

Effective Date: May 1, 2017  
Expiration Date: May 1, 2022

(4/3/17 Draft)

**OHIO ENVIRONMENTAL PROTECTION AGENCY**

**GENERAL PERMIT AUTHORIZATION TO BENEFICIALLY USE MATERIAL DREDGED  
FROM CLEVELAND NAVIGATIONAL HARBOR**

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 material excavated or dredged from the Cleveland Navigational Harbor and managed by the Port of Cleveland or by the United States Army Corps of Engineers (USACE), in accordance with the conditions specified in this Permit and applicable provisions of Ohio Administrative Code (OAC) Chapter 3745-599. Only dredged material as defined in Section B of this Permit and as identified in the Applicant's Notice of Intent (NOI) is authorized for placement on land under this Permit. All other beneficial uses of dredged material must be separately approved by the Director.

Through dredging, the USACE removes sediment, in its natural or recently deposited condition, from the bottom of the federal navigation channel in the Cleveland Navigational Harbor. The sediment is the product of erosion that has disaggregated soil into sand, silt, clay, and organic matter that have settled onto the bottom of the channel. Through Section 123 of the Rivers and Harbors Act of 1970, the USACE has used confined disposal facilities (CDFs) to manage over 90 million cubic yards of dredged material from Great Lakes harbors and channels. Dredged material mined from CDF9, CDF10B, CDF12, and new dredged material processed and dewatered in the Sediment Recycling Center on CDF12 can be placed on the land and beneficially used, for example, as an ingredient in soil blends, as structural fill, and pipe bedding.

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 dredged material is eligible for beneficial use under this Permit. Permit coverage does not become effective until the Permittee receives a 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 dredged material 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 dredged material is placed, from the obligation to comply with all applicable laws governing the placement or use of the dredged material on the property.

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Craig W. Butler  
Director

## A. Description and Eligibility Requirements

1. This Permit authorizes the beneficial use by placement on land of dredged material. The beneficial uses include but are not limited to use as structural fill, backfill, engineered fill, road base, earthen mounds, pipe bedding, an ingredient in soil blends, and soils used for bioretention practices.
2. Only material dredged from the Cleveland Navigation Harbor and dredged material mined from CDF9, CDF10B, or CDF12, that meets all the following conditions is eligible for beneficial use under this Permit:
  - a. The material conforms to the definition of “dredged material” in Section B of this Permit:
  - b. The material does not contain constituents that exceed any of the limits specified in Tables 1 and 2 of this Permit.
  - 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.
3. For the purposes of this Permit, dredged material that satisfies the constituent concentration limits set forth in Table 1 and Table 2 of this Permit is a beneficial use byproduct as defined in OAC Rule 3745-599-02(B)(2).
4. An applicant may apply for an individual beneficial use permit in accordance with OAC Rule 3745-599-310 for beneficial use of dredged material not eligible for coverage under this General Permit.

## B. Definitions

OAC Rule 3745-599-02 contains definitions applicable to 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”<sup>1</sup> mean 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”<sup>1</sup> 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 are nonputrescible, have good cohesiveness, and are relatively uniform in texture. Bioretention soils do not include soils that contain or are commingled with

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<sup>1</sup> More information regarding bioretention practices can be found in the 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](http://epa.ohio.gov/Portals/35/storm/technical_assistance/RLD_11-6-14All.pdf)

solid waste, construction and demolition debris, pulverized debris, sludge, slag, unfinished compost, or contaminated soil.

“Blended dredged material” means a mixture of soil, finished compost, sand or dredged material that neither contains nor is commingled with solid waste, construction and demolition debris, pulverized debris, sludge, slag, unfinished compost, contaminated soils, is nonputrescible, cohesive, and relatively uniform in texture.

“Dredged material” means material excavated or dredged from the Cleveland Navigation Harbor during harbor or navigation maintenance activities that has been dewatered. Dredged material also includes excavated or dredged material that has been dewatered in the Sediment Recycling Center on CDF12, or mined from CDF9, CDF10B, or CDF12.

“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.

“Pipe Bedding” means an aggregate material placed under and around pipes to provide equal support along the length of pipe installed underground in a trench.

“Soil blend” means a mixture of soil and dredged material that neither contains nor is commingled with solid waste, construction and demolition debris, pulverized debris, sludge, slag, unfinished compost, or contaminated soil, and is nonputrescible, cohesive, and relatively uniform in texture.

“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, earthen mounds, or road base. Structural fill does not include material used for filling limestone or sandstone 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 and Table 2 (sampling analysis), and perform a statistical evaluation of the sampling analysis, for the dredged material for which the Applicant intends to obtain coverage for beneficial use 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, signed by the Applicant on a form provided by the Director.
  - b. The sampling plan developed and implemented in accordance with Section C.4

- c. The results of the sampling analysis and the statistical evaluation of the sampling analysis performed in accordance with Section C.4,
  - 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**

| Constituents <sup>2</sup>     | Totals Analysis (mg/kg) |
|-------------------------------|-------------------------|
| Aluminum                      | 77000                   |
| Arsenic                       | 41                      |
| Barium                        | 15000                   |
| Cadmium                       | 39                      |
| Cobalt                        | 23                      |
| Copper                        | 1500                    |
| Chromium (total) <sup>3</sup> | 100                     |
| Iron                          | 55000                   |
| Lead                          | 300                     |
| Manganese                     | 1800                    |
| Mercury (Method 7471A)        | 10                      |
| Nickel                        | 420                     |
| Selenium                      | 100                     |
| Silver                        | 390                     |
| Zinc                          | 2800                    |
| Arochlor 1242                 | 0.23                    |
| Arochlor 1248                 | 0.23                    |
| Arochlor 1254                 | 0.24                    |
| Arochlor 1260                 | 0.24                    |

<sup>2</sup> Al, Arochlor, Ba, Co, Fe, Hg, Mn: US EPA Regional Screening Levels, Residential Soil; Cd, Cu, Pb, Ni, Se, Zn: US EPA 40 CFR Part 503 Pollutant Concentrations (Table 3 of 503.13)

<sup>3</sup> US EPA 40 CFR 261.24 (100 = 5 mg/L x 20). If the totals analysis for chromium exceeds 100 mg/kg in the dredged material, the TCLP analysis must be below 2 mg/L.

4. The sampling plan at a minimum shall contain the following requirements:
  - a. Prior to beneficial use of dredged material mined from CDF9, CDF10B, or CDF12, and after each time new dredged material is added to CDF9, CDF10B, or CDF12, samples shall be collected in accordance with this paragraph. For every 10,000 cubic yards of dredged material mined from CDF9, CDF10B, or CDF12, at least fifteen grab samples shall be collected from at least three equally divided depths of the pile. Those samples shall be combined into five composite samples. All five composite samples shall be analyzed in accordance with Section C4c-k.
  - b. Prior to beneficial use of dredged material dewatered in the Sediment Recycling Center on CDF12, samples shall be collected in accordance with this paragraph. For each 10,000 cubic yards of dredged material removed from the Sediment Recycling Center that is designated for beneficial use, at least one grab sample of dredged material shall be collected. All grab samples shall be analyzed in accordance with Section C4c-k.
  - c. Except as provided in Condition 4e or 4h, dredged material that has been sampled shall not be commingled with any other material until sampling analysis for the constituents in Table 1 and Table 2 demonstrates that the dredged material, either prior to or after blending as provided in Conditions 4e. and 4h., satisfies the criteria in Conditions 4e or 4h.
  - d. Each sample shall be analyzed for total metals as described in *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*<sup>4</sup>, for the constituents listed in Table 1.
  - e. The reported detection limit for the sample analysis shall be less than the limit specified for each constituent in Table 1.
  - f. Dredged material that contains constituents at levels that exceed any of the constituent concentration limits specified in Table 1 of this Permit may be blended with finished compost, sand, or soils resulting in a blended dredged material.
    - i. Determine the ratio of the mix that is necessary to meet the constituent limits specified in Table 1;
    - ii. The blended dredged material shall be representatively sampled using methods and procedures as defined in U.S. EPA SW-846 and analyzed for the constituents in Table 1.
    - iii. Always maintain the mix ratio determined in f(i) and sampled for in f(ii) or perform sampling and analysis as required in f(ii);

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<sup>4</sup> EPA publication SW-846, "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (SW-846)," as amended through July 2016.

- iv. Always mix the dredged material with the same material or perform the sampling and analysis as required in f(ii);
- v. Keep all records of blending ratios and sampling and analysis data.

**Table 2<sup>5</sup>**

**Example for Calculating BaP Equivalent Concentrations**

| PAHs  | Toxicity<br>Equivalency<br>Factor | Sample<br>Concentration<br>mg/kg | BaP<br>Equivalent<br>mg/kg |
|---|-----------------------------------|----------------------------------|----------------------------|
| Benz[a]anthracene                             | 0.1                               | 0.410                            | 0.041                      |
| Benzo[b]fluoranthene                          | 0.1                               | 0.840                            | 0.084                      |
| Benzo[k]fluoranthene                          | 0.01                              | 0.270                            | 0.003                      |
| Benzo[a]pyrene                                | 1                                 | 0.440                            | 0.440                      |
| Chrysene                                      | 0.001                             | 0.620                            | 0.001                      |
| Dibenz(a,h)anthracene                         | 1                                 | 0.068                            | 0.068                      |
| Indeno[1,2,3,-c,d]pyrene                      | 0.1                               | 0.220                            | 0.022                      |
| <b>Total BaP equivalents &lt; 1<br/>mg/kg</b> |                                   |                                  | <b>0.658</b>               |

- g. Each sample shall be analyzed for the polycyclic aromatic hydrocarbons (PAHs) listed in Table 2 using EPA method 8270 with Gas Chromatography/Mass Spectrometry operated in the Selected Ion Monitoring (SIMS) mode to lower the detection limits for quantifying the PAHs.
- h. Each PAH sample concentration listed in Table 2 shall be converted to a benzo(a)pyrene (BaP) equivalent number concentration using the toxicity equivalency factor (TEF) methodology developed by USEPA. The BaP equivalent for each sample shall be calculated as follows:
  - i. Multiply each PAH sample result concentration by the TEF for its corresponding PAH to create the BaP equivalent. Refer to Table 2 for the PAH corresponding TEF.
  - ii. Sum all of the calculated BaP equivalents for each sample to demonstrate that the sum of all BaP equivalent concentrations per

<sup>5</sup> US EPA Regional Screening Table User's Guide for Toxicity Equivalence Factors of Carcinogenic Polycyclic Aromatic Hydrocarbons

sample is less than 1 mg/kg.

- i. Dredged material in which the calculated total BaP equivalent exceeds 1 mg/kg may be blended with finished compost, sand, or soils resulting in a blended dredged material.
  - i. Determine the ratio of the mix that is necessary to meet the BaP equivalent of 1mg/kg;
  - ii. The blended dredged material shall be representatively sampled using methods and procedures as defined in U.S. EPA SW-846 and analyzed for PAHs and the BaP equivalent determined;
  - iii. Always maintain the mix ratio determined in i(i) and sampled for in i(ii) or perform sampling and analysis as required in i(ii);
  - iv. Always mix the dredged material with the same material or perform the sampling and analysis as required in f(ii);
  - v. Keep all records of blending ratios and sampling and analysis data.
- j. Dredged material or blended dredged material that contains constituents at levels that exceed any of the constituent concentration limits specified in Table 1 and exceed the BsP equivalent of 1mg/kg shall only be beneficially used only at commercial or industrial locations as long as the constituent concentrations levels listed in Table 1 do not exceed U.S. EPA Regional Screening Levels for Industrial Soil<sup>6</sup>.
- k. Once an adequate number of sample results from dredged material mined from CDF9, CDF10B, or CDF12 and the Sediment Recycling Center exist to perform a statistical analysis demonstrating that the 95% Upper Confidence Limit (UCL) of the mean for the analyzed constituents is less than the constituent limits specified in Table 1 and the 95% UCL of the mean of the calculated total BaP equivalent concentration per sample is less than 1mg/kg, then the dredged material shall be considered adequately characterized for use pursuant to this Permit until new dredged material is added to the Sediment Recycling Center, CDF9, CDF10B, or CDF12.

#### **D. Operating Conditions**

1. Coverage under this Permit becomes effective when the Applicant receives written notification from the Director that coverage is authorized. The Permittee shall conduct all activities authorized by this Permit in accordance with this Permit and OAC Chapter 3745-599.
2. Prior to beneficial use, after each time new dredged material is added to the Sediment Recycling Center on CDF12, and after dredged material is mined from CDF9, CDF10B,

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<sup>6</sup> US EPA Regional Screening Levels (RSLs) – Generic Tables

or CDF12, the Permittee shall implement the sampling plan to determine constituent concentrations of the constituents listed in Table 1 and Table 2, and perform a statistical evaluation of the sampling analysis in accordance Section C.4. of this Permit.

3. Except as provided in Section D4, the Permittee shall not make available or distribute for beneficial use any dredged material or any blended dredged material that exceeds any constituent limit specified in Table 1 of this Permit or the calculated total BaP equivalent of 1 mg/kg.
4. The Permittee may beneficially use dredged material at commercial or industrial locations if the constituent concentrations levels listed in Table 1 or Table 2 do not exceed U.S. EPA Regional Screening Levels for Industrial Soil<sup>7</sup>.
5. The Permittee shall retain the following information for a minimum of five years after beneficial use of the dredged material or blended dredged material has occurred and the Permittee shall make the information available to Ohio EPA upon request:
  - a. Records of the name, address, and telephone number of all recipients of dredged material or blended dredged material;
  - b. The annual volume of dredged material and blended dredged material managed, and the volume of dredged material and blended dredged material beneficially used annually;
  - c. Records of the location(s) where the dredged material is stored, blended, or placed on land by the Permittee;
  - d. The sampling plan detailing where and how samples of dredged material were collected, dates that the samples were collected, and the list of constituents for which samples were analyzed;
  - e. All laboratory analyses of the constituent concentrations in the dredged material.
6. 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

7. The annual report shall include the following information for the previous calendar year:
  - a. Volume of dredged material and blended dredged material beneficially used under this Permit;

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<sup>7</sup> US EPA Regional Screening Levels (RSLs) – Generic Tables

- b. Volume of dredged material stored for beneficial use under this Permit;
  - c. Sampling analyses of the dredged material beneficially used under this Permit.
8. The Permittee shall use Best Management Practices, as defined in OAC Rule 3745-599-02, when storing, blending, and beneficially using dredged material pursuant to this Permit. The Best Management Practices shall include, at a minimum, the following:
- a. Storage, blending, and beneficial use locations shall be at least 300 feet from wells and surface waters used for drinking water or watering livestock;
  - b. Storage, blending, and beneficial use of dredged material that does not occur at CDF9, CDF10B, CDF12, and the Sediment and Recycling Center on CDF12, shall be at least 33 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 or to divert runoff away from waters of the state at sites where dredged material is stored, blended, or beneficially used by Permittee.
  - d. Storage, blending, and beneficial use shall not occur within a drinking water source protection area as defined in OAC Rule 3745-9-01;
  - e. Storage and blending of dredged material shall not be within 1,000 feet of a sensitive groundwater area, such as karst terrain, a sand and gravel pit, a limestone or sandstone quarry, 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;
  - f. Beneficial use locations of dredged material used for fill, 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, 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.
  - h. Conditions 5.a, b, d, and f, do not apply to dredged material that is beneficially used as soil in bioretention practices as defined in Section B of this Permit.
9. The Permittee shall store, blend, and beneficially use dredged material pursuant to this Permit in such a manner that the activities will neither cause a nuisance nor adversely affect public health, safety or the environment. The Director may revoke coverage under this Permit if the Director determines that a nuisance condition or a threat to human 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.

10. 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.
11. The Permittee shall not cause pollution or cause to be placed any dredged material that has been or is intended to be used for structural fill, backfill, engineered fill, road base, earthen mounds, pipe bedding, an ingredient in soil blends, and soils used for bioretention practices 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 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 Ohio EPA in writing of the conflict and shall comply with the Permit condition unless directed otherwise by Ohio EPA.

**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.