Effective Date: March 31, 2017
Expiration Date: March 31, 2022

OHIO ENVIRONMENTAL PROTECTION AGENCY

GENERAL PERMIT AUTHORIZATION TO BENEFICIALLY USE FOUNDRY SAND FROM IRON, STEEL AND ALUMINUM FOUNDRIES AS AN INGREDIENT IN A SOIL BLEND, A SOIL-LESS POTTING MEDIA, AND IN BIORETENTION SOILS

Upon receipt of written notification from the Director of the Ohio Environmental Protection Agency (Director) that coverage is granted, the Applicant, as defined in Section B of this Permit, is authorized by the Director to beneficially use foundry sand in accordance with the conditions specified in this Permit and applicable provisions of Ohio Administrative Code (OAC) Chapter 3745-599. Only foundry sand as defined in Section B of this Permit and as identified in the Applicant's Notice of Intent (NOI) is authorized under this Permit for beneficial use by placement on land for agronomic benefit as an ingredient in a soil blend, a soil-less potting media, and bioretention soils. All other beneficial uses of foundry sand must be separately approved by the Director.

Foundry sand is an industrial byproduct generated by the metal-casting industry. Foundry sand generated by iron (gray and ductile), steel, and aluminum foundries using silica sand with chemical or clay binders can be beneficially used by placement on land for agronomic benefit as an ingredient in a soil blend, a soil-less potting media, and in bioretention soils.

Coverage under this Permit may be authorized only upon payment of applicable fees and the submittal of a complete and accurate NOI, a sampling plan, and an analysis demonstrating the foundry sand is eligible for beneficial use under this Permit. Permit coverage does not become effective until the Permittee receives written notification from the Director that coverage is authorized.

Coverage under this Permit shall expire at midnight on this Permit's expiration date. A Permittee may continue activities authorized by this Permit beyond the date of expiration only as provided in OAC Rule 3745-599-220(G).

Pursuant to the authority of the Director under Ohio Revised Code (ORC) Chapters 6111 and 3734 and OAC Chapter 3745-599, any coverage granted under this Permit is subject to compliance with applicable provisions of OAC Chapter 3745-599 and all terms and conditions contained within this Permit. The Permittee's beneficial use of foundry sand in accordance with this Permit and in compliance with OAC Chapter 3745-599 and other applicable laws is unlikely to adversely impact the public health or safety or the environment.

Coverage under this Permit does not relieve the Permittee of the duty to comply with all applicable federal, state, and local laws, ordinances, and regulations. Nothing herein shall be construed to release any person, including but not limited to the owner(s) of the land upon which the foundry sand is placed, from the obligation to comply with all applicable laws governing the placement or use of the foundry sand on the property.

Ohio EPA MAR 31 '17
Entered Directors Journal

Craig W. Butler
Director

I certify this to be a true and accurate copy of the official documents as filed in the records of the Ohio Environmental Protection Agency.

By: [signature] Date: 3-31-17

A. Description and Eligibility Requirements

1. This Permit authorizes the beneficial use of foundry sand by placement on the land for agronomic benefit as an ingredient in a soil blend, a soil-less potting media, and in soils used for biorentention practices, all of which shall not exceed fifty percent foundry sand by volume.

2. This Permit does not authorize the beneficial use of foundry sand for structural fill.

3. Only foundry sand that meets all of the following criteria is eligible for beneficial use under this Permit:

   a. The material conforms to the definition of "foundry sand" in Section B of this Permit;

   b. The material does not contain constituents that exceed any of the limits specified in Table 1 of this Permit (Table 1);

   c. The material is not a hazardous waste as defined by ORC Chapter 3734.01, OAC Rule 3745-50-10(A), and OAC Rule 3745-51-03.

4. For the purposes of this Permit, foundry sand that satisfies the constituent concentration limits set forth in Table 1 of this Permit is a beneficial use byproduct as defined in OAC Rule 3745-599-02(B)(2).

5. An applicant may apply for another General Permit in accordance with OAC Rule 3745-599-200 or an individual beneficial use permit in accordance with OAC Rule 3745-599-310 for beneficial use of foundry sand not eligible for coverage under this General Permit.

B. Definitions

OAC Rule 3745-599-02 contains definitions applicable to the Beneficial Use Rules (OAC Chapter 3745-599) and this Permit. The following definitions are specific to this Permit.

"Applicant" means the person applying for coverage under this Permit.

"Bioretention practices"[1] means methods employed to treat runoff and improve water quality for small drainage areas. Bioretention practices include the use of storm water basins that utilize a soil media, and vegetation. These practices are applicable in areas such as roadways, commercial areas, parking areas, cul-de-sacs, or parking lot islands.

"Bioretention soil"[1] means soil made up of sand, soil, and leaf compost with specific performance criteria that include high percolation rates to prevent surface ponding, large capacity to sequester pollutants as water percolates through, and supports the growth of plant populations. Bioretention Soils shall not contain more than fifty percent foundry sand by volume. Bioretention soils are nonputrescible, have good cohesiveness, and are relatively uniform in texture. Bioretention soils

[1] For information on bioretention practices please refer to this manual: Rainwater and Land Development, "Ohio's Standards for Stormwater Management Land Development and Urban Stream Protection," Third Edition 2006. http://epa.ohio.gov/Portals/35/storm/technical_assistance/RLD_11-6-14All.pdf

do not include soils that contain or are comingled with solid waste, construction and demolition debris, pulverized debris, sludge, slag, unfinished compost, or contaminated soil.

"Chemical binder" means bonding agents in core sand and molding sand. Chemical binders include Alkyd Oil, Acrylic/Epoxy/SO2, Furan Hotbox, Furan Nobake, Furan/SO2, Furan Warmbox, Phenolic Baking, Phenolic Ester Nobake, Phenolic Ester Coldbox, Phenolic CO2, Phenolic Hotbox, Phenolic Nobake-Acid Catalyzed, Phenolic Novolac Flake-Resin Coated Sand, Phenolic Urethane, Phenolic Urethane Coldbox, and sodium silicate. Chemical binders are typically used when it is important for the sand to maintain strength during handling and pouring, but have the ability to collapse once the casing has solidified.

"Clay binder" is either bentonite clay (montmorillonite) or fireclay (kaolinite) that is used as a bonding agent for green sand in the metal casting industry. Green sands typically contain five percent to twelve percent clay binder based on the weight of the sand.

"Foundry sand" means silica sand and binders from sand molds and cores that have been through the production process from foundries that use iron (gray and ductile), steel, and aluminum metals, and either can no longer be reused to cast products, or are in excess of the existing sand system storage capacity.

"Notice of Intent" (NOI) means the form prescribed by the Director for use when requesting coverage under a beneficial use general permit.

"Permittee" means an applicant for whom the Director has approved coverage under this Permit.

"Soil blend" means a mixture of soil and foundry sand that does not exceed fifty percent foundry sand by volume. Soil blends shall not include nor be commingled with solid waste, construction and demolition debris, pulverized debris, sludge, slag, unfinished compost, or contaminated soil. Soil blends are nonputrescible, cohesive, and relatively uniform in texture.

"Soil-less potting media" means a media having, containing, or utilizing no soil. Soil-less potting media may contain washed, 20-grit sand, rock wool, expanded clay, various gravels, redwood bark, polyurethane foam, coconut fiber, perlite, and vermiculite and shall not exceed fifty percent foundry sand by volume.

"Structural fill" means a screened material used to create a stable base meeting engineering specifications for use as engineered fill, mechanically stabilized earthen (MSE) walls, or granular fill. Structural fill does not include material used for filling limestone or sandstones quarries, gravel pits, valleys, open pits or other industrial mineral mining excavations.

C. Application Requirements

1. Prior to submission of an NOI, the Applicant shall develop and implement a sampling plan in accordance with Section C.4, determine the concentration of the constituents listed in Table 1 (sampling analysis), and perform a statistical evaluation of the sampling analysis, for the foundry sand from each generator from which the Applicant intends to obtain foundry sand for beneficial use for under this Permit.

2. To obtain coverage under this Permit, an Applicant shall, in accordance with OAC Rule 3745-599-210, submit an application package to the Director containing the following:

a. One copy of a complete and accurate NOI on a form provided by the Director. Each NOI form shall be signed by the Applicant;

b. The sampling plan developed and implemented in accordance with Section C.4 for the foundry sand from each generator from which the Applicant intends to obtain foundry sand for beneficial use under this Permit;

c. The results of the sampling analysis and the statistical evaluation of the sampling analysis performed in accordance with the sampling plan for the foundry sand from each generator from which the Applicant intends to obtain foundry sand for beneficial use under this Permit; and

d. The application fee of $200.

3. The application package shall be submitted to the following address:

Ohio Environmental Protection Agency
Division of Materials and Waste Management
Attn: Beneficial Use Unit
P.O. Box 1049
Columbus, Ohio 43216-1049

Table 1: Constituent Limits

Constituent[2]	Totals Analysis (mg/kg)
Aluminum (Al)	77000
Antimony (Sb)	31
Barium (Ba)	15000
Cadmium (Cd)	39
Copper (Cu)	1500
Iron (Fe)	55000
Lead (Pb)	300
Selenium (Se)	100
Zinc (Zn)	2800

4. The sampling plan at a minimum shall contain the following requirements:

a. Samples of the foundry sand from each generator shall be collected using a strategy to obtain representative samples as described in *Test Methods for Evaluating Solid Waste,*

[2] Al, Sb, Ba, Fe: US EPA Regional Screening Levels, Residential Soil; Cd, Cu, Pb, Se, Zn: US EPA 40 Code of Federal Regulations Part 503 Pollutant Concentrations (Table 3 of 503.13).

Physical/Chemical Methods (SW 846)[3]. The samples from each generator shall be separately analyzed.

b. Each sample shall be analyzed for total metals as described in SW 846, for the constituents listed in Table 1.

c. Each sample result shall be included in a statistical evaluation. In order to be eligible for beneficial use under this Permit, the applicant shall demonstrate that the 95% Upper Confidence Limit (UCL) of the mean for each constituent does not exceed the limits specified in Table 1.

5. Coverage under this Permit becomes effective when the Applicant receives written notification from the Director that coverage is granted. The Permittee shall conduct all activities authorized by this Permit in accordance with this Permit, the NOI, and OAC Chapter 3745-599.

D. Operating Conditions

1. When there is a change in the generating process, the Permittee shall determine constituent concentrations listed in Table 1 through additional sampling and analysis, performed in accordance with the sampling plan developed pursuant to Section C.4. of this Permit, and demonstrate through a statistical evaluation of the sampling analysis that the 95% UCL of the mean for each constituent does not exceed the limits specified in Table 1.

2. The Permittee shall cease beneficial use of the foundry sand pursuant to this Permit if it is determined that the concentrations of constituents in the foundry sand exceed the limit for any of the constituents listed in Table 1.

3. After coverage under this Permit is granted, the Permittee shall provide to the Director an NOI and analytical results of the foundry sand for any additional generator from which foundry sand is to be obtained for beneficial use.

4. The Permittee shall retain the following information for a minimum of five years after beneficial use of the foundry sand has occurred and the Permittee shall make the information available to the Director or an authorized representative of Ohio EPA upon request:

   a. Records of the name, address, and telephone number of each generator;

   b. The annual volume of foundry sand from each generator managed, and the volume of foundry sand from each generator actually beneficially used annually;

   c. Records of the location(s) where the foundry sand is stored, blended, or placed on land by the Permittee;

   d. The sampling plan detailing where and how samples of foundry sand from each generator were collected, dates that the samples were collected, and the list of constituents for which samples were analyzed;

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[3] EPA publication SW-846, "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (SW-846)," as amended through July 2016.

e. All laboratory analyses of the constituent concentrations in the foundry sand from each generator.

5. Not later than April first of each year the Permittee shall submit to the Director an annual report. The annual report shall be sent to the following address:

Ohio Environmental Protection Agency
Division of Materials and Waste Management
Attn: Beneficial Use Unit
PO Box 1049
Columbus, OH 43216-1049

6. The annual report shall include the following information for the previous calendar year:

   a. Volume of foundry sand beneficially used under this Permit;

   b. Volume of foundry sand stored for beneficial use under this Permit;

   c. Sampling analyses and results of foundry sand beneficially used under this Permit.

7. The Permittee shall use Best Management Practices, as defined in OAC Rule 3745-599-02, when storing and blending foundry sand pursuant to this Permit. The Best Management Practices shall include, at a minimum, the following:

   a. Storage and blending shall be at least 300 feet from wells and surface waters used for drinking water or watering livestock;

   b. Storage and blending shall be at least 100 feet from other surface waters of the state as defined in ORC Section 6111.01(H);

   c. The Permittee shall create surface diversions to catch any solids in runoff and to divert runoff away from waters of the state at sites where foundry sand is placed on land;

   d. Storage and blending shall not occur within a drinking water source protection area as defined in OAC Rule 3745-9-01;

   e. Storage and blending shall not be within 1000 feet of a sensitive groundwater area, such as karst terrain, a sand and gravel pit, a limestone, or sandstone quarry;

   f. Storage and blending shall not be in a wellhead protection area with less than ten feet of low permeable clayey glacial till, or a one hundred gallon-per-minute aquifer with less than ten feet of low permeable clayey glacial till;

   g. The Permittee shall take measures to control fugitive dust and other air emissions that may result from activities authorized through this Permit.

8. The Permittee shall store, blend, and beneficially use foundry sand pursuant to this Permit in such a manner that the activities will neither cause a nuisance nor adversely affect public health or safety or the environment. The Director may revoke coverage under this Permit if the Director determines that a nuisance condition or a threat to public health, safety or the environment exists. Immediately upon the effective date of any written notification from the Director of revocation of coverage under this Permit, the Permittee shall cease beneficial

use under this Permit. The Director may require the Permittee to remove the material, remediate the site, or to take other action as appropriate to eliminate the nuisance or threat.

9. The Permittee shall conduct all activities in compliance with all applicable local, state, and federal laws and regulations pertaining to environmental protection, including but not limited to the control of air pollution, leachate, and storm water run-on and run-off and protection of ground water and surface water.

10. The Permittee shall conduct all activities in compliance with all other applicable local, state, and federal laws and regulations not explicitly identified in this Permit.

11. The Permittee shall not cause pollution or cause to be placed any foundry sand that has been or is intended to be used as an ingredient in a soil blend, a soil-less potting media, and bioretention soils in a location where it causes pollution to waters of the state, except in accordance with an effective National Pollutant Discharge Elimination System (NPDES) permit. Any unauthorized discharge to waters of the state must be reported to Ohio EPA (call 1-800-282-9378) within twenty-four (24) hours of discovery.

12. The Permittee shall furnish to the Director or an authorized representative of Ohio EPA, within 30 days of receiving a written request, any information that the Director or an authorized representative of Ohio EPA requests to determine whether cause exists for revoking coverage under or determining compliance with this Permit.

13. When the Permittee becomes aware that any relevant facts were omitted or that incorrect information was included in the NOI to the Director, the Permittee shall promptly submit such facts or correct information.

14. The Permittee shall comply with OAC Rules 3745-599-05 (general exclusions), 3745-599-20 (prohibitions), 3745-599-25 (signatures), 3745-599-35 (legitimacy criteria), 3745-599-60 (approved sampling and characterization procedures), 3745-599-210 (notice of intent to obtain coverage under a general beneficial use permit), and 3745-599-220 (coverage under a general beneficial use permit). If there is a conflict between a requirement in a rule and a condition of this Permit that cannot be reconciled, the Permittee shall notify the Director in writing of the conflict and shall comply with the Permit condition unless directed otherwise by the Director.

E. Site Access

The Permittee shall allow the Director or an authorized representative of Ohio EPA to:

1. Enter upon the site where a regulated facility or activity is located or conducted or where records are retained by the Permittee under OAC Chapter 3745-599 or the terms and conditions of this Permit.

2. Have access to and copy any records that must be kept under OAC Chapter 3745-599 or the terms and conditions of this Permit.

3. Collect samples, take photographs, perform measurements, surveys and other tests, and inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under OAC Chapter 3745-599 or this Permit.