



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: 032009-012 Project Number: 2008-12-025

Parent Company: Capital Sand Co., Inc.

Parent Company Address: P.O. Box 104990, Jefferson City, MO 65110

Installation Name: Capital Sand Co., Inc. – Lexington Plant

Installation Address: 5555 Highway J, Henrietta, MO 64036

Location Information: Ray County (S35, T51N, R27W)

Application for Authority to Construct was made for:

The installation of a wet conveyor, a dry conveyor and a dry screen at an existing sand dredging installation. This review was conducted in accordance with Section (5), 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.

MAR 17 2009

EFFECTIVE DATE

A handwritten signature in black ink, appearing to read "James Kavanagh".

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/18 months 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 start up of this (these) air contaminant source(s). The information must be made available not more than 60 days but at least 30 days in advance of this date. 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 start up 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.

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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); by the Missouri Rules listed in Title 10, Division 10 of the Codes of State Regulations (specifically 10 CSR 10-6.060); by 10 CSR 10-6.060 paragraph (12)(A)10. "Conditions required by permitting authority"; by 10 CSR 10-6.010 "Ambient Air Quality Standards" and 10 CSR 10-6.060 subsections (5)(D) and (6)(A); and by control measures requested by the applicant, in their permit application, to reduce the amount of air pollutants being emitted, in accordance with 10 CSR 10-6.060 paragraph (6)(E)3. Furthermore, one or more of the Subparts of 40 CFR Part 60, New Source Performance Standards (NSPS), applies to this installation.

1. National Ambient Air Quality Standards (NAAQS) Limitation for Particulate Matter Less Than Ten Microns in Diameter (PM₁₀)
 - A. The operator(s) for Capital Sand Co., Inc.'s sand dredging plant (177-0029) shall ensure, while operating at this site, that the ambient impact of PM₁₀ at or beyond the nearest property boundary does not exceed 150 µg/m³ in any 24-hour period, in accordance with the Federal NAAQS requirements (40 CFR 50.6).
 - B. To demonstrate compliance, the operator(s) shall maintain a daily record of material processed. Attachment A, *Daily Ambient PM₁₀ Impact Tracking Record*, or other equivalent form(s), shall be used for this purpose.
2. Prohibition Against Concurrent Operations Without Further Air Pollution Control Program Review
The sand dredging plant (177-0029) is prohibited from operating whenever any other plant(s) are located at this site.
3. Restriction on Process Configuration of Primary Emission Point(s)
The maximum hourly design rate of the plant is equal to the sum of the design rate(s) of the primary emission point(s). Capital Sand Co., Inc. has designated the following unit(s) as the primary emission point(s) of the sand dredging plant: Sand Dryer (EP4). Bypassing the primary emission point(s) for processing is prohibited.
4. Record Keeping Requirement
The operator(s) shall maintain all records required by this permit for not less than five (5) years and shall make them available to any Missouri Department of Natural Resources' personnel upon request.
5. Reporting Requirement
The operator(s) shall report to the Air Pollution Control Program (APCP) Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten (10) days after any exceedances of the limitations imposed by this permit.
6. Superseding Condition
The conditions of this permit supersede Special Conditions 2, 3 and 6 found in the previously issued construction permit (no. 112008-008) from the Air Pollution Control Program.

TECHNICAL REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT

PROJECT DESCRIPTION

Capital Sand Co. owns and operates a sand dredging plant in Ray County (S35, T51N, R27W). Sand is processed through bins, conveyors, screens and a dryer. Processing equipment is powered with electrical power and not diesel engines. If the company decides to use a diesel engine at the site, a new permit review will be required. The sand dryer runs on natural gas and the installation cannot switch fuel for the dryer unless a review is conducted by the Air Pollution Control Program. The emission points are listed in the attached spreadsheet summary. This installation is not on the List of Named Installations [10 CSR 10-6.020(3)(B), Table 2]. The installation is located in Ray County, an attainment area for all criteria air pollutants.

The installation proposes to add a wet conveyor, a dry conveyor and a dry screen to the existing process.

Table 1 Other Permits Issued for Site 177-0029

Permit Number	Completed	Description
0395-011	3/12/1995	New Sand Dredging Plant
112008-008	11/17/2008	Addition of Drum Dryer and Best Management Practices

No Notices of Violations (NOVs) have been issued to the installation.

EMISSIONS EVALUATION

Criteria air pollutants will be emitted from this operation. The main air pollutant of concern is PM₁₀. The potential emissions were calculated from the maximum hourly design rate (MHDR) of the equipment, appropriate emission factors, control device efficiencies, and the limiting operating hours at MHDR. The sources of the emission factors and control efficiencies are listed in the section "Permit Documents". Based on the conditioned potential emissions, the operation is considered a *de minimis* source under 10 CSR 10-6.060 Section (5).

The PM₁₀ emission factor used for the screen is from coarse screening (scc 3-05-020-02) and not from fines screening (scc 3-05-020-21). According to the company, the sand is only being screened to remove larger material that will not pass through a 0.25 inch mesh screen and the sand will not be segregated into finer fractions.

Table 2: Emissions Summary (tons per year)

Air Pollutant	Regulatory <i>De Minimis</i> Levels	*Existing Potential Emissions	Existing Actual Emissions (2007 EIQ)	Potential Emissions of the Application	**New Installation Conditioned Potential	Emission Factor (lb/ton)
PM ₁₀	15.0	<15.00	0.51	12.94	7.79	N/A
SO _x	40.0	0.16	N/D	N/A	0.06	N/A
NO _x	40.0	13.03	N/D	N/A	9.24	N/A
VOC	40.0	0.72	N/D	N/A	0.51	N/A
CO	100.0	10.94	N/D	N/A	7.76	N/A
HAPs	10.0/25.0	0.25	N/D	N/A	0.17	N/A

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

* Existing potential emissions taken from permit # 112008-008 (Project #2008-03-077)

** Installation PM₁₀ conditioned potential based on daily production limit from ambient impact analysis. Other pollutants proportionately reduced.

The potential emissions of PM₁₀ are limited by the daily production limit from the ambient air quality impact analysis. With a daily production limit of 1,291 tons, the installation is expected to emit approximately 7.79 tons per year of PM₁₀. Special Condition 3 in the previous permit (no. 112008-008) issued to the installation required that the installation track its annual production and the resulting PM₁₀ emissions to ensure that the PM₁₀ emissions from the installation do not exceed 15.0 tons per year. That condition is no longer needed and has been superseded by the conditions of this permit. Since the installation conditioned potential of all pollutants will be less than their respective *de minimis* levels and none of the New Source Performance Standards (NSPS) apply to this installation, this installation will not be required to apply for an operating permit.

AMBIENT AIR QUALITY IMPACT ANALYSIS

Screening tools were used to evaluate the ambient air impact of the hourly emissions from this operation. The ambient impact was evaluated at a distance of 250 feet to the nearest property boundary. The ambient impact at this site shall not exceed the National Ambient Air Quality Standard (NAAQS) of 150 µg/m³ of PM₁₀ at or beyond the nearest property boundary in any single 24-hour period. The screening tools were used to develop an ambient impact factor for the sand dredging plant. This ambient impact factor is incorporated into the daily record keeping table, Attachment A.

For sources agreeing to use Best Management Practices (BMPs), as defined in Attachment AA, haul roads and stockpiles are not modeled with screening tools. Instead, they are addressed as a background level of 20 µg/m³ of PM₁₀. To ensure conformity with NAAQS, the remaining process emissions are limited to an impact of less than 130 µg/m³ of PM₁₀ at or beyond the nearest property boundary.

Table 3: Ambient Air Quality Impact Analysis of PM₁₀, 24-Hour Averaging Time

Operation	Ambient Impact Factor (µg/m ³ /ton)	Modeled Impact (µg/m ³)	*Background (µg/m ³)	NAAQS (µg/m ³)	Daily Production Limit (tons)
1. Solitary	0.1007	130.00	20.00	150.00	1,291

* Background PM₁₀ level of 20.00 µg/m³ from haul roads and stockpiles.

APPLICABLE REQUIREMENTS

The owner is subject to compliance with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements.

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110
- *Operating Permits*, 10 CSR 10-6.065
- No Operating Permit is required for this sand dredging plant.
- *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 10-2.070
- *Restriction of Emission of Particulate Matter From Industrial Processes*, 10 CSR 10-6.400
- *Restriction of Emission of Sulfur Compounds*, 10 CSR 10-6.260
- None of the New Source Performance Standards (NSPS) apply to the proposed equipment.
- The National Emission Standards for Hazardous Air Pollutants (NESHAPs) and the currently promulgated Maximum Achievable Control Technology (MACT) regulations do not apply to the proposed equipment.

STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with special conditions.

Chia-Wei Young
Environmental Engineer

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, designating Capital Sand Co., Inc. as the owner and operator of the installation.
- Environmental Protection Agency (EPA) AP-42, *Compilation of Air Pollutant Emission Factors; Volume I, Stationary Point and Area Sources, Fifth Edition*.
- Noyes Data Corp. book, Orlemann, et al.1983, *Fugitive Dust Control*.
- EPA Factor Information Retrieval (FIRE) Version 6.21.
- Spreadsheet calculations of potential-to-emit and ambient impact.
- Kansas City Regional Office Site Survey, dated January 5, 2009.
- Best Management Practices

Mr. Ray Bohlken
General Manager
Capital Sand Co., Inc.
P O Box 104990
Jefferson City, MO 65110

RE: New Source Review Permit - Project Number: 2008-12-025

Dear Mr. Bohlken:

Enclosed with this letter is your New Source Review permit. Please review your permit carefully and note the special conditions, if any, and the requirements in your permit.

Operation in accordance with the conditions and requirements in your permit and the New Source Review application submitted for project 2008-12-025 is necessary for continued compliance. The section of the permit entitled "Technical Review of Application for Authority to Construct" should not be separated from the main portion of your permit. The entire permit must be retained in your files. 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 me at the departments' Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102, or by telephone at (573) 751-4817. Thank you for your time and attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Kendall Hale, P.E.
New Source Review Unit Chief

KH:cwykl

Enclosures

c: Kansas City Regional Office
PAMS File: 2008-12-025

Permit Number: