



Maryland

Department of the Environment

Larry Hogan, Governor
Boyd K. Rutherford, Lt. Governor

Ben Grumbles, Secretary
Horacio Tablada, Deputy Secretary

March 30, 2018

Mr. Marcus Quigley, P.E., CEO
OptiRTC, Incorporated
356 Boylston Street, 2nd Floor
Boston, MA 02116

Dear Mr. Quigley:

Thank you for your request to the Maryland Department of the Environment (the Department) to approve the use of the OptiRTC Continuous Monitoring and Adaptive Control (CMAC) system as a method to achieve impervious area restoration credits required in Maryland's National Pollutant Discharge Elimination System (NPDES) municipal separate storm sewer system (MS4) permits. In our previous letters (see January 2016 and October 2017), the Department has approved the CMAC system as a method to achieve retrofit credits in existing wet ponds and wetland systems that conform to the criteria found in the 2000 Maryland Stormwater Design Manual (the Manual). In addition, you have asked the Department to approve the CMAC system as a method to achieve retrofit credits in existing dry or dry extended detention (ED) facilities (i.e., facilities that currently do not meet the general performance standards for stormwater management practices in Maryland; see pp.1.13 – 1.15 of the Manual). The Department has considered your request and supporting information with respect to this potential treatment application in Maryland and offers the following:

In Maryland, innovative practices that are not approved under the Manual may be used to achieve impervious area restoration credits to meet local MS4 permit restoration requirements if the information listed in the Department's *Certification of Innovative Stormwater Management Technologies for Retrofit Application* (Certification, see attached) is provided. This documentation, which was developed to ensure fairness and consistency in the approval process, requires that pollutant removal performance claims be supported by independent field monitoring.

The Department has reviewed the monitoring report prepared by OptiRTC, Inc. for the Metropolitan Washington Council of Governments (OptiRTC, December 2017) concerning the installation of the CMAC system on two facilities; the University wet pond in Montgomery County and the Frost dry pond in Prince George's County. However, only the monitoring conducted at the Frost pond installation provided results for a dry or dry ED facility. Additionally, the monitoring program for this facility did not meet minimum testing requirements for proprietary practices submitted for review and approval by the Department.

Currently there is insufficient information to determine if dry or dry ED facilities retrofitted with the CMAC system would meet the State's general performance standards. The Department recognizes the importance of advancing the use of innovative technologies and cost-effective alternatives for stormwater retrofit applications. Therefore, the Department will allow OptiRTC, Inc. the opportunity to collect the required information at a pilot installation of the CMAC system on a dry or dry ED facility. All monitoring data shall be collected in accordance with the standards described in the Department's *Alternative/Innovative Technology Review Checklist* (MDE 2014, see attached).

The Department will also allow OptiRTC, Inc. a two-year trial where the CMAC system may be installed on a limited number of dry or dry ED facilities. The locations of these installations are subject to the Department's

Mr. Marcus Quigley, P.E., CEO
OptiRTC, Incorporated
Page 2

approval and the following conditions. The Department limits any pilot installation of the CMAC system to facilities where the dam is no more than 15 feet in height and the storage volume is less than 20 acre-feet. Also, a dam hazard classification assessment must be submitted to MDE as part of the Certification application (see MDE, *Hazard Classifications for Smaller Ponds & Dams*). Where an application is planned to an existing small pond regulated under Maryland Pond Code 378, approval from the local soil conservation district is required. Contact the Department's Dam Safety Division at (410) 537-3538 for more information.

The Department also requires that additional factors be considered when proposing to retrofit an existing pond or impounded facility for the purposes of achieving impervious area restoration credits. Existing ponds and dams must be in good condition. Structural appurtenances (e.g, risers, barrels, outfalls) and the dam embankment must be stable, in good repair, and meet current standards. In addition, a dam breach analysis should be performed on all impoundments planned for retrofitting prior to installation. Dry or dry ED ponds located in Use III or Use IV waters may require special consideration to prevent thermal impacts to coldwater aquatic life.

During this pilot installation period, the Department will allow 50% of the typical efficiencies afforded water quality structures in Maryland based on the Chesapeake Bay Program's stormwater runoff reduction curves for stormwater treatment (ST) practices. For example, when the CMAC system is used for treating Maryland's water quality volume (i.e., 1 inch of rainfall) in conjunction with a dry or dry ED facility, pollutant removal efficiencies allowed will be 33% for total suspended solids (TSS), 26% for total phosphorus (TP), and 16% for total nitrogen (TN). Additionally, 50% of the impervious acres in the facility's drainage area will be allowed for MS4 impervious acre credit. The Department is willing to revisit this decision if supplemental information is presented demonstrating that your product meets Certification requirements. Otherwise, these interim efficiencies and MS4 impervious acre credits will be recognized by the Department until April 2020, after which time the practice will be disallowed as an acceptable stormwater retrofit.

Maryland's stormwater management program administrators may request documentation from you regarding these interim efficiencies and MS4 impervious acre credits; please consider this letter as that documentation. Thank you again for your interest in Maryland's stormwater management program. If you have any questions, please feel free to contact me at (410) 537-3561 or by email at jenniferm.smith@maryland.gov or Mr. Stewart Comstock at (410) 537-3550 or by email at stewart.comstock@maryland.gov.

Sincerely,



Jennifer M. Smith, P.E.
Program Manager
Sediment, Stormwater, and Dam Safety Program

cc:

Lynn Buhl, Deputy Secretary, Maryland Department of the Environment
Lee Currey, Director, Water Management Administration
Raymond P. Bahr, Deputy Program Manager, Sediment, Stormwater, and Dam Safety Program
Stewart Comstock, Senior Engineer, Program Review Division

Enclosures