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DEPT. OF WATER, ENERGY, AND ENVIRONMENT

Jim Pillen, Governor

AIR QUALITY GENERAL CONSTRUCTION PERMIT

PERMIT NUMBER: GCP-DMHMAP-2 **Permit Name: Drum Mix Hot Mix Asphalt Plant**

Project Description: Drum Mix Hot Mix Asphalt Plant

Typical Standard Industrial Classification (SIC) Code: 2951, Asphalt Paving Mixtures and Blocks

Typical North American Industry Classification System (NAICS) Code: 324121, Asphalt Paving Mixture and Block Manufacturing

Pursuant to Chapter 10 of the Nebraska Air Quality Regulations, the public has been notified by prominent advertisement of the proposed construction of air contaminant sources meeting the specific criteria of this general construction permit and the thirty (30) day period allowed for comments has elapsed. This general construction permit approves the construction of specific types of Drum Mix Hot Mix Asphalt Plants. This permit document and the associated application make up the complete permit for the specific source identified in the application.

Compliance with this permit shall not be a defense to any enforcement action for violation of an ambient air quality standard. The permit holder, owner, and operator of the facility shall assure that the installation, operation, and maintenance of all equipment is in compliance with all of the conditions of this permit.

The undersigned issues this permit on behalf of the Director under the authority of Nebraska Administrative Code Title 129 – Nebraska Air Quality Regulations as amended September 28, 2022.

November 3, 2025

Date

Reuel S. Anderson, Administrator
Permitting & Engineering Division

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ABBREVIATIONS, SYMBOLS, and UNITS OF MEASURE

AP-42	Compilation of Air Pollutant Emission Factors, Volume I, Stationary Point and Area Sources
BACT	Best Available Control Technology
bhp	Brake Horsepower
BMP	Best Management Practice
Btu	British Thermal Unit
bu	Bushel
CAA	Clean Air Act
CE	Control Equipment
CEM	Continuous Emissions Monitor
CEMS	Continuous Emissions Monitoring System
cf	Cubic feet
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CO_2e	CO_2 equivalent
CP	Construction Permit
DGS	Distiller's Grains with Solubles
DDGS	Dry Distillers Grains with Solubles
dscf	Dry Standard Cubic Feet
dscfm	Dry Standard Cubic Feet per Minute
EMIS	Emergency Management Information System
EPA	Environmental Protection Agency
EQC	Environmental Quality Council
EP	Emission Point
ESP	Electrostatic Precipitator
EU	Emission Unit
FID	Facility Identification Number
FDCP	Fugitive Dust Control Plan
FGR	Flue Gas Recirculation
FIP	Federal Implementation Plan
FR	Federal Register
ft	Feet
FTIR	Fourier Transform Infrared
GHGs	Greenhouse Gases
H_2S	Hydrogen Sulfide
HAP	Hazardous Air Pollutant
hp	Horsepower
hr	Hour
lb	Pound
LDAR	Leak Detection and Repair
LNB	Low-NO_x Burner
MACT	Maximum Achievable Control Technology
Mgal	One Thousand gallons
MMBtu	One Million British Thermal Units
MMscf	One Million Standard Cubic Feet
MSDS	Material Safety Data Sheet
MW	Megawatt
NAAQS	National Ambient Air Quality Standards
NDWEE	Nebraska Department of Water, Energy, and Environment
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_2	Nitrogen Dioxide
NO_x	Nitrogen Oxides
NSPS	New Source Performance Standard
NSR	New Source Review
PAL	Plant-wide Applicability Limit
Pb	Lead (chemical abbreviation)
PbR	Permit-by-Rule
PEMS	Parametric Emissions Monitoring System
PM	Particulate Matter
PM_{10}	Particulate Matter with and aerodynamic diameter equal to or less than 10 microns
$PM_{2.5}$	Particulate Matter with and aerodynamic diameter equal to or less than 2.5 microns
ppb	Parts per Billion
ppm	Parts per Million
ppmv	Parts per Million by volume
ppmvd	Parts per Million by volume, dry basis
PSD	Prevention of Significant Deterioration
PTE	Potential to Emit
RVP	Reid Vapor Pressure
RATA	Relative Accuracy Test Audit
RMP	Risk Management Plan
RTO	Regenerative Thermal Oxidizer
scf	Standard Cubic Feet
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SO_2	Sulfur Dioxide
SO_x	Sulfur Oxides
TDS	Total Dissolved Solids
TO	Thermal Oxidizer
TO/HRSG	Thermal Oxidizer with Heat Recovery Steam Generator
tpy	Tons per year
TRS	Total Reduced Sulfur
TSP	Total Suspended Particulate Matter
ULNB	Ultra Low-NO_x Burner
UST	Underground Storage Tank
UTM	Universal Transverse Mercator
VHAP	Volatile Hazardous Air Pollutant
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compound
WDGS	Wet Distiller's Grains with Solubles

I. STANDARD CONDITIONS

The following Standard Conditions apply to this permit unless otherwise provided for in the Specific Conditions of this permit.

(A) Regulatory authority:

(1) Title 40 Protection of Environment, Code of Federal Regulations that apply to the source including those not currently delegated to Nebraska or not yet included in Title 129; and

(2) Title 129 as approved by EPA under 40 CFR Part 52, Subpart CC or 40 CFR Part 70, Appendix A as of the date of issuance of this permit (federally enforceable requirements); and Title 129 as amended September 28, 2022 (state only enforceable requirements).

(B) The source shall allow the NDWEE, USEPA or an authorized representative, upon presentation of credentials (Neb. Rev. Statute §81-1504; Title 129, Chapter 6, Section 003.11) to:

(1) Enter upon the source's premises during reasonable hours where a source subject to this permit is located, emissions-related activity is conducted, or where records must be kept under the conditions of this permit, for the purpose of ensuring compliance with this permit or applicable requirements;

(2) Have access to and copy, during reasonable hours, any records that must be kept under the conditions of this permit, for the purpose of ensuring compliance with this permit or applicable requirements;

(3) Inspect during reasonable hours any facilities, pollution control equipment, including monitoring and air pollution control equipment, practices, or operations regulated or required under this permit, for the purpose of ensuring compliance with this permit or applicable requirements;

(4) Sample or monitor, during reasonable hours, substances or parameters for the purpose of ensuring compliance with the permit or applicable requirements.

(C) All requested permit amendments and revisions must adhere to the requirements of Title 129, Chapter 9.

(D) The following methods may be used to determine compliance with the terms and conditions in this permit (Title 129, Chapter 15, Section 005.08):

(1) Any compliance test method specified in the State Implementation Plan;

(2) Any test or monitoring method approved for the source in a permit issued pursuant to Title 129, Chapters 3, 4, or 13, Section 004;

(3) Any test or monitoring method provided for in Title 129; or

(4) Any other test, monitoring, or information-gathering method that produces information comparable to that produced by any method described in Condition I.(D)(1) through (3).

(E) Application for review of plans or advice furnished by the Director will not relieve the source of legal compliance with any provision of these regulations, or prevent the Director from enforcing or implementing any provision of these regulations (Title 129, Chapter 1, Section 001.06).

(F) If and when the Director declares an air pollution episode as defined in Title 129, Chapter 2, Section 006.01, the source shall immediately take all required actions listed in Title 129, Appendix II, Paragraph 1.1, 1.2, and 1.3, respectively, until the Director declares the air pollution episode terminated (Title 129, Chapter 2, Section 006.03).

(G) Recordkeeping: To ensure compliance with this permit, records shall be maintained as outlined below. Records include: electronic and/or paper copies of all application materials, notifications, reports, test protocols, test results, and plans; and, electronic and/or original paper copies of all required monitoring results, measurements, inspections, and observations (Title 129, Chapter 15, Section 005.06; Neb. Rev. Stat. §81-1504):

(1) All records required by this permit shall be kept for a minimum of five (5) years and shall be clear and readily accessible to NDWEE representatives during an inspection, unless otherwise specified in this permit.

(2) Monthly calculations and records required throughout this permit shall be compiled no later than the fifteenth (15^{th}) day of each calendar month and shall include all records and calculations generated through the previous calendar month, unless otherwise specified in this permit.

(3) The source shall keep the following records for each malfunction, start-up and shutdown where emissions were, or may have been, in excess of an emission limitation or standard (Title 129, Chapter 11, Sections 002 and 005; Chapter 15, Sections 006.02, 006.04 and 006.05):

(a) The identity of the equipment.

(b) Reason for, or cause of, the malfunction, shutdown, or start-up.

(c) Duration of period of excess emissions.

(d) Date and time of the malfunction, shutdown, or start-up.

(e) Physical and chemical composition of pollutants whose emissions are affected by the action.

(f) Methods, operating data, and/or calculations used to determine these emissions.

(g) Quantification of emissions in the units of the applicable emission control regulation.

(h) All measures utilized to minimize the extent and duration of excess emissions during the malfunction, shutdown, and start-up.

(4) The source shall keep records of maintenance performed on components of permitted emission units that would affect or potentially affect the emission rate of that unit and on control and monitoring equipment associated with the permitted emission unit (Title 129, Chapter 15, Sections 005.06, 006.06B, and 006.06E).

(5) All records of opacity readings, instrument readings, visual equipment inspections, log book/sheet entries, and any other record of equipment performance shall identify the individual who entered the record, except for continuously generated electronic records.

(6) Operation and maintenance manuals, or equivalent documentation, detailing proper operation and maintenance of all permitted emission units, required control equipment and required monitoring equipment shall be kept for the life of the equipment

(H) All permitted emission units, associated emissions conveyances, required control equipment, and required monitoring equipment shall be properly installed, operated, and maintained (Title 129, Chapter 6, Sections 003.01 and 003.13; Chapter 15, Section 005.06; Neb. Rev. Stat. §81-1504 and §81-1506).

(1) All emissions from emission units using required controls shall be captured and routed through associated emission conveyances to the required control equipment, except for uncaptured emissions described in the permit application and any additional information submitted prior to permit issuance.

(2) All equipment must be maintained to minimize the amount of uncontrolled pollutants that are-released to the atmosphere. Proper equipment maintenance activities may include repair or replacement, and include, but are not limited to activities in response to the following:

(a) cracks, holes or gaps,

(b) broken, cracked, or otherwise damaged seals or gaskets, and

(c) broken, missing or open hatches, access covers, caps, or other closure devices.

(I) When the source makes physical or operational changes to an emissions unit or associated control equipment that may cause an increase in emissions that makes the original testing not representative of current operating conditions or emissions, the source shall submit a notification of the change. Such notification shall be received by NDWEE within fifteen (15) days after such change. The NDWEE may require performance testing based on review of the specific changes identified in the notification and the resulting potential impact on emissions from the unit(s) and/or performance of the control equipment (Title 129, Chapter 15, Section 005.01).

(1) This notification requirement applies to emissions units and/or control equipment that meet the following requirements, except as provided in Condition I.(I)(5):

(a) Emissions from the emissions unit and/or control equipment is subject to an emissions limit;

(b) A valid performance test has been conducted for the pollutant to which the emissions limit applies;

(c) Changes that may cause emissions to increase or invalidate prior testing include, but are not limited to, increasing the capacity of an emissions unit, changing the operational parameters of any control equipment outside of the range allowed for under this permit that makes the control equipment less efficient, changing the type of scrubber packing, or increasing the inlet pollutant loading of any control equipment.

(2) For emission units that have had a performance test conducted after January 1, 2012, the source shall make a one-time notification to the NDWEE within fifteen (15) days of when there is a 10% increase in daily production/throughput rate, over the tested rate recorded during the most recent valid performance test unless otherwise specified in this permit. If there are subsequent 10% increases over the rate most recently notified to the NDWEE, the source shall make a one-time notification to the NDWEE of each such subsequent increase. This will not apply to emissions that already have emission rates that are normalized to production and/or throughput rates.

(3) The notification shall include the date of the changes, a description of the changes made, and an evaluation of the expected impact on emissions from the emissions units and/or control equipment.

(4) The following definitions apply for purposes of Condition I.(I)(2) above:

(a) "rate" shall mean the production or throughput of an emissions unit in the same units of production or throughput as the "tested rate" as defined below; and,

(b) "tested rate" shall mean the production or throughput rate of an emissions unit as recorded in the most recent valid performance test and reported to the NDWEE in the source's written copy of the test results, or test report, documenting the maximum capacity of the unit(s). The tested rate shall be extrapolated to daily. Examples include, but are not limited to, tons per hour to tons per day or gallons per hour to gallons per day.

(5) The above notification requirements do not apply when compliance with the emission limitation is demonstrated through the use of a CEMS, PEMS or COMS.

(J) No person shall cause or allow emissions, from any source, which are of an opacity equal to or greater than twenty percent (20%), as evaluated by an EPA approved method, or recorded by a continuous opacity monitoring system operated and maintained pursuant to 40 CFR Part 60 Appendix B except as provided for in Chapter 15, Sections 001.05 or 001.06 (Title 129, Chapter 15, Section 001.04).

(K) Open fires are prohibited except as allowed by Title 129, Chapter 15, Section 002.

(L) Particulate Matter – General Requirements (Title 129, Chapter 15, Section 003):

(1) The source shall not cause or permit the handling, transporting or storage of any material in a manner which allows particulate matter to become airborne in such quantities and concentrations that it remains visible in the ambient air beyond the property line.

(2) The source shall not cause or permit the construction, use, repair or demolition of a building, its appurtenances, a road, a driveway, or an open area without applying all reasonable measures to prevent particulate matter from becoming airborne and remaining visible beyond the property line. Such measures include, but are not limited to, paving or frequent cleaning of roads, driveways and parking lots; application of dust-free surfaces; application of water; and planting and maintenance of vegetative ground cover.

(M) Testing:

(1) Performance testing if required by this permit or required by the NDWEE shall be completed as follows:

(a) The source shall provide the NDWEE a written notice at least thirty (30) days prior to testing to afford the NDWEE an opportunity to have an observer present. The NDWEE may, in writing, approve a notice of less than 30 days. If the testing is pursuant to an underlying requirement contained in a federal rule, the notice provisions of the underlying requirement apply (Title 129, Chapter 15, Section 005.03).

(b) The notification required by Condition I.(M)(1)(a) shall include the following (Title 129, Chapter 15, Section 005.03):

(i) Facility Name, Address and FID number.

(ii) Company Name, Address and Contact Person's name.

(iii) Test schedule including date and estimated start time of testing.

(iv) List all applicable regulatory requirements that testing is being conducted for (permit condition, MACT, NSPS, etc.).

(v) Types of pollutants to be sampled including applicable emission limits and demonstration requirements.

(vi) Test methods and documentation of any proposed variations from the specified procedures and reason for variance.

(c) Testing shall be conducted according to the methodologies found in Title 129, Chapter 15, Section 005.02, or other NDWEE approved methodologies (Title 129, Chapter 15, Section 005.02).

(d) Performance tests shall be performed under those representative (normal) conditions that: represent the range of combined process and control measure conditions under which the facility expects to operate (regardless of the frequency of the conditions); and are likely to most challenge the emissions control measures of the facility with regard to meeting the applicable emission standards, but without creating an unsafe condition. (Title 129, Chapter 15, Section 005).

(e) Performance tests shall be conducted for a minimum of three (3) one-hour runs unless another run-time is specified by the applicable Subpart or as deemed appropriate by the NDWEE.

(f) The source shall monitor and record the operating parameters for process and control equipment during the performance testing required in the permit.

(g) A certified written copy of the test results, signed by the person conducting the test, shall be provided to the NDWEE within sixty (60) days of completion of the test, unless a different time period is specified in the underlying requirements of an applicable federal rule, and will, at a minimum, contain the following items (Title 129, Chapter 15, Section 005.02G):

(i) A description of:

1. The operating parameters for the emissions unit during testing. Examples include, but are not limited to, production rates, process throughputs, firing rates of combustion equipment, or fuel usage; and,

2. The operating parameters for the control equipment during testing. Examples include, but are not limited to, baghouse fan speeds, scrubber liquid flow rates, or pressure drop across the control device.

(ii) Copies of all data sheets from the test run(s).

(iii) A description and explanation of any erroneous data or unusual circumstance(s) and the cause for such situation.

(iv) A final conclusion section describing the outcome of the testing.

II. GENERAL CONSTRUCTION PERMIT CONDITIONS

The following General Conditions apply to this permit unless otherwise provided for in the Specific Conditions of this permit.

(A) The source shall provide the following notifications to the NDWEE:

(1) The date construction, reconstruction, or modification commenced as defined in Chapter 1. Notification shall be received by NDWEE no later than thirty (30) days after such date and include a summary description of the event associated with the commencement of construction. The source may use either of the following to determine that construction commenced (Title 129, Chapter 3, Section 003.02):

(a) Initiating physical on-site construction activities of a permanent nature that meet the definition of "begin actual construction" or

(b) Entering into binding agreements or contractual obligations. If this option is used, the notice shall also include a brief summary of each binding agreement or contractual obligation entered into, the date of the agreement or contract, and why the agreement or contract cannot be cancelled or modified without substantial loss to the source.

(2) Notification of the date on which the source or modification first becomes operational, shall be received by the NDWEE within fifteen (15) days after such date (Title 129, Chapter 6, Section 002.01A).

(3) Any emissions due to malfunctions, unplanned shutdowns, and ensuing start-ups that are, or may be, in excess of applicable emission limits shall be reported to the NDWEE in accordance with Title 129, Chapter 15, Section 006.05.

(B) Approval to construct, reconstruct, and/or modify the source will become invalid if a continuous program of construction is not commenced within 18 months after the date of issuance of the construction permit except upon a showing by the source that the complexity of the construction, reconstruction and/or modification requires additional time, or if construction, reconstruction or modification is discontinued for a period of 18 months or more, or if construction, reconstruction and/or modification is not completed within a reasonable period of time (Title 129, Chapter 3, Section 003.02).

(C) This permit is not transferable to another location, unless otherwise specified in this permit (Title 129, Chapter 3).

(D) Holding of this permit does not relieve the source from the responsibility to comply with all applicable portions of the Nebraska Air Quality Regulations and any other requirements under local, State, or Federal law. Any permit noncompliance shall constitute a violation of the Nebraska Environmental Protection Act and the Federal Clean Air Act, and is grounds for enforcement action or permit revocation (Title 129, Chapter 3, Section 001).

(E) Any source who failed to submit any relevant facts or who submitted incorrect information in a permit application shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrected information. If the permittee wishes to make changes at the source that will result in change(s) to values, specifications, and/or locations of emission points that were indicated in the permit application (or other supplemental information provided by the permittee and reviewed by the NDWEE in issuance of this permit), the source must notify the NDWEE before the change(s) can be made. In addition, the source must notify the NDWEE if any modification which may result in an adverse change to the air quality impacts predicted by atmospheric dispersion modeling (such

as changes in stack parameters or increases in emission rates, potential emissions, or actual emissions). The permittee shall provide all necessary information to verify that there are no substantive changes affecting the basis upon which this permit was issued. Information may include, but not be limited to, additional engineering, modeling, and ambient air quality studies (Title 129, Chapter 3, Sections 002.02B, 002.03B, and 002.03C).

(F) When requested by the NDWEE, the permittee shall submit completed emission inventory forms for the preceding year to the NDWEE by March 31 of each year (Title 129, Chapter 11).

(G) If required, performance tests shall be conducted in accordance with Standard Condition I.(M) within sixty (60) days after first reaching the maximum capacity, but not more than 180 days after the start-up of operations of each unit, unless otherwise specified by the NDWEE (Title 129, Chapter 15, Section 005.07).

(H) If applicable, the following conditions apply to the verification of NAAQS modeling analysis (Title 129, Chapter 2):

(1) The stack dimensions of the emission points identified in the air dispersion modeling analysis shall be constructed such that the reliability of the air dispersion modeling analysis associated with the permit application is maintained. A site survey or similar documentation containing the as-built stack dimensions, shall be maintained on-site and kept for the life of the source. If the as-built stack dimensions do not meet the criteria used in air dispersion modeling analysis, the permittee shall notify the NDWEE prior to start-up of any emission unit associated with a stack not meeting the above criteria and, if requested by NDWEE, submit a revised air dispersion modeling analysis to NDWEE to ensure that the source will not interfere with the attainment or maintenance of the ambient air quality standards in Title 129 Chapter 2.

(2) The source shall sufficiently restrict public access to the source at the ambient air boundary relied upon in the air dispersion modeling analysis for the NAAQS compliance demonstration. A site survey, or similar documentation containing the locations of the boundary vertices, shall be maintained on-site and kept for the life of the source. If the boundary dimensions do not comply with the boundary information in the air dispersion model (plus or minus 25 meters), the permittee shall notify the NDWEE prior to start-up of any emission unit and, if requested, submit a revised air dispersion modeling analysis to the NDWEE to ensure that the source will not interfere with the attainment or maintenance of the ambient air quality standards in Title 129 Chapter 2.

III.(A) Specific Conditions for Drum Mix Hot Mix Asphalt Plants

(1) Permitted Emission Points: The source is permitted to construct the emission points and associated emission units identified in the following table at the maximum capacity and fuel type listed. Each emission unit shall be controlled by the required control equipment as indicated:

Emission Point ID#	Required Control Equipment ID# & Description	Emission Unit Description	Maximum Combustion Capacity	Permitted Fuel Type
EP-01	-	EU-01: Aggregate Storage Pile(s)	-	-
EP-02	-	EU-02: Conveyors	-	-
EP-03	-	EU-03: Screening	-	-
EP-04	-	EU-04: Asphalt Storage Tank	-	-
EP-05	-	EU-05: Load-Out	-	-
EP-06	C-01: Baghouse	EU-06: Dryer	500 MMBtu/hr	Propane, Natural Gas, Diesel, and Waste Oil
EP-07	-	EU-07: Hot oil heater	10 MMBtu/hr	Diesel and Natural Gas

(2) Emission Limitations and Testing Requirements:

(a) Pollutant emission rates from each emission point identified in the table below shall not exceed the permitted limits. Initial performance testing, if required, shall be conducted in accordance with Conditions I.(M) and II.(G).

Emission Point ID#	Pollutant	Permitted Limit	Basis for Limit	Testing Method
All emission points identified in III.(A)(1)	PM	90 mg/dscm (0.04 gr/dscf)	40 CFR 60 Subpart I Chapter 12	Method 5
	Opacity	20%	40 CFR 60 Subpart I Chapter 12	Method 9

(b) The source shall conduct performance tests on EP-06 in accordance with testing requirements and emission limitations required by 40 CFR 60 Subpart I not later than 180 days after start-up of operation in the state of Nebraska. (Chapter 15)

(c) Subsequent performance testing shall be conducted at a minimum by the end of the fifth calendar year after the most recent valid performance test.

(3) Operational and Monitoring Requirements and Limitations:

(a) The production of hot mix asphalt shall not exceed the following maximum rates: (Chapter 3)

(i) 500 tons per any hour;

(ii) 550,000 tons per consecutive twelve (12) calendar months; and

(iii) 550,000 tons during the first eleven (11) calendar months after permit coverage is obtained

(b) Emissions from the dryer (EU-06) shall be controlled by a baghouse (C-01). (Chapter 3)

(c) Operation and maintenance of the baghouse shall be in accordance with the following requirements: (Chapters 3 and 15)

(i) The baghouse shall be operated and control emissions at all times when the associated emission units are in operation.

(ii) The baghouse shall be equipped with an operational pressure differential indicator. Pressure differential indicator readings shall be recorded at least once each day that the associated baghouse is in operation.

(iii) Baghouse filter bags are to be inspected and replaced as often as necessary to ensure proper operation or more frequently as indicated by pressure differential indicator readings or other indication of bag failure.

(d) Observations of the emission units identified in Condition III.(A)(1) shall be conducted at least once each day during operation to determine whether there are visible emissions, leaks, or other indications that may necessitate corrective action. If corrective action is required, it shall occur immediately. (Chapter 15)

(i) The results of the observations and any corrective actions shall be recorded in a log.

(e) The total area of the aggregate storage pile (EU-01) shall not exceed 5 acres.

(f) Refer to 40 CFR Part 60, Subpart I for operational and monitoring requirements and limitations that apply to applicable emission units in Condition III.(A)(1).

(4) Applicable NSPS, NESHAP, and MACT Requirements:

The following standards are applicable to all emission points identified in III.(A)(1):

Applicable Standard	Title	Rule Citation
NSPS, Subpart A	General Provisions	Chapter 18, Sec. 001.01 40 CFR 60.1
NSPS, Subpart I	Standards of Performance for Hot Mix Asphalt Facilities	Chapter 18, Sec. 001.14 40 CFR 60.90

(5) Reporting and Recordkeeping Requirements:

(a) The source shall maintain records documenting the maximum hot mix asphalt production capacity of the plant.

(b) The source shall keep records for each month and each period of twelve consecutive months documenting the total amount of hot mix asphalt produced in tons.

(c) Records documenting the date, time, and pressure differential reading for each day the associated baghouse is in operation.

(d) Filter replacement records including the date the filter replacement occurred and the type of filter installed.

(e) Records documenting the date, time, observations, and corrective actions taken for each day the associated baghouse is in operation.

(f) Records documenting the types of fuel combusted in the dryer and the hot oil heater (EU-06 and EU-07).

(g) Records documenting the maximum combustion capacity of the dryer and the hot oil heater (EU-06 and EU-07).

(h) Records of the visible emission survey log.

(i) Recordkeeping and Reporting as required by 40 CFR 60, Subparts A and I.

III.(B) Specific Conditions for Haul Roads

(1) Permitted Emission Points:

All on-site haul roads with production-related truck traffic shall comply with the following conditions. (Chapters 3 and 15)

(2) Emission Limitations and Testing Requirements:

Haul roads are subject to the requirements of Title 129, Chapter 15, Section 003.02.

(3) Operational and Monitoring Requirements and Limitations:

(a) The owner or operator shall utilize best management practices (BMP) on haul roads. The effectiveness of the BMP to minimize emissions from haul roads will be demonstrated by compliance with Standard Condition I.(L). (Chapters 3 and 15)

(b) A survey of the plant property and haul roads shall be conducted for each day of operation during daylight hours to determine if visible fugitive emissions are being generated and leaving plant property. Implementation of BMP shall be taken upon observation of visible fugitive emissions leaving plant property. (Chapter 15)

(4) Applicable NSPS, NESHAP, and MACT Requirements:

The NDWEE has not identified any NSPS, NESHAP, or MACT requirements that apply to the haul roads.

(5) Reporting and Recordkeeping Requirements:

(a) Records shall be kept documenting the use of BMP on haul roads.

(b) Records shall be kept documenting the date and time of fugitive dust surveys, whether visible emissions crossed site boundaries, and any corrective action taken if visible emissions are observed in areas to which the public has access.

IV. Specific Conditions for Relocation

(A) The owner or operator shall notify the Director at least 20 days in advance of any proposed change in source location. The following information shall be provided for the proposed new location: (Chapter 6 Section 004)

(1) A specific description of the source, including Standard Industrial Classification (SIC),

(2) A legal description, accurate to the nearest quarter section,

(3) Present or previous use,

(4) Distance to the nearest occupied building,

(5) General description of the site location and adjacent land use,

(6) The anticipated dates of operation of the source at the proposed new location,

(7) Contact information for the responsible on site source operator including: name, mailing address, and telephone number,

(8) The source FID number assigned by the Department, and

(9) The relocation notification shall be signed by a responsible source official or source owner certifying its content.

(B) Relocation within any of the following jurisdictions will require additional notifications:

(1) Lancaster County (Neb. Rev. Statute §81-1504(23))

(a) If the proposed new location is within Lancaster County, the source shall also notify the Air Quality Section of the Lincoln-Lancaster County Health Department (LLCHD) at least 20 days in advance of the proposed location change An additional permit may also be required from LLCHD if the source intends to locate within this jurisdiction.

(2) City of Omaha (Neb. Rev. Statute §81-1504(23))

(a) If the proposed new location is within 3 miles of the Omaha Corporate City limits, the source shall also notify the Air Quality Section at Omaha Air Quality Control (OAQC) at least 20 days in advance of the proposed location change. An additional permit may also be required from OAQC if the source intends to locate within this jurisdiction.

(3) Tribal Lands

(a) If the proposed new location is on Tribal Lands, the source shall also notify and receive approval from the United States Environmental Protection Agency Region VII office and/or the Tribe, as appropriate, at least 20 days advance of the proposed location change. An additional permit may also be required if the source wants to locate within these jurisdictions.

(4) Cass County (Chapter 2)

(a) If the proposed new location is within Cass County, Nebraska, rock processing operations at the source are subject to Chapter 2 requirements requiring 85% reduction in potential emissions from conveying, transfer operation, and railcar and truck loading. Demonstration of the 85% reduction in potential emissions must be submitted with the change in source location notification. An air quality

impact analysis, including dispersion modeling, may also be required to ensure compliance with Title 129, Chapter 2 prior to locating in Cass County.

(C) The Director may disapprove a new proposed location for a temporary source if operation in the new location would cause or contribute to a violation of state or local standards or otherwise adversely affect human health or the environment. (Chapter 6 Section 004)

Fact Sheet for General Permit Number: GCP-DMHMAP-2
Date: November 3, 2025

Typical Standard Industrial Classification Code: 2951, Asphalt Paving Mixtures and Blocks

Typical North American Industry Classification System Code: 324121 - Asphalt Paving Mixture and Block Manufacturing

DESCRIPTION OF GENERAL CONSTRUCTION PERMIT:

The Nebraska Department of Water, Energy, and Environment (NDWEE) has determined there are numerous similar sources in Nebraska that are subject to the same Federal and State regulatory requirements. Chapter 7 of Nebraska Administrative Code Title 129 - Air Quality Regulations allows the NDWEE to issue a general construction permit (GCP) for these sources. This GCP follows the applicable procedures of Chapters 3, 7, and 10 of Title 129. The owner of a source that qualifies for this GCP must apply to the NDWEE for coverage under the applicable terms of the GCP. Each application must include all information necessary to determine qualification for, and to ensure compliance with, the GCP.

The NDWEE will notify the applicant of the determination of coverage under this GCP for the source identified in the application. If the Director of the NDWEE denies coverage of the source under the GCP, the applicant may request an adjudicative hearing in accordance with the procedures established in Title 115 - Rules of Practice and Procedure. The NDWEE may issue coverage under a GCP to an individual source without repeating the notice and comment procedures required in Chapter 10 of Title 129. The NDWEE shall maintain a list of all sources covered by general permits, which shall be available for public review.

DESCRIPTION OF THE SOURCE GROUP:

The drum mix hot mix asphalt plant permitted herein may be used as a portable or stationary plant. The materials used are a mixture of size-graded, high-quality aggregate and liquid asphaltic cement, which are heated and mixed in measured quantities to produce hot mix asphalt (HMA). This GCP is only applicable to counter flow drum mix HMA Plants (DMHMAP) with a maximum HMA production capacity of 500 tons or less per hour. Please refer to the US Environmental Protection Agency's (US EPA) Compilation of Air Pollutant Emission Factors (AP-42), Chapter 11.1 for more information about HMA plant types. The plant's emission units may consist of aggregate storage pile(s), conveyors, screening, storage silo(s), a rotary drum dryer, and a hot oil heater. An engine will typically accompany a DMHMAP.

This GCP does not permit the installation of a stationary engine. However, if the engine is portable and will not remain at the same location for more than 12 consecutive months, it will be considered a non-road engine and therefore is not subject to stationary source permitting.

TYPE AND QUANTITY OF AIR CONTAMINANT EMISSIONS ANTICIPATED:

These processes are discussed in detail below.

Aggregate storage piles, transfer, and screening

Processing begins as the aggregate is hauled from the storage piles and placed in the appropriate hoppers of the cold feed unit and screened. The material is metered from the hoppers onto a conveyer belt and is transported into the rotary drum dryer. The GCP does not authorize the total area of the storage piles to exceed 5 acres.

Emission factors for aggregate storage piles, transfer, and screening are derived from AP-42, Chapters 11.19 and 13.2.

Aggregate rotary drum dryer
Dryers are equipped with flights designed to tumble the aggregate inside the drum to promote better drying efficiency. In counter flow drum mix plants, the liquid asphalt cement-mixing zone is located behind the burner flame zone to remove the materials from direct contact with hot exhaust gases. Liquid asphalt cement flow is controlled by a variable flow pump, which is electronically linked to the virgin aggregate and reclaimed asphalt pavement (RAP) weigh scales. It is injected into the mixing zone along with any RAP and particulate matter from the attached baghouse. This GCP will only be valid for DMHMAP with dryer capacities no greater than 500 MMBtu/hr and limits the dryer to combusting only the following fuels: Propane, Natural Gas, Diesel, and Waste Oil.

Emission factors for aggregate rotary drum drying operations are from AP-42, Chapter 11.1 (Tables 11.1-3, -4, -7, -8, -10 and -12).

Hot oil heater
Asphalt cement must be kept heated so that it can be easily pumped and mixed with the dry aggregate. The proposed hot oil heater must have a capacity of no more than 10 MMBtu/hr and combust only diesel or natural gas. Emission factors for the hot oil heater are derived from AP-42, Chapter 11.1 (Tables 11.1-13), Chapter 1.3, and Chapter 1.4.

Silo filling and loadout
After mixing in the drum, the HMA is conveyed to a storage silo or is loaded directly into a truck and hauled to the job site. Emission factors for HMA load-out and silo-filling operations are from AP-42, Chapter 11.1 (Tables 11.1-14, -15, and -16).

Emissions Summary
Potential facility-wide emissions, as limited by the GCP from the DMHMAP are found in the table below. The potential to emit (PTE) is the maximum possible PTE at the maximum allowable capacities using the worst polluting fuel combinations. A facility with other sources of emissions, such as equipment covered by another construction permit, must add the maximum potential emissions from those activities with the potential emissions as listed below when considering project specific air dispersion modeling thresholds and operating permit classification.

Regulated Pollutant	Emissions (tons/year)	Emissions (Excluding Haul Roads) (tons/year)
Particulate Matter (PM)	28.56	25.38
PM smaller than or equal to 10 microns (PM_{10})	17.97	14.15
PM smaller than or equal to 2.5 microns ($PM_{2.5}$)	8.53	8.15
Sulfur Dioxide (SO_2)	21.13	21.13
Oxides of Nitrogen (NO_x)	39.79	39.79
Carbon Monoxide (CO)	36.96	36.96
Volatile Organic Compounds (VOC)	13.63	13.63
Hazardous Air Pollutants (HAPs)	2.88	2.88
Greenhouse Gases (GHG):		
Mass Basis	45,763.00	45,763.00
CO_2e Basis	45,915.00	45,915.00

APPLICABLE REQUIREMENTS AND VARIANCES OR ALTERNATIVES TO REQUIRED STANDARDS:

Chapter 2 – Ambient Air Quality Standards:
Based on the limits in this GCP, potential emissions of all regulated air pollutants from this permitting action are below the air dispersion modeling thresholds for which modeling is typically required for all pollutants as established in the NDWEE's guidance document titled *PSD and Minor Source Modeling (August* 2017). As a result, the NDWEE does not expect this source to cause or contribute to any violations of any ambient air quality standards.

Chapter 3 – Construction Permit Requirements:
The source is required to obtain a construction permit for the asphalt plant because the potential emissions, prior to general construction permit coverage, exceed the thresholds of Chapter 3, Section 001.03A. The source must submit an application fee in order to apply for coverage under this GCP, in accordance with Chapter 3, Section 002.01 and Chapter 7. The NDWEE does not include the PTE for PM when determining the fee for a construction permit, note that the PTE for PM_{10} and $PM_{2.5}$ is still considered.

Chapter 6 – Operating Permit Requirements:
For the operating permit program, a major or Class I source is one that emits, or has the potential to emit, 100 tons per year (tpy) or more of any criteria pollutant, 10 tpy or more of any individual HAP, 25 tpy or more of total HAPs, or 5 tpy or more of lead. A minor or Class II source is any facility which does not meet or exceed the major source thresholds but has actual emissions greater than one half of these thresholds.

Before issuance of coverage under this permit, potential emissions from facilities may or may not meet or exceed the major source thresholds. Most facilities will not have other significant sources of air pollutants, and therefore will be a "No Permit Required Synthetic Minor" or "No Permit Required Natural Minor" source for the operating permit program because potential and actual emissions will be below the minor source thresholds after coverage is issued.

However, a facility with other sources of emissions, such as equipment covered by another construction permit, may meet or exceed Class II or major source thresholds for the operating permit program. Each facility covered by this GCP must determine if they are obligated to apply for an operating permit, or revise an existing operating permit, due to coverage under this general construction permit. Fugitive emissions must be included when determining operating permit program applicability because the source is one of the listed categories in 40 CFR 52.21.

Chapter 12 – New Source Performance Standards (NSPS), and 40 CFR Part 60:
DMHMAPs are subject to NSPS Subpart I - Standards of Performance for Hot Mix Asphalt Facilities. Because the source is subject to this NSPS, it is also subject to NSPS Subpart A – General Provisions. A brief description of Subparts A and I is provided below.

The NDWEE has identified the following NSPS as potentially applicable to a Drum Mix Hot Mix Asphalt plant:

Subpart A – General Provisions:
NSPS Subpart A, adopted by reference in Title 129, Chapter 12, Section 001.01, applies to those units covered by the specific NSPS as discussed below. The permittee is required to submit notification of the date construction commenced postmarked no later than 30 days after such date (40 CFR 60.7(a)(1)), notification of the anticipated date of initial startup of the equipment postmarked not more than 60 days nor less than 30 days prior to such date (40 CFR 60.7(a)(2)), and notification of the actual date of initial startup of the equipment postmarked within 15 days after such date (40 CFR 60.7(a)(3)). Because a DMHMAP is subject to the requirements of other NSPS Subparts, the requirements of this subpart also apply.

Subpart I - Standards of Performance for Hot Mix Asphalt Facilities:
This subpart, adopted by reference in Title 129, Chapter 12, Section 001.14, applies to each hot mix asphalt facility that commences construction or modification after June 11, 1973.

The affected facilities (equipment/process) that are subject include dryers; 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 the emission control systems.

All emission units identified at a DMHMAP are subject to this subpart according to 40 CFR 60.90. Once initial performance tests are performed, a DMHMAP shall not emit particulate matter in excess of 90 mg/dscm (0.04 gr/dscf) and shall not exhibit 20% opacity or greater (§60.92). US EPA test Method 5 for particulate matter and Method 9 for opacity shall be performed (§60.93).

It is the source's obligation to comply with all applicable NSPS subparts and requirements whether or not they are identified in this permitting action or Title 129. Additional and updated information on all NSPS is available on the NDWEE NSPS Notebook, which can be located by visiting the NDWEE website at http://dee.ne.gov, and first selecting the "Air" tab, then the "Air Grants, Planning and Outreach Program" dropdown menu tab, then the "New Source Performance Standards (NSPS) Program" dropdown menu tab, and then select "New Source Performance Standards (NSPS) Program". Or alternately use the "Search NDWEE Web" search box on the upper right of the webpage and enter "New Source Performance Standards".

Chapter 13 – Hazardous Air Pollutant Emission Standards (NESHAPs):
The NDWEE has not identified any National Emission Standards for Hazardous Air Pollutants (NESHAP) that applies to a DMHMAP. It is the source's obligation to comply with applicable NESHAP subparts and requirements whether or not they are identified in this permitting action or Title 129.

Chapter15 – Particulate Matter Emissions, Limitations, and Standards:
Section 001.01 – Process Weight Rate
A DMHMAP will comply with the requirements of this section by properly operating their equipment as stated by the manufacturer and by appropriately operating a baghouse. Emission points not controlled by the baghouse will remain in compliance with this requirement because the pound per hour PM PTEs are below the allowable PM emission thresholds as specified in Section 001.01. Potential emissions calculations which demonstrate that a DMHMAP will comply with the requirement of this section are located in the attachment to this fact sheet.

Section 001.02- Particulate Emissions from Combustion Sources
This section applies to the dryer and hot oil heater at a DMHMAP. The dryer and the hot oil heater are permitted to combust several fuels. Potential emissions calculations demonstrate that a DMHMAP will comply with the requirement of this section and are in the attachment to this fact sheet. By properly operating the combustion equipment, a DMHMAP will remain in compliance with this limitation.

Sections 001.04 and 001.05E – Opacity
In accordance with Section 001.05E, a DMHMAP does not have to comply with Section 001.04, because NSPS Subpart I specifies an opacity limit of 20% for all operations and requires USEPA Method 9 performance testing for opacity. DMHMAPs must utilize a baghouse to control particulate emissions and must take corrective actions if visible emissions are observed from any emission points.

SPECIFIC PERMIT CONDITIONS DISCUSSION:

III.(A) Specific Conditions for Drum Mix Hot Mix Asphalt Plants:

III.(A)(1) This permit condition identifies the emission points, control equipment, emission units, permitted fuel type(s), and maximum capacities of the emission units, if applicable.

III.(A)(2) This permit condition requires a DMHMAP to comply with the emission limitations of Title 129, Chapter 15, Section 001 and NSPS Subparts A and I. Performance testing will be required to demonstrate compliance with the emission standard prescribed in the permit as well as NSPS Subpart I on the dryer stack (EP-06) due to potential of being the highest emitting emission point. Subsequent testing is required at a minimum of every five (5) calendar years ensures the emissions standards are met throughout the life of the equipment.

III.(A)(3) A DMHMAP is limited to a maximum HMA production rate of 550,000 tons per year. This limit was set so modeling would not be required as part of the permitting process.

Condition III.(A)(3)(b) requires that a DMHMAP properly operate and maintain the specified control devices at all times when the associated emission units, as described in III.(A)(1), are operational. Condition III.(A)(3)(c) describes the operational and maintenance requirements for the specified control devices. One indication of baghouse malfunction is an atypical pressure drop across the baghouse. Therefore, each baghouse is required to be equipped with an operational pressure differential indicator.

Condition III.(A)(3)(d) requires the operator to conduct daily observations during the daylight hours of operation to ensure that there are no visible emissions from the stack or exhaust points of all emission units, leaks, noise from the unit, or atypical monitoring parameters. By requiring daily observations, the NDWEE is confident that any malfunctions will be detected and corrected quickly. The operator must maintain a log containing the results of these observations and any corrective action that occurs as a result of the observations.

The dryer may not exceed a maximum combustion capacity (MCC) of 500 MMBtu/hr, and the hot oil heater may not exceed a MCC of 10 MMBtu/hr. The dryer may only combust the following as fuel: Propane, Natural Gas, Diesel, and/or Waste Oil. The hot oil heater may combust only diesel or natural gas. The storage pile must not exceed five acres. These limitations ensure that the DMHMAP is not subject to any case-by-case determinations such as modeling, PSD analysis, and/or Title 129, Chapter 13, Section 004.02.

In addition, the DMHMAP must comply with the operational and monitoring requirements of NSPS Subpart I.

III.(A)(4) This condition identifies the applicable federal standards that apply to a DMHMAP.

III.(A)(5) This condition identifies reporting and recordkeeping requirements for all of the applicable requirements of Condition III.(A).

III.(B) Specific Conditions for Haul Roads:

This condition specifies requirements for haul roads. The facility must comply with the Title 129, Chapter 15 Section 003 requirements as well as use best management practices to prevent fugitive dust from escaping the property. If necessary, the facility must implement necessary corrective actions, which might include water application, gravel application, speed limits, or road maintenance.

IV. Specific Conditions for Relocation:

This condition provides the source with the requirements associated with relocation of the DMHMAP operation. The source must notify the NDWEE each time the DMHMAP is relocated. The source is required to obtain the necessary permits and approvals from either Omaha Air Quality or Lincoln Lancaster Health Department prior to locating within Omaha city limits or Lancaster County, respectively. Relocation on Tribal Lands is outside the NDWEE's jurisdiction. The source must contact the US EPA Region VII office or the specific Tribe to determine permit requirements within Tribal jurisdictions. If the source relocates into Cass County, they will become subject to Title 129, Chapter 2, which imposes additional requirements.

Fact Sheet Attachment

Hot Mix Asphalt Plant: Potential to Emit Summary

Summary of lb/hr total emissions

Pollutant	Storage Pile	Conveyors	Screening	Silo Filling	Loadout	Dryer	Hot oil Heater	Haul Roads	Total
PM	3.11	3.14	1.05	0.29	0.26	16.50	0.13	4.08	28.56
PM_{10}	1.50	1.15	0.35	0.29	0.26	11.50	0.22	0.87	16.14
$PM_{2.5}$	0.30	0.45	2.38E-02	0.29	0.26	11.15	0.22	8.72E-02	12.79
SOx	-	-	-	-	-	29.00	9.41	-	38.41
NOx	-	-	-	-	-	27.50	1.31	-	28.81
CO	-	-	-	0.59	0.85	65.00	7.84E-02	-	66.52
VOC	-	-	-	6.09	2.63	16.00	2.22E-02	-	24.75
Pb	-	-	-	-	-	0.27	9.00E-05	-	0.27
HAP	-	-	-	9.37E-02	4.33E-02	5.09	1.50E-03	-	5.23
GHG (mass basis)	-	-	-	-	-	81,575	1,631	-	83,206
GHG (CO_2e basis)	-	-	-	-	-	81,851	1,631	-	83,482

Summary of ton/year total emissions

Pollutant	Storage Pile	Conveyors	Screening	Silo Filling	Loadout	Dryer	Hot oil Heater	Haul Roads	Total*
PM	13.63	1.73	0.57	0.16	0.14	9.08	7.19E-02	17.85	43.23
PM_{10}	6.57	0.63	0.19	0.16	0.14	6.33	0.12	3.82	17.97
$PM_{2.5}$	1.33	0.25	1.31E-02	0.16	0.14	6.13	0.12	0.38	8.53
SOx	-	-	-	-	-	15.95	5.18	-	21.13
NOx	-	-	-	-	-	15.13	0.72	-	15.84
CO	-	-	-	0.32	0.47	35.75	4.31E-02	-	36.59
VOC	-	-	-	3.35	1.45	8.80	1.22E-02	-	13.61
Pb	-	-	-	-	-	0.15	4.95E-05	-	0.15
HAP	-	-	-	5.15E-02	2.38E-02	2.80	8.27E-04	-	2.87
GHG (mass basis)	-	-	-	-	-	44,866	896.84	-	45,763
GHG (CO_2e basis)	-	-	-	-	-	45,018	896.96	-	45,915

Fact Sheet Attachment

Emission Unit Summary

Process type	Emission Point	Control ID #	Control description	Emission Unit ID #	Emission /Process Description
Storage Pile	EP-01	-	-	EU-01	Storage Pile- Wind Erosion, Loading and Unloading
Conveyors	EP-02	-	-	EU-02	Gathering, Rap and Slat Conveyors
Screening	EP-03	-	-	EU-03	Screening Emissions
Silo Filling	EP-04	-	-	EU-04	Storage Silo Filling and Asphalt Storage
Load-out	EP-05	-	-	EU-05	Load-Out Emissions
Dryer	EP-06	C-01	Baghouse	EU-06	Dryer
Hot Oil Heater	EP-07	-	-	EU-07	Hot oil heater emissions

Operation parameters and limitations

Hot Mix Asphalt produced per hour (tons/hr) =	500
Maximum hours of operation (hr/yr) =	1,100
Asphalt processed per year (ton/yr) =	550,000

Maximum PTE based on different fuels of the dryer and the heater

Pollutant	Propane + NG	Propane + diesel	NG + NG	NG + Diesel	Diesel +NG	Diesel + Diesel	Waste Oil + NG	Waste Oil + Diesel	Maximum
PM	25.32	25.38	25.32	25.38	25.32	25.38	25.32	25.38	25.38
PM_{10}	14.07	14.15	14.07	14.15	14.07	14.15	14.07	14.15	14.15
$PM_{2.5}$	8.07	8.15	8.07	8.15	8.07	8.15	8.07	8.15	8.15
SOx	4.51	9.68	0.94	6.11	3.03	8.20	15.95	21.13	21.13
NOx	39.57	39.79	7.65	7.87	15.63	15.84	15.63	15.84	39.79
CO	23.75	23.38	36.96	36.59	36.96	36.59	36.96	36.59	36.96
VOC	7.83	7.82	13.63	13.61	13.63	13.61	13.63	13.61	13.63
Pb	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
HAP	1.59	1.58	1.59	1.58	2.53	2.52	2.88	2.87	2.88
GHG (mass basis)	38,762	39,015	32,813	33,066	45,485	45,739	45,510	45,763	45,763
GHG (CO_2e basis)	38,913	39,167	32,845	33,099	45,637	45,891	45,661	45,915	45,915

Fact Sheet Attachment

Storage Pile Emissions: EP-01

Hot Mix Asphalt produced per hour (tons/hr) =	500	
Aggregate processed per hour (tons/hr) =	475	AP-42 Chapter 11.1 states that aggregate and RAP (if used) constitute over 92% by weight of the total mixture. For these calculations, it is assumed that 95% of the hot mix asphalt produced is aggregate.
Maximum occupancy on pile (hr/yr) =	8,760	
Acres occupied by storage piles (acre) =	5	
Storage pile moisture content (%) =	2	

Emissions Source	PM Emission Factor (lb/hr/acre) [1]	PM Emission Rate (lb/hr)	PM_{10} Emission Rate (lb/hr) [2]	$PM_{2.5}$ Emission Rate (lb/hr) [2]	PM Emission Rate (tpy) [3]	PM_{10} Emission rate (tpy) [3]	$PM_{2.5}$ Emission Rate (tpy) [3]
Storage Pile-Wind Erosion	0.22	1.08	0.54	0.16	4.75	2.38	0.69

[1] PM Emission Factor (lb/hr/acre) derived from the following equation taken from the Air Pollution Engineering Manual p.136:
$E = 1.7 * (s/1.5) * ((365-p)/235) * (f/15) * (1/24)$

where:

E = Emission Factor (lb/hr/acre)		
s = silt content of aggregate	1.9	from AP-42 Table 13.2.4-1, the upper range for Crushed Limestone
p = # days with $\geq$ .25mm of precipitation per year	90	from AP-42 Figure 13.2.2-1, For Nebraska
f = % of time that the unobstructed wind speed exceeds 5.4 m/s at the mean pile height	31	%, from Metrological Data, NDEQ

[2] PM_{10} and $PM_{2.5}$ emission rates are calculated using the scaling factors found in CEIDARS for Mineral Process Loss- Loading and Unloading Bulk Materials

[3] Emission Rate (tpy) = Emission Rate (lb/hr) * Maximum occupancy on pile (hr/yr) * (1 ton/2000 lb)

Emissions Source	PM Emission Factor (lb/ton) [1]	PM_{10} Emission Factor (lb/ton) [1]	$PM_{2.5}$ Emission Factor (lb/ton) [1]	PM Emission Rate (lb/hr)	PM_{10} Emission Rate (lb/hr)	$PM_{2.5}$ Emission Rate (lb/hr)	PM Emission Rate (tpy)	PM_{10} Emission rate (tpy)	$PM_{2.5}$ Emission Rate (tpy)
Storage Pile-Loading and Unloading	4.27E-03	2.02E-03	3.06E-04	2.03	0.96	0.15	8.88	4.20	0.64

[1] Emission Factors (lb/ton) derived from the following equation in AP-42 Chapter 13.2.4 (Nov. 2006), Equation 1:
$E = k * (0.0032) * ((U/5)^1.3) / ((M/2)^1.4)$

where:

E = Emission Factor (lb/ton)		
U = mean wind speed (mph) =	10	mph in Nebraska
M = material moisture content =	2.5	% given by facility in the form of an input question in this spreadsheet
k = particle size multiplier =	0.74	for PM30 from AP-42 Section 13.2.4
k = particle size multiplier =	0.35	for PM10 from AP-42 Section 13.2.4
k = particle size multiplier =	0.053	for PM2.5 from AP-42 Section 13.2.4

Total Storage Pile Pollutant Emissions	**Emissions (lb/hr)**	**Emissions (tpy)**
PM	**3.11**	**13.63**
PM_{10}	**1.50**	**6.57**
$PM_{2.5}$	**0.30**	**1.33**

Fact Sheet Attachment

Conveyor Emissions: EP-02

Hot Mix Asphalt produced per hour (tons/hr) =	500
Maximum hours of operation (hr/yr) =	1,100
Asphalt processed per year (ton/yr) =	550,000
Storage pile moisture content (%) =	2
Oil applied to the material after the dryer: (Yes = 1, No = 0)	0

Pollutant	Emission Factor (lb/ton) [1]	Emission Rate (lb/hr)	Emission Rate (tpy)
Gathering Conveyor			
PM	1.40E-04	7.00E-02	3.85E-02
PM_{10}	4.60E-05	2.30E-02	1.27E-02
$PM_{2.5}$	1.30E-05	6.50E-03	3.58E-03
Belt Conveyor			
PM	1.40E-04	7.00E-02	3.85E-02
PM_{10}	4.60E-05	2.30E-02	1.27E-02
$PM_{2.5}$	1.30E-05	6.50E-03	3.58E-03
RAP Conveyor			
PM	3.00E-03	1.50E+00	8.25E-01
PM_{10}	1.10E-03	5.50E-01	3.03E-01
$PM_{2.5}$	4.38E-04	2.19E-01	1.20E-01
Slat Conveyor			
PM	3.00E-03	1.50E+00	8.25E-01
PM_{10}	1.10E-03	5.50E-01	3.03E-01
$PM_{2.5}$	4.38E-04	2.19E-01	1.20E-01

[1] Emission Factors are from AP-42 Chapter 11.19 (August. 2004), Table 11.19.2-2, Conveyor Transfer Point:

Gathering and Belt Conveyor Emission Factors	PM (lb/ton)	PM_{10} (lb/ton)	$PM_{2.5}$ (lb/ton) *
If storage pile moisture content is ≤ 1.3%, Emission Factor is:	3.00E-03	1.10E-03	4.38E-04
If storage pile moisture content is > 1.3%, Emission Factor is:	1.40E-04	4.60E-05	1.30E-05

RAP Conveyor Emission Factor			
Emission Factor is:	3.00E-03	1.10E-03	4.38E-04

Slat Conveyor Emission Factor			
If oil is applied after the dryer, a 60% control is assumed and the Emission Factor is:	1.20E-03	4.40E-04	1.75E-04
If oil is not applied after the dryer, the Emission Factor is:	3.00E-03	1.10E-03	4.38E-04

* Uncontrolled $PM_{2.5}$ emission factors are derived using the scaling factors found in CEIDARS for Mineral Process Loss- Loading and Unloading Bulk Materials.

[2] Emission Rate (tpy) = Emission Rate (lb/hr) * (asphalt processed per year (ton/yr) / asphalt processed per hour (ton/hr)) * (1 ton/2000 lb)

Total Conveyor Pollutant Emissions	**Emissions (lb/hr)**	**Emissions (tpy)**
PM	**3.14**	**1.73**
PM_{10}	**1.15**	**0.63**
$PM_{2.5}$	**0.45**	**0.25**

Fact Sheet Attachment

Screening Emissions: EP-03

Hot Mix Asphalt produced per hour (tons/hr) =	500
Aggregate processed per hour (tons/hr) =	475
Maximum hours of operation (hr/yr) =	1,100
Asphalt processed per year (ton/yr) =	550,000
Storage pile moisture content (%) =	2

AP-42 Chapter 11.1 states that aggregate and RAP (if used) constitute over 92% by weight of the total mixture. For these calculations, it is assumed that 95% of the hot mix asphalt produced is aggregate.

Pollutant	Emission Factor (lb/ton) [1]	Emission Rate (lb/hr)	Emission Rate (tpy)
PM	2.20E-03	1.05E+00	5.75E-01
PM_{10}	7.40E-04	3.52E-01	1.93E-01
$PM_{2.5}$	5.00E-05	2.38E-02	1.31E-02

[1] Emission Factors are from AP-42 Chapter 11.19 (August. 2004), Table 11.19.2-2, Screening:

	PM (lb/ton)	PM_{10} (lb/ton)	$PM_{2.5}$ (lb/ton) *
If storage pile moisture content is ≤ 1.3%, Emission Factor is:	2.50E-02	8.70E-03	3.65E-03
If storage pile moisture content is > 1.3%, Emission Factor is:	2.20E-03	7.40E-04	5.00E-05

* The uncontrolled (moisture content ≤ 1.3%) $PM_{2.5}$ emission factor is derived using the scaling factor found in CEIDARS for Mineral Process Loss- Loading and Unloading Bulk Materials.

Fact Sheet Attachment

Storage Silo Filling and Asphalt Storage Tank Emissions: EP-04

Hot Mix Asphalt produced per hour (tons/hr) =	500
Maximum hours of operation (hr/yr) =	1,100
Asphalt processed per year (ton/yr) =	550,000

Pollutant	Emission Factor (lb/ton) [1]	Emission Rate (lb/hr)	Emission Rate (tpy)
PM	5.86E-04	0.29	0.16
PM_{10}	5.86E-04	0.29	0.16
$PM_{2.5}$	5.86E-04	0.29	0.16
CO	1.18E-03	0.59	0.32
VOC	0.01	6.09	3.35
HAP	1.87E-04	0.09	0.05

[1] Emission factors for PM, PM_{10}, $PM_{2.5}$, CO, and VOC derived from the equations in AP-42 Chapter 11.1 (Apr. 2004), Table 11.1-14 for Silo Filling, using the default values as discussed in footnote "a" of the table. The emission factor for HAP was derived from Tables 11.1-15 and 11.1-16 for Speciation Profile for Silo Filling and Asphalt Storage Tanks Emissions.

Fact Sheet Attachment

Loadout Emissions: EP-05

Hot Mix Asphalt produced per hour (tons/hr) =	500
Maximum hours of operation (hr/yr) =	1,100
Asphalt processed per year (ton/yr) =	550,000

Pollutant	Emission Factor (lb/ton) [1]	Emission Rate (lb/hr)	Emission Rate (tpy)
PM	5.22E-04	2.61E-01	1.44E-01
PM_{10}	5.22E-04	2.61E-01	1.44E-01
$PM_{2.5}$	5.22E-04	2.61E-01	1.44E-01
CO [2]	1.70E-03	8.51E-01	4.68E-01
VOC [2]	5.26E-03	2.63E+00	1.45E+00
HAP	8.66E-05	4.33E-02	2.38E-02

[1] Emission factors derived from the equations in AP-42 Chapter 11.1 (Apr. 2004), Table 11.1-14 for Drum-mix or batch plant load-out, using the default values as discussed in footnote "a" of the table. The emission factor for HAP was derived from Tables 11.1-15 and Table 11.1-16; this includes HAP emissions from loadout and those that occur after the trucks are loaded (referred to as yard emissions).

[2] In addition to loadout, emissions of CO and TOC occur after the trucks are loaded (referred to as yard emissions). The emission factors for yard emissions as found in AP-42 Chapter 11.1, page 11.1-9 are accounted for in the CO and VOC emission factors above. (0.0011 lb/ton for TOC and (0.0011 * 0.32) lb/ton for CO.)

Fact Sheet Attachment

Dryer Emissions: EP-06

Hot Mix Asphalt produced per hour (tons/hr) =	500
Maximum hours of operation (hr/yr) =	1100
Asphalt processed per year (ton/yr) =	550000
Storage pile moisture content (%) =	2
Control Device that Operates on the Dryer: (Baghouse=1, Wet Scrubber=2, No Control=3)	1
Dryer Heat Input Rating (MMBtu/hr) =	500

Pollutant	Emission Factor	Emission Rate (lb/hr)	Emission Rate (tpy)
PM	3.30E-02	16.50	9.08
PM_{10}	2.30E-02	11.50	6.33
$PM_{2.5}$	2.23E-02	11.15	6.13
SOx	0.06	29.00	15.95
NOx	0.06	27.50	15.13
CO	0.13	65.00	35.75
VOC	0.03	16.00	8.80
Pb	5.40E-04	0.27	1.49E-01
HAP	1.02E-02	5.09	2.80
Green House Gases			
CO_2	74.00	81,570.94	44,864.02
CH_4	3.00E-03	3.31	1.82
N_2O	6.00E-04	0.66	0.36
GHG (mass basis)	-	81,574.91	44,866.20
GHG (CO_2e basis)	-	81,850.71	45,017.89

	PM (lb/ton)	PM_{10} (lb/ton)*	$PM_{2.5}$ (lb/ton) **
If the dryer is uncontrolled, the emission factor is:	28	6.5	1.5654
If the dryer is controlled by a venturi or wet scrubber, the emission factor is:	0.045	0.045	6.57E-03
If the dryer is controlled by a fabric filter, the emission factor is:	0.033	0.023	2.23E-02

* All PM data are derived from AP-42 tables 11.1-1 through 4. PM_{10} assumed to equal total PM if no data are available for PM_{10} emissions

** The wet scrubber $PM_{2.5}$ emission factor is derived using the scaling factor found in CEIDARS for Mineral Process Loss- Loading and Unloading Bulk Materials. Both other values are derived from AP42 Table 11-1-2 + Inorganic and Organic condensable PM from Table 11-1-1

Fact Sheet Attachment

Hot Oil Heater Emissions EP-07

Hot Mix Asphalt produced per hour (tons/hr) =	500
Maximum hours of hot oil heater operation per year (hr/yr) =	1,100
Rated capacity of hot oil heater (MMBtu/hr) =	10.00
Maximum Fuel Rate (gal/hr) [MMBtu/hr / 0.153 gal/MMBtu] =	65.36
Maximum Fuel Rate (10^6 scf/hr) [MMBtu/hr / 1100 10^6 scf/MMBtu] =	9.1E-03

Pollutant	Emission Factor (lb/103 gal)	Emission Factor Source [1]	Emission Rate (lb/hr)	Emission Rate (tpy) [3]
PM	2.00	Table 1.3-1	0.13	0.07
PM_{10}	3.30	Tables 1.3-1 and 1.3-2	0.22	0.12
$PM_{2.5}$	3.30	Tables 1.3-1 and 1.3-2	0.22	0.12
SOx	144.00	Table 1.3-1	9.41	5.18
NOx	20.00	Table 1.3-1	1.31	0.72
VOC	0.34	Table 1.3-3	0.02	0.01
	Emission Factor (lb/gal)			
CO	1.20E-03	Table 11.1-13	0.08	0.04
HAP	2.30E-05	Table 11.1-13	1.50E-03	8.27E-04
	Emission Factor (lb/10 12 Btu)			
Pb	9.00	Table 1.3-10	0.00	0.00
Greenhouse Gases				
	Emission Factor (kg/MMBtu)	Emission Factor Source [2]	Emission Rate (lb/hr)	Emission Rate (tpy) [3]
CO_2	73.96	40 CFR 98, Subpart C, Tables 1	1,630.54	896.80
CH_4	3.00E-03	40 CFR 98, Subpart C, Tables 2	0.07	0.04
N_2O	6.00E-04		0.01	7.28E-03
GHG (mass basis)	73.96		1,630.62	896.84
GHG (CO_2e)	73.97		1,630.83	896.96

[1] Emission Factors are from AP-42, Chapter 1.3 and 1.4 (May 2010) for Boilers < 100 MMBtu/hr and Chapter 11.1 (Apr. 2004), for No. 2 fuel oil and natural gas. The emission factors that require a sulfur content input are calculated using 1%, which is the maximum sulfur content of fuel allowed by Chapter 42, Section 011.06B.

[2] Emission Factors for GHGs are summations of the CO_2, CH_4, and N_2O emission factors for Distillate Fuel Oil No. 2 from 40 CFR Part 98.

[3] Emission Rate (tpy) = Emission Rate (lb/hr) * Maximum hours of hot oil heater operation per year (hr/yr) * (1 ton/2000 lb)

Fact Sheet Attachment

Ch. 15 Emission Limitations

Title 129, Chapter 15, Section 001.01

Emission Point ID	Description	Design Throughput	CH. 15 Limit	Max. Emissions
		tph	lb/hr	lb/hr
EP-01	Storage Pile- Wind Erosion, Loading and Unloading	500	68.96	3.11
EP-02	Gathering, Rap and Slat Conveyors	500	68.96	3.14
EP-03	Screening Emissions	500	68.96	1.05
EP-04	Storage Silo Filling and Asphalt Storage Tank Emissions	500	68.96	0.29
EP-05	Load-Out Emissions	500	68.96	0.26
EP-06	Dryer	500	68.96	16.50
EP-07	Hot oil heater emissions	500	68.96	0.13

[a] Where applicable, design throughput is estimated based on the lowest throughput rate. This ensures the most conservative limit for each emission point category.

[b] Permitted emission are calculated to be the total lb/hr emissions expected for all emission points in every category.

Title 129, Chapter 15, Section 001.02

Total Heat Input (MMBtu/hr)	Maximum Allowable Emissions of PM (lbs/MMBtu)
10 or less	0.6
Between 10 and 10,000	$1.026/I^{0.233}$ Where I = total heat input in MMBtu/hr.
10,000 or more	0.12

Emission Point	Emission Unit	Description	Rating	Allowable PM	Max. Emissions
			MMBtu/hr	lb/MMBtu	lb/MMBtu
EP-06	EU-06	Dryer	500	0.24	0.03
EP-07	EU-07	Hot Oil Heater	10.0	0.60	1.31E-02

Fact Sheet Attachment

Haul Roads (EP-09)

Unpaved roads {AP-42 Chapter 13.2.2 (11/06)}

Equation (1a): (modified)

$$E = k \times \left(\frac{sC}{12}\right)^{a} \times \left(\frac{W}{3}\right)^{b} \times \left(\frac{365-P}{365}\right) \times \left(\frac{S}{30}\right)^{d} \times (1-CE)$$

	k	*a*	*b*	*d*
PM	4.90	0.70	0.45	0.3
PM_{10}	1.50	0.90	0.45	0.5
$PM_{2.5}$	0.15	0.9	0.45	0.5

Haul Road / Traffic Parameters

Activity / Road Description	Road Type / Silt Value		Roundtrip		Truck Weight			Ave. Speed (mph)	Maximum Throughput	Ave. Truck Capacity		Annual VMT
			empty	full	empty	full	Ave.					
Aggregate In	u	6.00	500	500	15	45	30.0	10	550,000	30	ton	3,472
Asphalt Out	u	6.00	500	500	15	40	27.5	10	550,000	25	ton	4,167

Emission Calculations

Activity / Road Description	Emission Factors (lb/VMT)			Potential Emissions (tons/yr)		
	PM	PM_{10}	$PM_{2.5}$	PM	PM_{10}	$PM_{2.5}$
Aggregate In	4.77	1.02	0.10	8.29	1.77	1.77E-01
Asphalt Out	4.59	0.98	9.82E-02	9.56	2.05	2.05E-01
Total Annual Emissions:				**17.85**	**3.82**	**0.38**

Description of Constants/Variables

E: haul road emissions (lb/VMT)

k, d: dimensionless constants from AP-42 Chapter 13.2.1 (paved)

k, a, b, c, d: dimensionless constants from AP-42 Tables 13.2.1-1 & 13.2.2-2 (unpaved)

sL: silt loading (g/m^2) of paved road surface

sC: silt content (%) of unpaved road surface

W: average vehicle weight (tons)

P: days/yr with at least 0.01" of precipitation

P = 80 default = 90

S: mean vehicle speed on road (mph) default = 30, minimum =15

CE: unpaved road, dust control efficiency

CE = 0 % default = 0%

VMT: vehicle miles traveled