Knife River 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 that, without resulting in reduction in the total amount of air contaminant emitted, conceals or dilutes an emission of air contaminant that 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 17.8.204 Ambient Air Monitoring
2. ARM 17.8.210 Ambient Air Quality Standards for Sulfur Dioxide
3. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide
4. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide
5. ARM 17.8.213 Ambient Air Quality Standard for Ozone
6. ARM 17.8.214 Ambient Air Quality Standard for Hydrogen Sulfide
7. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter
8. ARM 17.8.221 Ambient Air Quality Standard for Visibility
9. ARM 17.8.222 Ambient Air Quality Standard for Lead
10. ARM 17.8.223 Ambient Air Quality Standard for PM₁₀
11. ARM 17.8.230 Fluoride in Forage

Knife River must comply 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 into the outdoor atmosphere from any source installed after November 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 are taken to control emissions of airborne particulate matter. (2) Under this rule, Knife River 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 rule requires that no person shall cause or authorize 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 Code of Federal Regulations (CFR) Part

60, Standards of Performance for New Stationary Sources (NSPS). Based on the information submitted by Knife River the portable drum mix-asphalt plant and associated equipment are subject to NSPS (40 CFR 60), as follows:

- a. 40 CFR 60, Subpart A – General Provisions. This subpart applies to all equipment or facilities subject to an NSPS subpart as listed below:
- b. 40 CFR 60, Subpart I – Standards of Performance of Hot Mix Asphalt Facilities. In order for an asphalt 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 Knife River, the asphalt plant equipment to be used under MAQP #5188-00 is subject to this subpart because the source is a hot mix asphalt facility.
- c. 40 CFR 60, Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants. In order for screening equipment 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 Knife River, the screening equipment to be used under MAQP #5188-00 is not subject to this subpart because the facility will not perform crushing and grinding.
- d. 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 Knife River, the CI ICE equipment to be used under MAQP #5188-00 is potentially subject to his subpart if it remains at a single 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. Based on the information submitted by Knife River the diesel-fired engine associated with MAQP #5188-00 is potentially applicable to NESHAP (40 CFR 63), as follows:
 - a. 40 CFR 63, Subpart A – General Provisions. This subpart applies to all equipment or facilities subject to a NESHAP subpart as listed below:
 - b. 40 CFR 63, Subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants (NESHAPs) 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. A RICE is considered stationary if it remains or will remain at the permitted location for more than 12 months, or a shorter period of time for an engine located at a seasonal source. A seasonal source remains at a single location on a permanent basis (at least 2 years) and operates 3 months or more each year. Based on the information submitted by Knife River, the RICE equipment to be used under this permit may be subject to this subpart because they are an area source of HAP emissions and the engine may remain at the same home pit location for more than 12 consecutive 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. Knife River 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. Knife River submitted the appropriate permit application fee for the current 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 actual 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 that 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 MAQP or permit modification to construct, modify, or use any asphalt plant, crusher or screen that has the potential to emit (PTE) greater than 15 tons per year (TPY) of any pollutant. Knife River has a PTE greater than 15 TPY of oxides of nitrogen (NO_x), carbon monoxide (CO), volatile organic compounds (VOCs), sulfur dioxide (SO₂) particulate matter (PM) and particulate matter with an aerodynamic diameter of 10 microns or less (PM₁₀); therefore, an MAQP 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 MAQP program.
5. ARM 17.8.748 New or Modified Emitting Units--Permit Application Requirements. This rule requires that a permit application be submitted prior to installation, modification or use of a source. Knife River submitted the required permit application for the current permit action. (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. Knife River submitted an affidavit of publication of public notice for the August 9, 2017, issue of the *Sidney Herald*, a newspaper of general circulation in the town of Sidney, Richland County.
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 Knife River 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 MAQP shall be valid until revoked or modified, as provided in this subchapter, except that a permit issued prior to construction of a new or modified 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 MAQP 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).
13. ARM 17.8.764 Administrative Amendment to Permit. An MAQP 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.
14. ARM 17.8.765 Transfer of Permit. (1) This rule states that an MAQP 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 MAQP 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 FCAA 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 the facility's PTE is less than 250 tons per year of any pollutant (excluding fugitive emissions).

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 lesser quantity as the Department may establish by rule, or
- c. PTE > 70 tons/year of PM₁₀ in a serious PM₁₀ nonattainment 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 #5188-00 for CCA the following conclusions were made:

- a. The facility's PTE is less than 100 tons/year for any pollutant.
- b. The facility's PTE is less than 10 TPY for any single HAP and less than 25 TPY of combined HAPs.
- c. This source is not located in a serious PM₁₀ nonattainment area.
- d. This facility is subject to a current NSPS (40 CFR 60, Subpart I and potentially subject to 40 CFR 60, Subpart IIII).
- e. This facility is potentially subject to a current NESHAP (40 CFR 63, Subpart ZZZZ).
- f. This source is not a Title IV affected source.
- g. This source is not a solid waste combustion unit.
- h. This source is not an EPA designated Title V source.

Knife River 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.

- i. 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.

3. ARM 17.8.1207 Certification of Truth, Accuracy, and Completeness. The compliance certification submittal required by ARM 17.8.1204(3)(a) 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 modified source. Knife River shall install on the new or modified source the maximum air pollution control capability which is technically practicable and economically feasible, except that BACT shall be utilized.

A. Asphalt Drum Mixer

The Department reviewed relevant control options, as well as previous BACT determinations. The following control options were reviewed by the Department in order to make the following BACT determinations:

- Fabric Filter Baghouse
- Electrostatic Precipitator
- Cyclone
- Wet Scrubber

All of the listed technologies are deemed technically feasible for this application. Technical feasible control options, in order the highest control efficiency to the lowest control efficiency base on PM control are as follows:

1. Fabric Filter Baghouse (99 – 99.9% efficient) (EPA Fact Sheet EPA-452/F-03-025, 07/15/03)
2. Electrostatic Precipitator (99 – 99.9% efficient) (EPA Fact Sheet EPA-452/F-03-028, 07/15/03)
3. Cyclone (up to 99% efficient) (EPA Fact Sheet EPA-452/F-03-005, 07/15/03)
4. Wet Scrubber (70 – greater than 99% efficient) (EPA Fact Sheet EPA-452/F-03-0017, 07/15/03)

Knife River has proposed to use a baghouse for the control of PM from the exhaust of the 1998 Gencor portable parallel flow drum mixer. Because Knife River proposes to use the highest rated control device (baghouse), no further economic analysis is needed. The control option selected has control technology and a control cost comparable to other recently permitted similar sources and is capable of achieving the appropriate emissions standards. Operating and maintaining a baghouse will constitute BACT for the asphalt drum mixer. All asphalt drum mixer emissions are limited to 0.04 grains per dry standard cubic foot (gr/dscf) for particulate and 20 percent opacity in accordance with 40 CFR 60, Subpart I. Knife River shall install and operate a device to measure the pressure drop (magnehelic gauge, manometer, etc.) across the baghouse.

B. Diesel Generators

Due to the limited amount of emissions produced by the diesel-fired engines used in association with MAQP #5188-00 and the lack of cost effective add-on controls, such add-on controls would be cost prohibitive. Therefore, the Department determined that proper operation and maintenance with no add-on controls would constitute BACT for the diesel-fired engines.

In addition, any existing or new diesel-fired engine would likely be required to comply with the federal engine emission limitations including EPA Tiered emission standards for non-road engines (40 CFR Parts 89 and 1039), NSPS emission limitations for stationary compression ignition engines (40 CFR 60, Subpart IIII), or National Emissions Standards for Hazardous Air Pollutant Sources for Reciprocating Internal Combustion Engines (40 CFR 63, Subpart ZZZZ). Therefore, the Department has determined that compliance with applicable federal standards and proper operation and maintenance of the engines constitutes BACT for this engine.

C. Fugitive Emissions

Knife River must take reasonable precautions to limit the fugitive emissions of airborne particulate matter on haul roads, access roads, parking lots, and the general plant area. Reasonable precautions include treating 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. Using water and/or chemical dust suppressant to comply with the reasonable precautions limitation will be considered BACT.

The control options selected contain control equipment and control costs comparable to other recently permitted similar sources and are capable of achieving the appropriate emission standards.

IV. Emission Inventory

CONTROLLED Emission Source	tons/year						
	PM	PM10	PM2.5	NO _x	CO	VOC	SO ₂
Cold Aggregate Storage Piles	13.91	6.58	1.00	--	--	--	--
Cold Aggregate Handling/Conveyors	1.96	0.64	0.18	--	--	--	--
Cold Aggregate Screens	0.00	0.00	0.00	--	--	--	--
Diesel-Fired Asphalt Oil Heater	--	--	--	--	0.02	--	--
400 TPH Drum Mix Asphalt Plant Dryer	24.54	10.58	10.26	25.30	59.80	14.72	26.68
Asphalt Product Silo Filling	0.27	0.27	0.27	--	0.54	--	--
Batch Mix Plant Load-Out	1.62	0.50	0.28	--	0.62	--	--
Lime Silo	0.00	0.00	0.00	--	--	--	--
Haul Roads / Vehicle Traffic	1.49	0.41	0.04	--	--	--	--
1877 hp Diesel Engine Generator	4.75	4.75	4.75	66.92	14.42	5.43	4.43
67 hp Night Diesel Engine Generator	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jaw Crusher	0.00	0.00	0.00	--	--	--	--
Cone Crushers	0.00	0.00	0.00	--	--	--	--
Wash Plant	2.89	0.97	0.07	--	--	--	--
Total Emissions	51.42	24.71	16.84	92.22	75.40	20.15	31.11

Cold Aggregate Storage Piles

Maximum Process Rate = 400 ton/hr (Maximum plant process rate) ton/h
400 r
Maximum Hours of Operation = 8,760 hrs/yr hrs/y
8,760 r
Number of Piles = 1 piles 1 piles

PM Emissions:

Predictive equation for emission factor provided per AP 42, Sec. 13.2.4.3, 11/06.

Emission Factor = $k (0.0032) * (U/5)^{1.3} * (M / 2)^{-1.4} = 0.00794 \text{ lb/ton}$ 0.0079 lb/to
4 n

Where: k = particle size multiplier = 0.74 (Value for PM < 30 microns per AP 42, Sec. 13.2.4.3, 11/06) 0.74

U = mean wind speed = 9.3 mph (11-3 Aggregate Pile Forming 8/15) 9.3 mph

M = material moisture content = 1.5% (11-3 Aggregate Pile Forming 8/15) 1.5 %

Control Efficiency = 0% (Water or chemical spray) 0 %

Calculation: $(400 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.00794 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 \text{ piles}) = 13.91 \text{ ton/yr}$ ton/y
13.91 r

Calculation: $(400 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.00794 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 \text{ piles}) * (1 - 0/100) = 13.91 \text{ ton/yr}$ ton/y
13.91 r

PM10 Emissions:

Predictive equation for emission factor provided per AP 42, Sec. 13.2.4.3, 11/06.

Emission Factor = $k (0.0032) * (U/5)^{1.3} * (M / 2)^{-1.4} = 0.00375 \text{ lb/ton}$ 0.0037
5 lb/ton

Where: k = particle size multiplier = 0.35 (Value for PM < 10 microns per AP 42, Sec. 13.2.4.3, 11/06) 0.35

U = mean wind speed = 9.3 mph (11-3 Aggregate Pile Forming 8/15) 9.3 mph

M = material moisture content = 1.5% (11-3 Aggregate Pile Forming 8/15) 1.5 %

Control Efficiency = 0% (Water or chemical spray) 0 %

Calculation: $(400 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.00375 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 \text{ piles}) = 6.58 \text{ ton/yr}$ **6.58** ton/yr

Calculation: $(400 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.00375 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 \text{ piles}) * (1 - 0/100) = 6.58 \text{ ton/yr}$ **6.58** ton/yr

PM2.5 Emissions:

Predictive equation for emission factor provided per AP 42, Sec. 13.2.4.3, 11/06.

Emission Factor = $k (0.0032) * (U/5)^{1.3} * (M / 2)^{-1.4} = 0.00024 \text{ lb/ton}$ 0.0005
7 lb/ton

Where: k = particle size multiplier = 0.053 (Value for PM < 2.5 microns per AP 42, Sec. 13.2.4.3, 11/06) 0.053

U = mean wind speed = 8.2 mph (Average from values provided in AP 42, Sec. 13.2.4.3, 11/06) 9.3 mph

M = material moisture content = 2.5% (Average from values provided in AP 42, Sec. 13.2.4.3, 11/06) 1.5 %

Control Efficiency = % (Water or chemical spray) %

Calculation: $(400 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.00057 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 \text{ piles}) = 1.00 \text{ ton/yr}$ **1.00** ton/yr

Calculation: $(150 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.00024 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 \text{ piles}) * (1 - /100) = 0.16 \text{ ton/yr}$ **1.00** ton/yr

Conveyor Transfer Point (SCC 3-05-02006)

Maximum Process Rate = 400 ton/hr (Maximum plant process rate) ton/h
400 r

Maximum Hours of Operation = 8,760 hrs/yr	8,760	hrs/yr
Number of Transfers = 8 transfer (process diagram Excludes RAP transfers)	8	transfer

Total PM Emissions:

Emission Factor = 0.00014 lb/ton (0.0030 uncontrolled, 0.00014 controlled, AP 42, Table 11.19.2-2, 8/04)	0.00014	lb/ton
Control Efficiency = 0%	0	%
Calculation: (400 ton/hr) * (8760 hrs/yr) * (0.00014 lb/ton) * (ton/2000 lb) * (8 transfer) = 1.96 ton/yr	1.96	ton/yr
Calculation: (400 ton/hr) * (8760 hrs/yr) * (0.00014 lb/ton) * (ton/2000 lb) * (8 transfer) * (1 - 0/100) = 1.96 ton/yr	1.96	ton/yr

Total PM10 Emissions:

Emission Factor = 0.000046 lb/ton (0.00110 uncontrolled, 0.000046 controlled, AP 42, Table 11.19.2-2, 8/04)	0.000046	lb/ton
Control Efficiency = 0%	0	%
Calculation: (400 ton/hr) * (8760 hrs/yr) * (0.000046 lb/ton) * (ton/2000 lb) * (8 transfer) = 0.64 ton/yr	0.64	ton/yr
Calculation: (400 ton/hr) * (8760 hrs/yr) * (0.000046 lb/ton) * (ton/2000 lb) * (8 transfer) * (1 - 0/100) = 0.64 ton/yr	0.64	ton/yr

Total PM2.5 Emissions

Emission Factor = 0.000013 lb/ton (0.000013 controlled, AP 42, Table 11.19.2-2, 8/04)	0.000013	lb/ton
Calculation: (400 ton/hr) * (8760 hrs/yr) * (0.000013 lb/ton) * (ton/2000 lb) * (8 transfer) = 0.18 ton/yr	0.18	ton/yr

Hot Oil Heater

Production Rate = 15.10 gal/hr (Company information)	15.10	gal/hr
Maximum Hours of Operation = 2,300 hrs/yr	2,300	hrs/yr

CO Emissions:

Emission Factor = 0.0012 lb/gal (AP-42, Section 11.1, Table 11.1-13, No. 2 Fuel Oil, 3/04)	0.0012	lb/gal
Control Efficiency = 0%	0	%
Calculation: (2300 hrs/yr) * (15.10 gal/hr) * (0.0012 lb/gal) * (ton/2000 lb) = 0.02 ton/yr	0.02	ton/yr
Calculation: (2300 hrs/yr) * (15.10 gal/hr) * (0.0012 lb/gal) * (ton/2000 lb) * (1 - 0/100) = 0.02 ton/yr	0.02	ton/yr

CO₂ Emissions:

Emission Factor = 28 lb/gal (AP-42, Section 11.1, Table 11.1-13, No. 2 Fuel Oil, 3/04)	28	lb/gal
Calculation: (2100 hrs/yr) * (1.25 gal/hr) * (28 lb/gal) * (ton/2000 lb) = 36.75 ton/yr	486.2	ton/yr
	2	r

Dryer, fabric filter (SCC 3-05-002-05, -55 to -63)

Maximum Process Rate = 400 ton/hr (Application information)	400	ton/hr
Maximum Hours of Operation = 2,300 hrs/yr	2,300	hrs/yr

Total PM Emissions:

Based on AP-42
Based on Emission Limit

Emission Factor = 0.04 gr/dscf (permit limit)	0.04	gr/dscf
Calculation: $(0.04 \text{ gr/dscf}) * (39,596 \text{ dscfm}) * (1 \text{ lb} / 7000 \text{ gr}) * (60 \text{ min/hr}) = 13.58 \text{ lb/hr}$	13.58	lb/hr
Calculation: $(13.58 \text{ lb/hr}) * (2300 \text{ hrs/yr}) * (0.0005 \text{ ton/lb}) = 15.61 \text{ ton/yr}$	15.61	ton/yr

Condensable PM

Emission Factor = 0.0194 lb/ton (fabric filter, AP 42, Table 11.1-3, 3/04)	0.0194	lb/ton
Calculation: $(400 \text{ ton/hr}) * (2300 \text{ hrs/yr}) * (0.0194 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = 8.92 \text{ ton/yr}$	8.92	ton/yr

PM₁₀ Emissions:

Based on AP-42

Emission Factor = 0.023 lb/ton (fabric filter, AP 42, Table 11.1-3, 3/04)	0.023	lb/ton
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Calculation: $(400 \text{ ton/hr}) * (2300 \text{ hrs/yr}) * (0.023 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = 10.58 \text{ ton/yr}$	10.58	ton/yr
	10.58	ton/yr

Filterable PM₁₀ Emissions:

Emission Factor = 0.0039 lb/ton (fabric filter, AP 42 Table 11.1-3, 3/04)	0.0039	lb/ton
Calculation: $(400 \text{ ton/hr}) * (2300 \text{ hrs/yr}) * (0.0039 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = 1.79 \text{ ton/yr}$	1.79	ton/yr

Condensable PM₁₀

Emission Factor =

Calculation: $(400 \text{ ton/hr}) * (2300 \text{ hrs/yr}) * () * (\text{ton}/2000 \text{ lb}) = 0.00$

Filterable PM_{2.5} Emissions:

Emission Factor = 0.0029 lb/ton (fabric filter, AP 42, Table 11.1-4, 3/04)	0.0029	lb/ton
Calculation: $(400 \text{ ton/hr}) * (2300 \text{ hrs/yr}) * (0.0029 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = 1.33 \text{ ton/yr}$	1.33	ton/yr

Condensable PM_{2.5} Emissions:

Emission Factor = 0.0194 lb/ton (fabric filter, AP 42, Table 11.1-3, 3/04)	0.0194	lb/ton
Calculation: $(400 \text{ ton/hr}) * (2300 \text{ hrs/yr}) * (0.0194 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = 8.92 \text{ ton/yr}$	8.92	ton/yr

CO Emissions:

Emission Factor = 0.13 lb/ton (waste oil-fired dryer, AP 42, Table 11.1-7, 3/04)	0.13	lb/ton
Control Efficiency = 0%	0	%
Calculation: $(400 \text{ ton/hr}) * (2300 \text{ hrs/yr}) * (0.13 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = 59.80 \text{ ton/yr}$	59.80	ton/yr
Calculation: $(400 \text{ ton/hr}) * (2300 \text{ hrs/yr}) * (0.13 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 - 0/100) = 59.80 \text{ ton/yr}$	59.80	ton/yr

NO_x Emissions:

Emission Factor = 0.055 lb/ton (waste oil-fired dryer, AP 42, Table 11.1-7, 3/04)	0.055	lb/ton
Control Efficiency = 0%	0	%
Calculation: $(400 \text{ ton/hr}) * (2300 \text{ hrs/yr}) * (0.055 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = 25.30 \text{ ton/yr}$	25.30	ton/yr
Calculation: $(400 \text{ ton/hr}) * (2300 \text{ hrs/yr}) * (0.055 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 - 0/100) = 25.30 \text{ ton/yr}$	25.30	ton/yr

SO₂ Emissions:

Emission Factor = 0.058 lb/ton (waste oil-fired dryer, AP 42, Table 11.1-7, 3/04)	0.058	lb/ton
Calculation: $(400 \text{ ton/hr}) * (2300 \text{ hrs/yr}) * (0.058 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = 26.68 \text{ ton/yr}$	26.68	ton/yr
Calculation: $(400 \text{ ton/hr}) * (2300 \text{ hrs/yr}) * (0.058 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 - /100) = 26.68 \text{ ton/yr}$	26.68	ton/yr

TOC Emissions:

Emission Factor = 0.044 lb/ton (waste oil-fired dryer, AP 42, Table 11.1-8, 3/04) 0.044 lb/ton

Calculation: $(400 \text{ ton/hr}) * (2300 \text{ hrs/yr}) * (0.044 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = 20.24 \text{ ton/yr}$ 20.24 ton/yr

Calculation: $(400 \text{ ton/hr}) * (2300 \text{ hrs/yr}) * (0.044 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 - /100) = 20.24 \text{ ton/yr}$ 20.24 ton/yr

CH4 Emissions:

Emission Factor = 0.012 lb/ton (waste oil-fired dryer, AP 42, Table 11.1-8, 3/04) 0.012 lb/ton

Calculation: $(400 \text{ ton/hr}) * (2300 \text{ hrs/yr}) * (0.012 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = 5.52 \text{ ton/yr}$ 5.52 ton/yr

Calculation: $(400 \text{ ton/hr}) * (2300 \text{ hrs/yr}) * (0.012 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 - /100) = 5.52 \text{ ton/yr}$ 5.52 ton/yr

VOC Emissions:

Emission Factor = 0.032 lb/ton (waste oil-fired dryer, AP 42, Table 11.1-8, 3/04) 0.032 lb/ton
%

Calculation: $(400 \text{ ton/hr}) * (2300 \text{ hrs/yr}) * (0.032 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = 14.72 \text{ ton/yr}$ 14.72 ton/yr

Calculation: $(400 \text{ ton/hr}) * (2300 \text{ hrs/yr}) * (0.032 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 - /100) = 14.72 \text{ ton/yr}$ 14.72 ton/yr

Total HAPs Emissions:

Emission Factor = 0.01 lb/ton (waste oil-fired dryer with fabric filter, AP 42, Table 11.1-10, 3/04) 0.01 lb/ton

Calculation: $(400 \text{ ton/hr}) * (2300 \text{ hrs/yr}) * (0.01 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = 4.60 \text{ ton/yr}$ 4.60 ton/yr

Emission Factor = 15.318 ton/yr 15.318 ton/yr

Silo Filling (SCC 3-05-002-13)

Maximum Process Rate = 800 ton/hr (2 silos Maximum plant process rate) 800 ton/hr

Maximum Hours of Operation = 2,300 hrs/yr 2,300 hrs/yr

Total PM Emissions:

Predictive equation for emission factor provided per AP 42, Table 11.1-14, 3/04.

Emission Factor = $0.000332 + 0.00105(-V)e^{((0.0251)(T + 460) - 20.43)} = 0.00059 \text{ lb/ton}$ 0.00059 lb/ton

Where: V = Asphalt volatility = -0.5 (Default value per AP 42, Table 11.1-14, 3/04) -0.5

T = HMA mix temperature = 325 F (Default value per AP 42, Table 11.1-14, 3/04) 325 F

Control Efficiency = 0% 0 %

Calculation: $(800 \text{ ton/hr}) * (2300 \text{ hrs/yr}) * (0.00059 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = 0.54 \text{ ton/yr}$ 0.54 ton/yr

Calculation: $(800 \text{ ton/hr}) * (2300 \text{ hrs/yr}) * (0.00059 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 - 0/100) = 0.54 \text{ ton/yr}$ 0.54 ton/yr

Organic PM Emissions:

Predictive equation for emission factor provided per AP 42, Table 11.1-14, 3/04.

Emission Factor = $0.00105(-V)e^{((0.0251)(T + 460) - 20.43)} = 0.00025 \text{ lb/ton}$ 0.00025 lb/ton

Where: V = Asphalt volatility = -0.5 (Default value per AP 42, Table 11.1-14, 3/04) -0.5

T = HMA mix temperature = 325 F (Default value per AP 42, Table 11.1-14, 3/04) 325 F

Control Efficiency = 0% 0 %

Calculation: $(800 \text{ ton/hr}) * (2300 \text{ hrs/yr}) * (0.00025 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = 0.23 \text{ ton/yr}$ 0.23 ton/yr

Calculation: $(800 \text{ ton/hr}) * (2300 \text{ hrs/yr}) * (0.00025 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 - 0/100) = 0.23 \text{ ton/yr}$ 0.23 ton/yr

ton/yr

r

TOC Emissions:

Predictive equation for emission factor provided per AP 42, Table 11.1-14, 3/04.

Emission Factor = $0.0504(-V)e^{((0.0251)(T + 460) - 20.43)}$ = 0.01219 lb/ton

Where: V = Asphalt volatility = -0.5 (Default value per AP 42, Table 11.1-14, 3/04)

T = HMA mix temperature = 325 F (Default value per AP 42, Table 11.1-14, 3/04)

Control Efficiency = 0%

Calculation: (800 ton/hr) * (2300 hrs/yr) * (0.01219 lb/ton) * (ton/2000 lb) = 11.21 ton/yr

Calculation: (800 ton/hr) * (2300 hrs/yr) * (0.01219 lb/ton) * (ton/2000 lb) * (1 - 0/100) = 11.21 ton/yr

0.0121 lb/ton
9 n
-0.5
325 F
0 %
ton/y
11.21 r
ton/y
11.21 r

CO Emissions:

Predictive equation for emission factor provided per AP 42, Table 11.1-14, 3/04.

Emission Factor = $0.00488(-V)e^{((0.0251)(T + 460) - 20.43)}$ = 0.00118 lb/ton

Where: V = Asphalt volatility = -0.5 (Default value per AP 42, Table 11.1-14, 3/04)

T = HMA mix temperature = 325 F (Default value per AP 42, Table 11.1-14, 3/04)

Control Efficiency = 0%

Calculation: (800 ton/hr) * (2300 hrs/yr) * (0.00118 lb/ton) * (ton/2000 lb) = 1.09 ton/yr

Calculation: (800 ton/hr) * (2300 hrs/yr) * (0.00118 lb/ton) * (ton/2000 lb) * (1 - 0/100) = 1.09 ton/yr

0.0011 lb/ton
8 n
-0.5
325 F
0 %
ton/y
1.09 r
ton/y
1.09 r

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

Maximum Process Rate = 400 ton/hr (Maximum plant process rate)

Maximum Hours of Operation = 2,300 hrs/yr

ton/h
400 r
hrs/y
2,300 r

Total PM Emissions:

Predictive equation for emission factor provided per AP 42, Table 11.1-14, 3/04.

Emission Factor = $0.000181 + 0.00141(-V)e^{((0.0251)(T + 460) - 20.43)}$ = 0.00052 lb/ton

Where: V = Asphalt volatility = -0.5 (Default value per AP 42, Table 11.1-14, 3/04)

T = HMA mix temperature = 325 F (Default value per AP 42, Table 11.1-14, 3/04)

Control Efficiency = 0%

Calculation: (400 ton/hr) * (2300 hrs/yr) * (0.00052 lb/ton) * (ton/2000 lb) = 0.24 ton/yr

Calculation: (400 ton/hr) * (2300 hrs/yr) * (0.00052 lb/ton) * (ton/2000 lb) * (1 - 0/100) = 0.24 ton/yr

lb/ton
0.00052 n
-0.5
325 F
0 %
ton/y
0.24 r
ton/y
0.24 r

Organic PM Emissions:

Predictive equation for emission factor provided per AP 42, Table 11.1-14, 3/04.

Emission Factor = $0.00141(-V)e^{((0.0251)(T + 460) - 20.43)}$ = 0.00034 lb/ton

Where: V = Asphalt volatility = -0.5 (Default value per AP 42, Table 11.1-14, 3/04)

T = HMA mix temperature = 325 F (Default value per AP 42, Table 11.1-14, 3/04)

Control Efficiency = 0%

Calculation: (400 ton/hr) * (2300 hrs/yr) * (0.00034 lb/ton) * (ton/2000 lb) = 0.16 ton/yr

Calculation: (400 ton/hr) * (2300 hrs/yr) * (0.00034 lb/ton) * (ton/2000 lb) * (1 - 0/100) = 0.16 ton/yr

lb/ton
0.00034 n
-0.5
325 F
0 %
ton/y
0.16 r
ton/y
0.16 r

TOC Emissions:

Predictive equation for emission factor provided per AP 42, Table 11.1-14, 3/04.

Emission Factor = $0.0172(-V)e^{((0.0251)(T + 460) - 20.43)}$ = 0.00416 lb/ton	0.00416	lb/ton
Where: V = Asphalt volatility = -0.5 (Default value per AP 42, Table 11.1-14, 3/04)	-0.5	n
T = HMA mix temperature = 325 F (Default value per AP 42, Table 11.1-14, 3/04)	325	F
Control Efficiency = 0%	0	%
Calculation: (400 ton/hr) * (2300 hrs/yr) * (0.00416 lb/ton) * (ton/2000 lb) = 1.91 ton/yr	1.91	ton/yr
Calculation: (400 ton/hr) * (2300 hrs/yr) * (0.00416 lb/ton) * (ton/2000 lb) * (1 - 0/100) = 1.91 ton/yr	1.91	r

CO Emissions:

Predictive equation for emission factor provided per AP 42, Table 11.1-14, 3/04.

Emission Factor = $0.00558(-V)e^{((0.0251)(T + 460) - 20.43)}$ = 0.00135 lb/ton	0.00135	lb/ton
Where: V = Asphalt volatility = -0.5 (Default value per AP 42, Table 11.1-14, 3/04)	-0.5	n
T = HMA mix temperature = 325 F (Default value per AP 42, Table 11.1-14, 3/04)	325	F
Control Efficiency = 0%	0	%
Calculation: (400 ton/hr) * (2300 hrs/yr) * (0.00135 lb/ton) * (ton/2000 lb) = 0.62 ton/yr	0.62	ton/yr
Calculation: (400 ton/hr) * (2300 hrs/yr) * (0.00135 lb/ton) * (ton/2000 lb) * (1 - 0/100) = 0.62 ton/yr	0.62	r

Truck Unloading (SCC 3-05-020-31)

Maximum Process Rate = 150 ton/hr (Maximum plant process rate)	400	ton/hr
Maximum Hours of Operation = 8,760 hrs/yr	8,760	r
Number of loads = 25 loads (Estimate)	25	loads

Total PM Emissions:

Emission Factor = 0.0000314 lb/ton (PM=PM10 / 51%, AP-42, Appendix B.2, Table B.2.2, Category 3, 9/90)	3.14E-05	lb/ton
Calculation: (400 ton/hr) * (8760 hrs/yr) * (0.0000314 lb/ton) * (ton/2000 lb) * (25 loads) = 1.38 ton/yr	1.38	r

Total PM10 Emissions:

Emission Factor = 0.000016 lb/ton (PM10=1.6E-05, AP 42, Table 11.19.2-2, 8/04)	1.60E-05	lb/ton
Calculation: (150 ton/hr) * (8760 hrs/yr) * (0.000016 lb/ton) * (ton/2000 lb) * (25 loads) = 0.26 ton/yr	0.26	r

Total PM2.5 Emissions:

Emission Factor = 0.0000024 lb/ton (PM2.5=1.6E-05 * 15%, AP-42, Appendix B.2, Table B.2.2, Category 3, 9/90)	2.40E-06	lb/ton
Calculation: (150 ton/hr) * (8760 hrs/yr) * (0.0000024 lb/ton) * (ton/2000 lb) * (25 loads) = 0.04 ton/yr	0.04	r

Haul Roads

Vehicle Miles Traveled (VMT) per Day = 5 VMT/day (Estimate)	5	VMT/ day
VMT per hour = (5 VMT/day) * (day/24 hrs) = 0.21 VMT/hr	0.2	VMT/ hr
Hours of Operation = 8,760 hrs/yr	8,760	hrs/yr

PM Emissions:

Predictive equation for emission factor for unpaved roads at industrial sites provided per AP 42, Ch. 13.2.2, 11/06.

$$\text{Emission Factor} = k * (s / 12)^a * (W / 3)^b = 12.46 \text{ lb/VMT}$$

12.46	lb/VMT
46	T
	lbs/V

Where: k = constant = 4.9 lbs/VMT (Value for PM30/TSP, AP 42, Table 13.2.2-2, 11/06)	4.9	MT
s = surface silt content = 7.1 % (Mean value, sand/gravel processing, material storage area, AP 42, Table 13.2.2-1, 11/06)	7.1	%
W = mean vehicle weight = 54 tons (1994 average loaded/unloaded or a 40 ton truck)	54	tons
a = constant = 0.7 (Value for PM30/TSP, AP 42, Table 13.2.2-2, 11/06)	0.7	
	0.4	
b = constant = 0.45 (Value for PM30/TSP, AP 42, Table 13.2.2-2, 11/06)	5	

Control Efficiency = 50% (Water spray or chemical dust suppressant)	50	%
Calculation: (8760 hrs/yr) * (0.21 VMT/hr) * (12.46 lb/VMT) * (ton/2000 lb) = 11.37 tons/yr (Uncontrolled Emissions)	11.37	tons/yr
Calculation: (8760 hrs/yr) * (0.21 VMT/hr) * (12.46 lb/VMT) * (ton/2000 lb) * (1-50/100) = 5.68 tons/yr (Apply 50% control efficiency)	5.68	tons/yr
	8	tons/yr

PM10 Emissions:

Predictive equation for emission factor for unpaved roads at industrial sites provided per AP 42, Ch. 13.2.2, 11/06.

$$\text{Emission Factor} = k * (s / 12)^a * (W / 3)^b = 3.43 \text{ lb/VMT}$$

3.43	lb/VMT
3	T
	lbs/V

Where: k = constant = 1.5 lbs/VMT (Value for PM10, AP 42, Table 13.2.2-2, 11/06)	1.5	MT
s = surface silt content = 7.1 % (Mean value, sand/gravel processing, material storage area, AP 42, Table 13.2.2-1, 11/06)	7.1	%
W = mean vehicle weight = 54 tons (1994 average loaded/unloaded or a 40 ton truck)	54	tons
a = constant = 0.9 (Value for PM10, AP 42, Table 13.2.2-2, 11/06)	0.9	
	0.4	
b = constant = 0.45 (Value for PM10, AP 42, Table 13.2.2-2, 11/06)	5	

Control Efficiency = 50% (Water spray or chemical dust suppressant)	50	%
Calculation: (8760 hrs/yr) * (0.21 VMT/hr) * (3.43 lb/VMT) * (ton/2000 lb) = 3.13 tons/yr (Uncontrolled Emissions)	3.13	tons/yr
Calculation: (8760 hrs/yr) * (0.21 VMT/hr) * (3.43 lb/VMT) * (ton/2000 lb) * (1-50/100) = 1.57 tons/yr (Apply 50% control efficiency)	1.57	tons/yr
	7	tons/yr

PM2.5 Emissions:

Predictive equation for emission factor for unpaved roads at industrial sites provided per AP 42, Ch. 13.2.2, 11/06.

$$\text{Emission Factor} = k * (s / 12)^a * (W / 3)^b = 0.34 \text{ lb/VMT}$$

0.34	lb/VMT
4	T
	lbs/V

Where: k = constant = 1.5 lbs/VMT (Value for PM10, AP 42, Table 13.2.2-2, 11/06)	1.5	MT
s = surface silt content = 7.1 % (Mean value, sand/gravel processing, material storage area, AP 42, Table 13.2.2-1, 11/06)	7.1	%
W = mean vehicle weight = 54 tons (1994 average loaded/unloaded or a 40 ton truck)	54	tons
a = constant = 0.9 (Value for PM10, AP 42, Table 13.2.2-2, 11/06)	0.9	
	0.4	
b = constant = 0.45 (Value for PM10, AP 42, Table 13.2.2-2, 11/06)	5	
Control Efficiency = 50% (Water spray or chemical dust suppressant)	50	%

Calculation: $(8760 \text{ hrs/yr}) * (0.21 \text{ VMT/hr}) * (0.34 \text{ lb/VMT}) * (\text{ton}/2000 \text{ lb}) = 0.31 \text{ tons/yr}$	0.3
(Uncontrolled Emissions)	1 tons/yr
Calculation: $(8760 \text{ hrs/yr}) * (0.21 \text{ VMT/hr}) * (0.34 \text{ lb/VMT}) * (\text{ton}/2000 \text{ lb}) * (1-50/100) = 0.16$	0.1
tons/yr (Apply 50% control efficiency)	6 tons/yr

Diesel Engine Generator

Note: Emissions are based on the power output of the engine (1877 hp).

Operational Capacity of Engine = 1,877 hp	1,877
Hours of Operation = 2,300.00 hours	2,300.00

PM Emissions:

PM Emissions = 4.75 ton/yr (Assume PM = PM10)	4.75
PM Emissions = 1,419.47 lbs/yr (Assume PM = PM10)	1419.47

PM-10 Emissions:

Emission Factor = 0.0003288023862789 lbs/hp-hr (40 CFR 89 Table 1 7/2005-- Tier 2 engine)	0.0022
Calculation: $(2,300 \text{ hours}) * (1,877 \text{ hp}) * (0.0003288023862789 \text{ lbs/hp-hr}) * (\text{ton}/2000 \text{ lb}) = 4.75 \text{ ton/yr}$	4.75
Calculation: $(2,300 \text{ hours}) * (1,877 \text{ hp}) * (0.0003288023862789 \text{ lbs/hp-hr}) = 1,419.47 \text{ lbs/yr}$	1419.47

PM-2.5 Emissions:

Emission Factor = 0.0022 lbs/hp-hr (40 CFR 89 Table 1 7/2005-- Tier 2 engine)	2.20E-03
Calculation: $(2,300 \text{ hours}) * (1,877 \text{ hp}) * (0.0022 \text{ lbs/hp-hr}) * (\text{ton}/2000 \text{ lb}) = 4.75 \text{ ton/yr}$	4.75
Calculation: $(2,300 \text{ hours}) * (1,877 \text{ hp}) * (0.0022 \text{ lbs/hp-hr}) = 9,497.62 \text{ lbs/yr}$	9497.62

NOx Emissions:

Emission Factor = 0.031 lbs/hp-hr (40 CFR 89 Table 1 7/2005-- Tier 2 engine)	0.031
Calculation: $(2,300 \text{ hours}) * (1,877 \text{ hp}) * (0.031 \text{ lbs/hp-hr}) * (\text{ton}/2000 \text{ lb}) = 66.92 \text{ ton/yr}$	66.92
Calculation: $(2,300 \text{ hours}) * (1,877 \text{ hp}) * (0.031 \text{ lbs/hp-hr}) = 133,830.10 \text{ lbs/yr}$	133830.10

CO Emissions:

Emission Factor = 0.00668 lbs/hp-hr (40 CFR 89 Table 1 7/2005-- Tier 2 engine)	6.68E-03
Calculation: $(2,300 \text{ hours}) * (1,877 \text{ hp}) * (0.00668 \text{ lbs/hp-hr}) * (\text{ton}/2000 \text{ lb}) = 14.42 \text{ ton/yr}$	14.42
Calculation: $(2,300 \text{ hours}) * (1,877 \text{ hp}) * (0.00668 \text{ lbs/hp-hr}) = 28,838.23 \text{ lbs/yr}$	28838.2

VOC Emissions:

Emission Factor = 0.0025141 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, TOC, Exhaust & Crankcase, 10/96)	0.0025141
Calculation: $(2,300 \text{ hours}) * (1,877 \text{ hp}) * (0.0025141 \text{ lbs/hp-hr}) * (\text{ton}/2000 \text{ lb}) = 5.43 \text{ ton/yr}$	5.43
Calculation: $(2,300 \text{ hours}) * (1,877 \text{ hp}) * (0.0025141 \text{ lbs/hp-hr}) = 10,853.62 \text{ lbs/yr}$	10853.62

SOx Emissions:

Emission Factor = 0.00205 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96)	2.05E-03
Calculation: $(2,300 \text{ hours}) * (1,877 \text{ hp}) * (0.00205 \text{ lbs/hp-hr}) * (\text{ton}/2000 \text{ lb}) = 4.425 \text{ ton/yr}$	4.43
Calculation: $(2,300 \text{ hours}) * (1,877 \text{ hp}) * (0.00205 \text{ lbs/hp-hr}) = 8,850.06 \text{ lbs/yr}$	8850.06

V. Existing Air Quality

MAQP #5188-00 is issued for the operation of a portable drum mix asphalt plant to be initially located in Section 13, Township 24 North, Range 59 East, in Richland County, Montana. Richland County and in those areas for which this facility is permitted to operate, have been designated unclassified/attainment with all ambient air quality standards, and where there are no major air pollution sources in the surrounding area.

VI. Air Quality Impacts

The permit contains conditions and limitations that would protect air quality for the site and surrounding area. Furthermore, the facility is a portable source that would operate on an intermittent and temporary basis, so any effects to air quality will be minor and of limited duration.

VII. Ambient Air Impacts Analysis

Based on the information provided and the conditions established in MAQP #5188-00, the Department determined that the impact from this permitting action will be minor. The Department believes it will not cause or contribute to a violation of any ambient air quality standard.

VIII. 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, required by the Montana Environmental Policy Act, was completed for this project. A copy is attached.

Analysis Prepared By: Loni Patterson

Date: 9/8/2017

MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY
Air, Energy & Mining Division
Air Quality Bureau
1520 East Sixth Avenue
P.O. Box 200901
Helena, Montana 59620-0901
(406) 444-3490

ENVIRONMENTAL ASSESSMENT (EA)

Issued To: Knife River Corporation – North Central Asphalt Plant 1

Montana Air Quality Permit (MAQP) Number: #5188-00

EA Draft: 9/21/2017

EA Final: 10/24/2017

Permit Final: 11/9/2017

1. *Legal Description of Site:* Knife River Corporation (Knife River) proposes to operate at a location currently used for asphalt production. The legal site description is Section 13, Township 24 North, Range 59 East in Richland County.
2. *Description of Project:* Knife River is proposing to add a portable drum mix operation with baghouse and initially operate the plant at an existing pit. The permit would include one diesel-fired engine, a hot oil heater, parallel flow drum mixer with baghouse, screens, conveyors, and silos. A complete list of the permitted equipment is included in Section I.A of the permit analysis.
3. *Objectives of Project:* Increased business and revenue for Knife River and provide a service to the community in their infrastructure projects. The new facility would provide for asphalt production.
4. *Alternatives Considered:* In addition to the proposed action, the Department also considered the "no action" alternative. The "no action" alternative would deny the issuance of the MAQP to the facility. Knife River would be denied the opportunity to expand their business and provide construction products to the nearby community. Any potential air emission increases that would be authorized by issuing the MAQP would not occur. However, the Department does not consider the "no action" alternative to be appropriate because Knife River has demonstrated compliance with all applicable rules and regulations as required for permit issuance. Therefore, the "no action" alternative was eliminated from further consideration. Other alternatives considered were discussed in the Best Available Control Technology analysis.
5. *A listing of mitigation, stipulations, and other controls:* A list of enforceable conditions, including a BACT analysis, would be included in MAQP #5188-00.
6. *Regulatory effects on private property:* The Department considered alternatives to the conditions imposed in this permit as part of the permit development. The Department determined that the permit conditions are reasonably necessary to ensure compliance with applicable

requirements and demonstrate compliance with those requirements and do not unduly restrict private property rights.

SUMMARY OF COMMENTS ON POTENTIAL PHYSICAL AND BIOLOGICAL EFFECTS:
The following comments have been prepared by the Department.

A. *Terrestrial and Aquatic Life and Habitats*

The proposed project would allow for a portable asphalt plant to including a diesel-fired generator engine and associated equipment. Conditions requiring control mechanisms have been placed within MAQP #5188-00 to ensure that only minor air quality impacts would occur. Additionally, limitations established within MAQP #5188-00 would minimize air pollution. Overall, any adverse impact on terrestrial and aquatic life and habitats is anticipated to be minor.

B. *Water Quality, Quantity, and Distribution*

There is a potential for this source to affect water quality, quantity and distribution. Protections are captured in the sources Montana pollutant discharge elimination system (MPDES) permit for this activity. Therefore, the project would have minor impacts to water quality, quantity or distribution in the area.

C. *Geology and Soil Quality, Stability, and Moisture*

This permitting action would have an effect on geology and soil properties with land disturbances from the facility. The Department determined that there would be impacts from deposition from dispersion characteristics of pollutants and the atmosphere. The impacts would be mitigated through conditions that would be enforced through MAQP #5188-00.

D. *Vegetation Cover, Quantity, and Quality*

There would be some impacts on existing vegetation cover, quantity and quality as the site is currently used for agriculture. The existing surrounding land is currently industrial in nature. The PM, PM₁₀, and PM_{2.5} emissions from this project may have a minor effect on the surrounding vegetation; however, the air quality permit associated with this project would contain limitations to minimize the effect of the emissions on the surrounding environment.

E. *Aesthetics*

The permitting of the portable asphalt plant, one diesel-fired engine and associated equipment would increase the amount of equipment on the property and create additional noise while in operation. While this may have a minor impact on aesthetics, it is consistent with the type of industrial equipment often used in gravel pits.

F. *Air Quality*

The air quality of the area would realize minor impacts from the proposed project because the facility would emit the following air pollutants: PM, PM₁₀, PM_{2.5}, NO_x, SO₂,

CO and VOCs. These emissions would be minimized by limitations and conditions that would be included in MAQP #5188-00. While deposition of pollutants would occur as a result of the new equipment, the Department determined that the impacts from deposition of pollutants would be minor due to dispersion characteristics of pollutants, the atmosphere (wind speed, wind direction, ambient temperature, etc.), and conditions that would be placed in MAQP #5188-00.

G. *Unique Endangered, Fragile, or Limited Environmental Resources*

In an effort to identify any unique endangered, fragile, or limited environmental resources in the area, the Department completed a species of concern report through the environmental summary function shared by the Montana Natural Heritage Program, Natural Resource Information System (NRIS). The area was defined by the section, township, and range of the proposed location with an additional 1-mile buffer zone. Search results identified a number of species within the search radius. Species of concern include the Bald Eagle and Whooping Crane. Because potential emission levels are minor, and disturbance is limited, the Department has determined that there will be a minor disturbance to unidentified unique, endangered, fragile, or limited environmental resources in the area.

H. *Demands on Environmental Resource of Water, Air, and Energy*

The proposed project would have impacts on the demands for the environmental resources of air and water because the facility would be a source of air pollutants and discharge into the local ground water supply. Deposition of pollutants would occur as a result of operating the facility; however, as explained in Section 7.F of this EA, the Department determined that any impacts on air and water resources from the pollutants (including deposition) would be mitigated by the conditions enforced in MAQP #5188-00. The Department determined that controlled emissions from the source would not cause or contribute to a violation of any ambient air quality standard and the ground water supply is protected by the MPDES permit. The facility would be supplying its own power with a diesel generator. The Department does not expect any impacts to the energy demand.

I. *Historical and Archaeological Sites*

The Department contacted the State Historical Preservation Office (SHPO) in an effort to disclose any potential to alter historical places or building. SHPO searched the location of the proposed home pit for the asphalt plant and determined that there are no records recorded. It is SHPO's position that any structure over fifty years of age is considered historic. As long as there will be no disturbance or alteration to structures over fifty years of age, SHPO believes there is a low likelihood cultural properties will be impacted.

J. *Cumulative and Secondary Impacts*

The proposed project would cause minor effects on the physical and biological aspects of the human environment because the project would cause an increase in emissions of PM, PM₁₀, PM_{2.5}, CO, VOC and NO_x and SO₂ in the proposed area. The conditions

have been placed in MAQP #5188-00 to ensure that air quality impacts would be mitigated. Limitations would be established in the permit to minimize air pollution.

SUMMARY OF COMMENTS ON POTENTIAL SOCIAL AND ECONOMIC EFFECTS: The following comments have been prepared by the Department.

A. *Social Structures and Mores*

The proposed project would alter the social structure and mores as the current land use is for agriculture and would be used for industrial purposes. The land is privately owned and would operate under an agreement with the land owner.

B. *Cultural Uniqueness and Diversity*

Only minor impacts to the cultural uniqueness and diversity of the area would be anticipated as the location is currently used for agricultural purposes. That would alter the use from agricultural to industrial land use.

C. *Local and State Tax Base and Tax Revenue*

The proposed project would result in minor impacts to the local and state tax base and tax revenue as a result of the proposed project. However, the proposed project would necessitate raw material transportation activities. Overall, any impacts to the local and state tax base and tax revenue would be minor.

D. *Agricultural or Industrial Production*

The land at the proposed location is currently used for agricultural purposes. The proposed project would have impacts on potential agricultural production. However, the land is privately owned and the asphalt plant will be operated under a land use agreement.

E. *Human Health*

The proposed project would result in minor, if any, impacts to human health. As explained in Section 7.F of this EA, deposition of pollutants would occur; however, the Department determined that the proposed project would comply with all applicable air quality rules, regulations, and standards. These rules, regulations, and standards are designed to be protective of human health. Overall any impacts to public health would be minor.

F. *Access to and Quality of Recreational and Wilderness Activities*

No impacts to access and quality of recreational and wilderness activities in the project area are anticipated.

G. *Quantity and Distribution of Employment*

The proposed project would have minor impacts on the quantity and distribution of employment as four new employees would be required to operate the proposed plant.

Any impacts to the quantity and distribution of employment would be minor due to the relatively small size of the facility.

H. *Distribution of Population*

The proposed project would have minor impacts on the employment and population of the area as several new employees would be required for the addition of the new equipment. However, any impacts to the quantity and distribution of employment from construction related employment would be minor due to the relatively small size of the facility. Overall, any impacts to the distribution of population in the area would be minor.

I. *Demands of Government Services*

There would be minor impacts on the demands for government services because additional time would be required by government agencies to issue MAQP #5188-00 and, in the future, to assure compliance with applicable rules, standards, and conditions that would be contained in MAQP #5188-00. Overall, any demands for government services to regulate the facility or activities associated with the facility would be minor due to the relatively small size of the facility.

J. *Industrial and Commercial Activity*

Only minor impacts would be expected on local industrial and commercial activity because the proposed project would represent only a minor increase in the industrial and commercial activity in the area.

K. *Locally Adopted Environmental Plans and Goals*

The Department is not aware of any locally adopted environmental plans and goals affected by issuing MAQP #5188-00. This permit would contain limits for protecting air quality and keeping facility emissions in compliance with any applicable ambient air quality standards. Because the project is small, any impacts from the facility would be minor.

L. *Cumulative and Secondary Impacts*

Overall, cumulative and secondary impacts from this project would result in minor impacts to the economic and social aspects of the human environment in the immediate area. Due to the relatively small size of the asphalt plant, the industrial production, employment, and tax revenue (etc.) impacts resulting from the proposed project would be minor. In addition, the Department believes that this facility could be expected to operate in compliance with all applicable rules and regulations as would be outlined in MAQP #5188-00.

Recommendation: No Environmental Impact Statement (EIS) is required.

If an EIS is not required, explain why the EA is an appropriate level of analysis: The current permitting action is for a new asphalt plant, one diesel-fired engine and associated equipment. MAQP #5188-00 would include conditions and limitations to ensure the facility would operate

in compliance with all applicable air quality rules and regulations. In addition, there are no major or unknown effects associated with this proposal.

Other groups or agencies contacted or which may have overlapping jurisdiction: Montana Natural Heritage Program and the Montana Historical Society.

Individuals or groups contributing to this EA: Montana Department of Environmental Quality, Montana Natural Heritage Program, Montana Historical Society.

EA prepared by: Loni Patterson

Date: 9/12/2017