

STATE OF MISSOURI

FILE COPY



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: 012012-005

Project Number: 2011-08-061
Installation ID: 183-0201

Parent Company: T & J Realty, LLC

Parent Company Address: 2998 South Service Road, Foristell, MO 63348

Installation Name: T & J Realty, LLC

Installation Address: 2998 South Service Road, Foristell, MO 63348

Location Information: St. Charles County, S19 T47N R1E

Application for Authority to Construct was made:

To lower the allowable moisture content, to add baghouse control to the cement supplement silo, to remove a diesel engine that is rated at 29.2 gallons per hour, and to install two propane boilers. 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.

JAN 13 2012

EFFECTIVE DATE

DIRECTOR OR DESIGNEE
DEPARTMENT OF NATURAL RESOURCES

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 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 Departments' Air Pollution Control Program of the anticipated date of startup 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 of Natural Resources Regional office responsible for the area within which you are located within 15 days after the actual startup of this (these) air contaminant source(s).

A copy of this permit and permit review shall be kept at the installation address and shall be made available to Department of Natural Resources' 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 at (573) 751-4817. If you prefer to write, please address your correspondence to the Missouri Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention: Construction Permit Unit.

Page No.	3
Permit No.	
Project No.	2011-08-061

SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

The Special Conditions listed in this permit were included based on the authority granted the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075) and by the Missouri Rules listed in Title 10, Division 10 of the Code of State Regulations (specifically 10 CSR 10-6.060). For specific details regarding conditions, see 10 CSR 10-6.060 paragraph (12)(A)10. "Conditions required by permitting authority."

1. Superseding Condition

The conditions of this permit supersede all Special Conditions found in Construction Permit Number 062002-008 and Construction Permit Number 062002-008A, issued by the Air Pollution Control Program.

2. Best Management Practices Requirement

T & J Realty, LLC shall control fugitive emissions from all of the haul roads and vehicular activity areas at this site by performing Best Management Practices as defined in Attachment AA.

3. Ambient Air Impact Limitation

A. T & J Realty, LLC shall not cause an exceedance of the National Ambient Air Quality Standard (NAAQS) for particulate matter less than ten microns in aerodynamic diameter (PM₁₀) of 150.0 µg/m³ 24-hour average in ambient air.

B. T & J Realty, LLC shall demonstrate compliance with Special Condition 3.A using Attachment A or other equivalent forms that have been approved by the Air Pollution Control Program, including an electronic forms.

4. Moisture Content Testing Requirement

A. T & J Realty, LLC shall verify that the moisture content of the processed rock is greater than or equal to 1.5 percent by weight.

B. Testing shall be conducted according to the method prescribed by the American Society for Testing Materials (ASTM) D-2216, C-566 or another method approved by the Director.

C. The initial test shall be conducted no later than 45 days after the start of operation. A second test shall be performed the calendar year following the initial test during the months of July or August.

D. The test samples shall be taken from rock that has been processed by the plant or from each source of aggregate (e.g. quarry).

E. The written analytical report shall include the raw data and moisture content of each sample, the test date and the original signature of the individual performing

Page No.	4
Permit No.	
Project No.	2011-08-061

SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

the test. The report shall be filed on-site or at the T & J Realty, LLC main office within 30 days of completion of the required test.

5. Control Device Requirement-Baghouse

A. T & J Realty, LLC shall control emissions from the equipment listed below using baghouses as specified in the permit application.

- 1) Cement Silo
- 2) Supplement Silo
- 3) Weigh Hopper
- 4) Truck Mix Loading (shroud vented to baghouse)

B. The baghouses shall be operated and maintained in accordance with the manufacturer's specifications. The baghouse shall be equipped with a gauge or meter, which indicates the pressure drop across the control device. These gauges or meters shall be located such that the Department of Natural Resources employees may easily observe them.

C. Replacement filters for the baghouses shall be kept on hand at all times. The bags shall be made of fibers appropriate for operating conditions expected to occur (i.e. temperature limits, acidic and alkali resistance, and abrasion resistance).

D. T & J Realty, LLC shall monitor and record the operating pressure drop across the baghouses at least once every 24 hours when operating. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer's performance warranty.

E. T & J Realty, LLC shall maintain an operating and maintenance log for the baghouses which shall include the following:

- 1) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; and
- 2) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.

6. Minimum Distance to Property Boundary Requirement

The primary emission point shall be located at least 375 feet from the nearest property boundary.

7. Concurrent Operation Restriction

T & J Realty, LLC is prohibited from operating this ready mix concrete plant concurrently with any other plant at this site until an evaluation is done and approved by the Air Pollution Control Program.

Page No.	5
Permit No.	
Project No.	2011-08-061

SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

8. Record Keeping Requirement
T & J Realty, LLC shall maintain all records required by this permit for not less than five years and make them available to any Missouri Department of Natural Resources personnel upon request.

9. Reporting Requirement
T & J Realty, LLC shall report to the Air Pollution Control Program Enforcement Section P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any exceedances of the limitations imposed by this permit.

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

Project Number: 2011-08-061
Installation ID Number: 183-0201
Permit Number:

T & J Realty, LLC
2998 South Service Road
Foristell, MO 63348

Complete: August 22, 2011

Parent Company:
T & J Realty, LLC
2998 South Service Road
Foristell, MO 63348

St. Charles County, S19 T47N R1E

PROJECT DESCRIPTION

T & J Realty, LLC (herein referred to as T & J Realty) operates a ready mix concrete plant, which is rated at 400 tons per hour. It is an existing de minimis source for construction permits and has not been issued an operating permit from the Air Pollution Control Program. No other plants are located at this installation (183-0201). This installation is located in St. Charles County, a nonattainment area for the 8-hour ozone standard and the particulate matter less than 2.5 microns in aerodynamic diameter (PM_{2.5}) standard and an attainment area for all other criteria pollutants. This installation's electrical needs are supplied by line power.

T & J Realty has submitted an Application for Authority to Construct for the following: to lower the plant's allowable moisture content, add baghouse control to the cement supplement silo, remove a diesel engine, and install two propane boilers, one rated at 2.7 million British thermal units per hour (MMBTU/hr) and one rated at 4.2 MMBTU/hr.

Permit Number 062002-008 and Permit Number 062002-008A include a moisture testing requirement to demonstrate that the inherent moisture content of the aggregate was at least 2.2 percent by weight. Moisture testing has shown the aggregate's moisture content has not always been at least 2.2 percent by weight. This has resulted in T & J Realty receiving a Notice of Violation for not maintaining the required moisture content in the aggregate. T & J Realty has requested to replace the current moisture testing requirement with a requirement to demonstrate a moisture content equal to or greater than 1.5 percent by weight.

These permits also omitted the baghouse control of the cement supplement silo and mistakenly included a diesel engine, rated at 29.2 gallons per hour. T & J Realty has informed the Air Pollution Control Program the diesel engine was never installed at this

installation. This permit is serving to correct the omission of the baghouse control of the cement supplement silo and the error of the inclusion of the diesel engine.

The two boilers at this installation will be used to heat water during the winter months to provide hot water for concrete production.

The applicant is using one of the methods described in Attachment AA, "Best Management Practices," to control emissions from haul roads and vehicular activity areas. This installation is not on the List of Named Installations found in 10 CSR 10-6.020(3)(B), Table 2.

TABLES

The following permits have been issued to T & J Realty, LLC from the Air Pollution Control Program.

Table 1: Permit History

Permit Number	Description
062002-008	Installation of new ready mix concrete plant
062002-008A	Revise Special Conditions

The table below summarizes the emissions of this project. The existing potential emissions of this installation are from Permit Number 062002-008. The existing actual emissions were taken from the previous year's Emissions Inventory Questionnaire (EIQ). Potential emissions of the application represent the potential of all equipment at this installation, assuming continuous operation (8760 hours per year). The conditioned potential emissions are based on compliance with the National Ambient Air Quality Standards (NAAQS).

Table 2: Emissions Summary (tons per year)

Air Pollutant	De Minimis Level/SMAL	Existing Potential Emissions	Existing Actual Emissions (2010 EIQ)	Potential Emissions of the Application	Conditioned Potential Emissions
PM	25.0	N/A	N/A	55.63	32.89
PM ₁₀	15.0	9.19	0.22	19.32	11.42
PM _{2.5}	10.0	N/A	N/A	4.65	2.75
SO _x	40.0	N/A	N/A	N/A	N/A
NO _x	40.0	N/A	N/A	2.96	1.75
VOC	40.0	N/A	N/A	0.16	0.10
CO	100.0	N/A	N/A	2.49	1.47
Total HAPs	25.0	N/A	N/A	0.06	0.03

N/A = Not Applicable

Table 3: Ambient Air Quality Impact Analysis

Pollutant	^a NAAQS (µg/m ³)	Averaging Time	^b Maximum Modeled Impact (µg/m ³)	Limited Impact (µg/m ³)	Background (µg/m ³)	^c Daily Limit (tons/day)
^d PM ₁₀ (Solitary)	150.0	24-hour	252.69	130.0	20.0	5,676

^a National Ambient Air Quality Standards (NAAQS)

^b Modeled impact at maximum capacity with controls

^c Indirect limit based on compliance with NAAQS.

^d Solitary operation of T & J Realty, LLC

EMISSIONS CALCULATIONS

Emissions for the project were calculated using emission factors found in the United States Environmental Protection Agency (EPA) document AP-42 *Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources*, Fifth Edition (AP-42).

Emissions from the concrete batch plant were calculated using emission factors from AP-42 Section 11.12 “Concrete Batching,” June 2006. This section cites Equation (1) in Section 13.2.4 “Aggregate Handling and Storage Piles,” November 2006 for calculating the emissions from aggregate and sand transfer. The cement and supplement silos are controlled with baghouses, so the controlled emission factors were used. Emissions from the aggregate weigh hopper were calculated using AP-42 Section 13.2.4, Equation (1). These emissions are controlled by a baghouse so a 99.0 percent control factor was applied to the calculation. Emissions from mixer loading are controlled by a shroud vented to a baghouse, so the controlled emission factor was used.

Emissions from haul roads and vehicular activity areas were calculated using the predictive equation from AP-42 Section 13.2.2 “Unpaved Roads,” November 2006. A 90.0 percent control efficiency is applied to the emission calculations for the use of Best Management Practices (BMPs). Emissions from load-in and load-out of storage piles were calculated using the predictive equation from AP-42 Section 13.2.4. The moisture content of the aggregate is 1.5% weight. Emissions from wind erosion of storage piles were calculated using an equation found in the Air Pollution Control Program’s Emissions Inventory Questionnaire Form 2.8 “Storage Pile Worksheet.”

AMBIENT AIR QUALITY IMPACT ANALYSIS

An ambient air quality impact analysis (AAQIA) was performed to determine the impact of the pollutants listed in Table 3. The Air Pollution Control Program requires an AAQIA of PM₁₀ for all asphalt, concrete and rock-crushing plants regardless of the level of PM₁₀ emissions if a permit is required. An AAQIA is required for other pollutants if their emissions exceed their respective de minimis or screening model action level (SMAL). The AAQIA was performed using the Air Pollution Control Program’s generic nomographs and when appropriate the EPA modeling software SCREEN3. For each pollutant that was modeled, the maximum concentration that occurs at or beyond the

site boundary was compared to the National Ambient Air Quality Standard (NAAQS) or Risk Assessment Level (RAL) for the pollutant. If during continuous operation the modeled concentration of a pollutant is greater than the applicable NAAQS or RAL, the plant's production is limited to ensure compliance with the standard.

This plant uses BMPs to control emissions from haul roads and vehicular activity areas, so emissions from these sources were not included in the AAQIA. Instead they were addressed as a background concentration of 20.0 µg/m³ of PM₁₀ in accordance with the Air Pollution Control Program's BMPs policy.

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 below the major source level. Potential emissions of PM₁₀ are conditioned below de minimis levels.

APPLICABLE REQUIREMENTS

T & J Realty, LLC 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.

GENERAL REQUIREMENTS

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110.
- No Operating Permit is required for this installation.
- *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

SPECIFIC REQUIREMENTS

- None of the New Source Performance Standards (NSPS) apply to the installation.
- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPS) or National Emission Standards for Hazardous Air Pollutants for Source Categories (MACTS) apply to the proposed equipment.

- *Restriction of Emission of Sulfur Compounds, 10 CSR 10-6.260*

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*, I recommend this permit be granted with Special Conditions.

Daronn Williams
Environmental Engineer

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated August 17, 2011, received August 22, 2011, designating T & J Realty, LLC as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- St. Louis Regional Office Site Survey, dated September 6, 2011.

Attachment AA: Best Management Practices

Haul roads and vehicular activity areas shall be maintained in accordance with at least one of the following options when the plant is operating.

1. Pavement
 - A. The operator shall pave the area with materials such as asphalt, concrete or other materials approved by the Air Pollution Control Program. The pavement will be applied in accordance with industry standards to achieve control of fugitive emissions¹ while the plant is operating.
 - B. Maintenance and repair of the road surface will be conducted as necessary to ensure that the physical integrity of the pavement is adequate to achieve control of fugitive emissions from these areas while the plant is operating.
 - C. The operator shall periodically wash or otherwise clean all of the paved portions of the haul roads as necessary to achieve control of fugitive emissions from these areas while the plant is operating.

2. Application of Chemical Dust Suppressants
 - A. The operator shall apply a chemical dust suppressant (such as magnesium chloride, calcium chloride, lignosulfonates, etc.) to unpaved areas.
 - B. The quantities of the chemical dust suppressant shall be applied and maintained in accordance with the manufacturer's recommendation (if available) and in sufficient quantities to achieve control of fugitive emissions from these areas while the plant is operating.
 - C. The operator shall record the time, date and the amount of material applied for each application of the chemical dust suppressant agent on the above areas. The operator shall keep these records with the plant for not less than five (5) years and make these records available to Department of Natural Resources personnel upon request.

3. Application of Water-Documented Daily
 - A. The operator shall apply water to unpaved areas. Water shall be applied at a rate of 100 gallons per day per 1,000 square feet of unpaved or untreated surface area while the plant is operating.
 - B. Precipitation may be substituted for watering if the precipitation is greater than one quarter of one inch and is sufficient to control fugitive emissions.
 - C. Watering may also be suspended when the ground is frozen, during periods of freezing conditions when watering would be inadvisable for traffic safety reasons, or when there will be no traffic on the roads.
 - D. The operator shall record the date, volume of water application and total surface area of active haul roads or the amount of precipitation that day. The operators shall also record the rationale for not watering (e.g. freezing conditions or not operating).
 - E. The operator shall keep these records with the plant for not less than five (5) years, and the operator shall make these records available to Department of Natural Resources personnel upon request.

¹For purposes of this document, Control of Fugitive Emissions means to control particulate matter that is not collected by a capture system and visible emissions to the extent necessary to prevent violations of the air pollution law or regulation. (Note: control of visible emission is not the only factor to consider in protection of ambient air quality.)

Ms. Jan Cody
Safety & Compliance Manager
T & J Realty, LLC
755 South New Ballas Road
Ste. 150
St. Louis, MO 63141

RE: New Source Review Permit - Project Number: 2011-08-061

Dear Ms. Cody:

Enclosed with this letter is your permit to construct. Please study it carefully. 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 and your new source review permit application 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.

If you have any questions regarding this permit, please do not hesitate to contact Daronn Williams, at the Department's 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,

AIR POLLUTION CONTROL PROGRAM

Susan Heckenkamp
New Source Review Unit Chief

SH:dwl

Enclosures

c: St. Louis Regional Office
PAMS File: 2011-08-061

Permit Number: