

MISSOURI
DEPARTMENT OF
NATURAL RESOURCES

MISSOURI AIR CONSERVATION COMMISSION

PERMIT TO CONSTRUCT

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to construct the air contaminant source(s) described below, in accordance with the laws, rules and conditions as set forth herein.

Permit Number: **06 2018 - 010**

Project Number: 2017-10-019
Installation Number: 099-0175

Parent Company: Riverview Commerce Park

Parent Company Address: 2320 Creve Coeur Mill Road, Maryland Heights, MO 63043

Installation Name: Riverview Commerce Park

Installation Address: 600 Riverport Way, Herculaneum, MO 63048

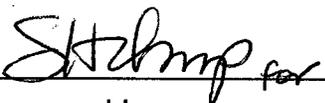
Location Information: Jefferson County, S20, T41N, R6E

Application for Authority to Construct was made for:

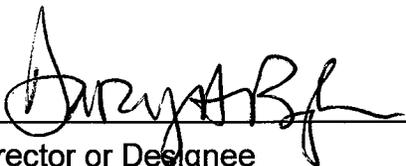
Installation of a new indoor sand storage and handling facility to an existing transloading facility. This review was conducted in accordance with Section (6), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

Standard Conditions (on reverse) are applicable to this permit.

Standard Conditions (on reverse) and Special Conditions are applicable to this permit.



Prepared by
Chia-Wei Young
New Source Review Unit



Director or Designee
Department of Natural Resources

JUN 27 2018

Effective Date

STANDARD CONDITIONS:

Permission to construct may be revoked if you fail to begin construction or modification within two years from the effective date of this permit. Permittee should notify the Enforcement and Compliance Section of the Air Pollution Control Program if construction or modification is not started within two years after the effective date of this permit, or if construction or modification is suspended for one year or more.

You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review. In the event that there is a discrepancy between the permit application and this permit, the conditions of this permit shall take precedence. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the Enforcement and Compliance Section of the Department's Air Pollution Control Program of the anticipated date of start up of this (these) air contaminant source(s). The information must be made available within 30 days of actual startup. Also, you must notify the Department's regional office responsible for the area within which you are located within 15 days after the actual start up of this (these) air contaminant source(s).

A copy of the permit application and this permit and permit review shall be kept at the installation address and shall be made available to Department's personnel upon request.

You may appeal this permit or any of the listed special conditions to the Administrative Hearing Commission (AHC), P.O. Box 1557, Jefferson City, MO 65102, as provided in RSMo 643.075.6 and 621.250.3. If you choose to appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC.

If you choose not to appeal, this certificate, the project review and your application and associated correspondence constitutes your permit to construct. The permit allows you to construct and operate your air contaminant source(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

The Air Pollution Control Program invites your questions regarding this air pollution permit. Please contact the Construction Permit Unit using the contact information below.

Contact Information:

Missouri Department of Natural Resources
Air Pollution Control Program
P.O. Box 176
Jefferson City, MO 65102-0176
(573) 751-4817

The regional office information can be found at the following website:
<http://dnr.mo.gov/regions/>

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (6) REVIEW

Project Number: 2017-10-019
Installation ID Number: 099-0175
Permit Number: **06 2018 - 010**

Installation Address:
Riverview Commerce Park
600 Riverport Way
Herculaneum, MO 63048

Parent Company:
Riverview Commerce Park
2320 Creve Coeur Mill Road
Maryland Heights, MO 63043

Jefferson County, S20, T41N, R6E

REVIEW SUMMARY

- Riverview Commerce Park has applied for authority to construct an indoor sand storage and handling facility.
- The application was deemed complete on October 11, 2017.
- HAP emissions are not expected from the proposed equipment.
- None of the New Source Performance Standards (NSPS) apply to the installation.
- None of the NESHAPs apply to this installation. None of the currently promulgated MACT regulations apply to the proposed equipment.
- No control devices will be used with the proposed equipment. However, the equipment is located inside a building which reduces emissions.
- This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of PM are greater than the de minimis level but less than the major source level. Potential emissions of all other pollutants are below de minimis levels.
- This installation is located in Jefferson County, a nonattainment area for the 8-hour ozone standard (2008), the PM_{2.5} standard (1997), the SO₂ standard (2010), and the lead standard (2008), and an attainment area for all other criteria pollutants. Part of Jefferson County is a nonattainment area for lead (1978). The installation is located in the Jefferson County lead nonattainment area.

- This installation is not on the List of Named Installations found in 10 CSR 10-6.020(3)(B), Table 2. Fugitive emissions are not counted toward major source applicability. Due to its nonattainment status, major source levels for VOC, PM_{2.5}, SO₂, and NO_x are 100 tpy. Major source levels for other criteria pollutants are 250 tpy.
- Ambient air quality modeling was not performed since there are no modeling standards for PM and potential emissions of all other pollutants are below de minimis levels.
- Emissions testing is not required for the equipment as a part of this permit. Testing may be required as part of other state, federal or applicable rules.
- A Basic Operating Permit application is required for this installation within 30 days of equipment startup.
- Approval of this permit is recommended without special conditions.

INSTALLATION DESCRIPTION

Riverview Commerce Park is a transloading facility located in Herculaneum, MO. The installation can be divided into four distinct operations: Dock #1, Rail #1 Wilson Conveyor, Dock #2, and Rail #2 RBT System. Rail #2 RBT System was permitted under Permit No. 062016-012 while the other three (3) operations were permitted under Permit No. 072014-006.

The maximum hourly design rates of Dock #1, Rail #1 Wilson Conveyor, Rail #2 RBT System, and Dock #2 are 300 tph, 100 tph, 100 tph, and 300 tph, respectively. The installation is a minor source for construction permit and a Basic source for operation permits.

The following New Source Review permits have been issued to Riverview Commerce Park from the Air Pollution Control Program.

Table 1: Permit History

Permit Number	Description
072014-006	A loading facility for sand, copper concentrate, and zinc concentrate.
072014-006A	True-up for Permit No. 072014-006. Construction of new loading conveyors.
072014-006B	Superseding special conditions in all previous permits.
062016-012	Adding a soda ash unloading operation.
062016-012A	Allowing rail #2 to unload trucks to rail cars, add baghouse requirement, and allowing maximum flexibility in type of material being handled by Rail #2.

Another project was recently reviewed by the Air Pollution Control Program. That project (no. 2016-09-032, Permit No. 072014-006C) was reviewed for the following:

- Removal of the NAAQS limit and daily emissions tracking as required in Permit No. 072014-006B.
- Allowing Rail #1 to unload railcars/load trucks. Construction Permit 072014-006B only addressed the unloading of trucks/loading to railcars.
- Allowing Dock #2 to unload barges. Construction Permit 072014-006B only addressed the loading of barges.
- Allowing maximum flexibility in the type of materials handled for Dock #2 and Rail #1.
- Allowing outdoor storage of a variety of materials at Dock #2 and Rail #1. Construction Permit 072014-006B only addresses the stockpiling of sand for these operations.

None of the activities in Project 2016-09-032 are functionally related to this project and therefore, the two projects were considered separate for construction permitting purposes. Two separate permits are being issued.

PROJECT DESCRIPTION

Riverview Commerce Park proposes to install a new indoor industrial sand storage and handling operation. In the current configuration, sand is unloaded by truck (EP1) either directly unto the Masaba conveyor C1 (EP2) or to an auxiliary conveyor (EP8) that feeds into Masaba conveyor C1. The sand is then transferred onto conveyor C2 (EP3) followed by a 20-ton surge hopper (EP4), conveyor C3 (EP5), conveyor C4 (EP6), and conveyor C5 (EP7). Conveyor C5 feeds into the barge. With the new storage system in place, sand may be loaded into barges using the existing configuration as described above, or into the new storage system, which consists of a Hopper (EP101), a radial stacker (EP102), a storage pile (EP103), a hopper (EP104), and conveyor C7 (EP105). Conveyor C7 of the new system feeds into conveyor C2 which then follows the existing configuration (EP3-7).

This project does not debottleneck any part of the existing installation. This project only installs sand storage and handling equipment into the middle of a loadout line. Both the existing handling equipment and the new sand storage and handling equipment feeds into conveyor C2. Therefore, conveyor C2 is the bottleneck of the system. Conveyor C2 has an MHDR of 300 tph so the MHDR of the new sand storage and handling equipment is 300 tph.

No control equipment will be used for the new storage and handling system. However, since the storage and handling system is inside a building, particulate emissions are reduced.

EMISSIONS/CONTROLS EVALUATION

Emissions expected are PM_{2.5}, PM₁₀, and PM. For the handling equipment (i.e. conveyors and hoppers), the emission factors used in this analysis were obtained from the EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition,

Section 13.2.4, *Aggregate Handling and Storage Piles*, (11/2006). Silt content (2.6%) used in the equation was taken from Table 13.2.4-1. The moisture content (0.5%) used in the equation was taken from AP-42, Chapter 11.19.1, *Sand and Gravel Processing*.

Emissions from load-in and load-out of storage piles were calculated also using the equation from AP-42, Section 13.2.4. Emissions from wind erosion of storage piles were calculated using an equation developed by the EPA in 1989. This is the same equation that is listed in Air Pollution Control program's Emissions Inventory Questionnaire Form 2.8, *Storage Pile Worksheet*.

The equation in AP-42, Section 13.2.4, and the EPA equation from 1989 are dependent on average wind speed. However, the equipment is located indoors. For the equations in AP-42, Section 13.2.4, the indoor air speed was calculated using equations from the Whole Building Design Guide, a program of the National Institute of Building Sciences. For the 1989 EPA equation, emissions are expected only if the wind speed is greater than 12 mph. For indoor storage piles, the wind speed should be less than 12 mph. For a conservative analysis, it was assumed that the air speed inside the building would be greater than 12 mph for 0.01% of the time. This value was recommended by the company and accepted for use by the Missouri Air Pollution Control Program.

For the haul roads and vehicular activity area hauling, emissions were calculated using equation in AP-42, Section 13.2.2, *Unpaved Roads*, 11/06. A 90% control efficiency for PM₁₀ and PM and a 40% control efficiency for PM_{2.5} were applied to the emissions calculations for the haul roads for the use of Best Management Practices.

The use of Best Management Practices to control haul road emissions is required by Special Condition No. 1 in Permit No. 072014-006B. Since the new storage and handling operation uses the same haul road as those permitted in Permit No. 072014-006B, the special condition is not restated here. Since the equipment are located in a building, a 3.7% control efficiency was given for the building. This is the default value used by the Missouri Air Pollution Control Program.

The following table provides an emissions summary for this project. Existing potential emissions were taken from Permit No. 072014-006C. Potential emissions of the project represent the potential of the new equipment, assuming continuous operation (8760 hours per year).

Table 2: Emissions Summary (tpy)

Pollutant	Regulatory De Minimis Levels	Existing Potential Emissions	Existing Actual Emissions (2016 EIQ)	Potential Emissions of the Project	New Project Conditioned Potential
PM	25.0	45.95*/39.52* *	N/D	44.71	N/A
PM ₁₀	15.0	<15.0	1.58	13.24	N/A
PM _{2.5}	10.0	<10.0	0.95	3.24	N/A
SO _x	40.0	N/A	N/A	N/A	N/A
NO _x	40.0	N/A	N/A	N/A	N/A
VOC	40.0	N/A	N/A	N/A	N/A
CO	100.0	N/A	N/A	N/A	N/A
GHG (CO ₂ e)	N/A	N/A	N/A	N/A	N/A
GHG (mass)	N/A	N/A	N/A	N/A	N/A
HAPs	10.0/25.0	N/A	N/A	N/A	N/A

N/A = Not Applicable; N/D = Not Determined

*PM conditioned to PM₁₀ limitation.

**PM conditioned to PM_{2.5} limitation.

PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of PM are above the de minimis level but less than the major level.

APPLICABLE REQUIREMENTS

Riverview Commerce Park shall comply with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements. Compliance with these emission standards, based on information submitted in the application, has been verified at the time this application was approved. For a complete list of applicable requirements for your installation, please consult your operating permit.

GENERAL REQUIREMENTS

- *Operating Permits*, 10 CSR 10-6.065
- *Start-Up, Shutdown, and Malfunction Conditions*, 10 CSR 10-6.050
- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110

- Per 10 CSR 10-6.110(4)(B)2.B(II) and (4)(B)2.C(II) a full EIQ is required for the first full calendar year the equipment (or modifications) approved by this permit are in operation.
- *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*, 10 CSR 10-6.170
- *Restriction of Emission of Visible Air Contaminants*, 10 CSR 10-6.220
- *Restriction of Emission of Odors*, 10 CSR 10-6.165

STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (6), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, it is recommended that this permit be granted without special conditions.

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated October 9, 2017, received October 11, 2017, designating Riverview Commerce Park as the owner and operator of the installation.

The following documents were relied upon in the issuance of this permit:

- E-mail communications between Riverview Commerce Park and the Missouri Air Pollution Control Program.

APPENDIX A

Abbreviations and Acronyms

%percent	Mgal1,000 gallons
°Fdegrees Fahrenheit	MWmegawatt
acfmactual cubic feet per minute	MHDRmaximum hourly design rate
BACTBest Available Control Technology	MMBtuMillion British thermal units
BMPsBest Management Practices	MMCFmillion cubic feet
BtuBritish thermal unit	MSDSMaterial Safety Data Sheet
CAMCompliance Assurance Monitoring	NAAQSNational Ambient Air Quality Standards
CASChemical Abstracts Service	NESHAPs National Emissions Standards for Hazardous Air Pollutants
CEMSContinuous Emission Monitor System	NO_xnitrogen oxides
CFRCode of Federal Regulations	NSPSNew Source Performance Standards
COcarbon monoxide	NSRNew Source Review
CO₂carbon dioxide	PMparticulate matter
CO_{2e}carbon dioxide equivalent	PM_{2.5}particulate matter less than 2.5 microns in aerodynamic diameter
COMSContinuous Opacity Monitoring System	PM₁₀particulate matter less than 10 microns in aerodynamic diameter
CSRCode of State Regulations	ppmparts per million
dscfdry standard cubic feet	PSDPrevention of Significant Deterioration
EIQEmission Inventory Questionnaire	PTEpotential to emit
EPEmission Point	RACTReasonable Available Control Technology
EPAEnvironmental Protection Agency	RALRisk Assessment Level
EUEmission Unit	SCCSource Classification Code
fpsfeet per second	scfmstandard cubic feet per minute
ftfeet	SDSSafety Data Sheet
GACTGenerally Available Control Technology	SICStandard Industrial Classification
GHGGreenhouse Gas	SIPState Implementation Plan
gpmgallons per minute	SMALScreening Model Action Levels
grgrains	SO_xsulfur oxides
GWPGlobal Warming Potential	SO₂sulfur dioxide
HAPHazardous Air Pollutant	SSMStartup, Shutdown & Malfunction
hrhour	tphtons per hour
hphorsepower	tpytons per year
lbpound	VMTvehicle miles traveled
lbs/hrpounds per hour	VOCVolatile Organic Compound
MACTMaximum Achievable Control Technology	
µg/m³micrograms per cubic meter	
m/smeters per second	

Area =	0.25	acres
MHDR =	300	tph
Moisture % =	0.5	%
Silt Content =	2.6	%
Wind Speed =	0.49	mph
Rain Days Per Year =	0	Indoors
% Wind >12 MPH =	0.01	%
Wind EF =	6.2818E-05	

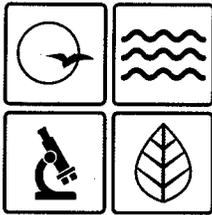
Pollutants	k	Load in/out (lb/ton)
PM2.5	0.053	5.76639E-05
PM10	0.35	0.000380799
PM	0.74	0.000805118

Pollutants	k	Wind Erosion
PM2.5	0.07083	9.72183E-06
PM10	0.03542	6.35658E-05
PM	0.00542	0.000127132

Wind Speed Calc		
K =	0.8	
Ain =	3.99	m2
Vin =	10	mph
	16093	m/hr
Qin =	51368.856	m2/h
Aout =	65.87	m2
Vout =	779.8520723	m/hr
	0.484681213	mph

2017-10-019 Riverview Commerce Park
PTE Calc

EP	Description	MHDR	Units	EF in lb/hm or lb/VMT or lb/acre-ft			E (lb/hr)			Uncontrolled E (tpy)			Capture %	Control %	Overall %	Controlled E (tpy)			E-400 Limit	
				PM2.5	PM10	PM	PM2.5	PM10	PM	PM2.5	PM10	PM				PM2.5	PM10	PM		
1	Truck Unloading	300.00000	tons	0.00006	0.00038	0.00081	AP-42, 13.2.4	0.01730	0.11424	0.24154	0.075770316	0.500370012	1.05792517	3.70%	N/A	3.70%	0.072967	0.481856	1.018782	63.00209
9	Hauling	6.46655	VMT	0.12485	1.24848	4.89863	AP-42, 13.2.2	0.80734	8.07337	31.67725	3.596134043	35.36134043	138.746342	N/A	N/A	90.00%	2.12168	3.58134	13.87463	N/A
101	Hopper Drop to Radial Stacker	300.00000	tons	0.00006	0.00038	0.00081	AP-42, 13.2.4	0.01730	0.11424	0.24154	0.075770316	0.500370012	1.05792517	3.70%	N/A	3.70%	0.072967	0.481856	1.018782	63.00209
102	Radial Stacker Drop to Stockpile	300.00000	tons	0.00006	0.00038	0.00081	AP-42, 13.2.4	0.01730	0.11424	0.24154	0.0758	0.5004	1.0579	3.70%	N/A	3.70%	0.072967	0.481856	1.018782	63.00209
103	Stockpile Wind Erosion	0.25000	acres	0.00001	0.00006	0.00013	1989 EPA Equation	0.00000	0.00002	0.00003	0.0000	0.0001	0.0001	3.70%	N/A	3.70%	1.03E-05	6.7E-05	0.000134	7.221099
103	Stockpile Load Out	300.00000	tons	0.00006	0.00038	0.00081	AP-42, 13.2.4	0.01730	0.11424	0.24154	0.0758	0.5004	1.0579	3.70%	N/A	3.70%	0.072967	0.481856	1.018782	63.00209
103	Stockpile Vehicular Activity	0.56818	VMT	0.28435	2.84354	10.31688	AP-42, 13.2.2	0.16156	1.61565	5.86186	0.7077	7.0765	25.6750	3.70%	N/A	3.70%	0.68147	6.814697	24.72498	N/A
104	Hopper Drop to Conveyor C7	300.00000	tons	0.00006	0.00038	0.00081	AP-42, 13.2.4	0.01730	0.11424	0.24154	0.075770316	0.500370012	1.05792517	3.70%	N/A	3.70%	0.072967	0.481856	1.018782	63.00209
105	Conveyor C7 Drop to Conveyor C2	300.00000	tons	0.00006	0.00038	0.00081	AP-42, 13.2.4	0.01730	0.11424	0.24154	0.075770316	0.500370012	1.05792517	3.70%	N/A	3.70%	0.072967	0.481856	1.018782	63.00209
Total =																3.240961	13.24204	44.71244		



Missouri Department of dnr.mo.gov

NATURAL RESOURCES

Michael L. Parson, Governor

Carol S. Comer, Director

JUN 27 2018

Ms. Lina Klein
Environmental Director
Riverview Commerce Park
2320 Creve Coeur Mill Road
Maryland Heights, MO 63043

RE: New Source Review Permit - Project Number: 2017-10-019

Dear Ms. Klein:

Enclosed with this letter is your permit to construct. Please study it carefully and refer to Appendix A for a list of common abbreviations and acronyms used in the permit. Also, note the special conditions, if any, on the accompanying pages. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files. Operation in accordance with these conditions, your new source review permit application and with your amended operating permit is necessary for continued compliance. The reverse side of your permit certificate has important information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri.

This permit may include requirements with which you may not be familiar. If you would like the department to meet with you to discuss how to understand and satisfy the requirements contained in this permit, an appointment referred to as a Compliance Assistance Visit (CAV) can be set up with you. To request a CAV, please contact your local regional office or fill out an online request. The regional office contact information can be found at the following website: <http://dnr.mo.gov/regions/>. The online CAV request can be found at <http://dnr.mo.gov/cav/compliance.htm>.

If you were adversely affected by this permit decision, you may be entitled to pursue an appeal before the administrative hearing commission pursuant to Sections 621.250 and 643.075.6 RSMo. To appeal, you must file a petition with the administrative hearing commission within thirty days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed; if it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the administrative hearing commission, whose contact information is: Administrative Hearing Commission, United States Post Office Building, 131 West High Street, Third Floor, P.O. Box 1557, Jefferson City, Missouri 65102, phone: 573-751-2422, fax: 573-751-5018, website: www.oa.mo.gov/ahc.



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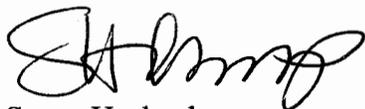
Ms. Lina Klein
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If you have any questions regarding this permit, please do not hesitate to contact Young, Chia-Wei, at the Department of Natural Resources' Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or at (573) 751-4817. Thank you for your attention to this matter.

Sincerely,

3001 1 3 2018

AIR POLLUTION CONTROL PROGRAM



Susan Heckenkamp
New Source Review Unit Chief

SH:cyj

Enclosures

c: St. Louis Regional Office
PAMS File: 2017-10-019

Permit Number: