



## APPLIED BIO-SYSTEMS , Inc.

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October 19, 2018

Brian King, PE  
Crossman Engineering  
151 Centerville Road  
Warwick, RI 02886

Re: City of Providence, Grotto Brook Sewer Line, Rhode Island

Dear Mr. King:

On May 23 and June 6, 2018 Applied Bio-Systems, Inc. completed a coastal feature/wetland delineation along the Grotto Brook located within the Butler Hospital campus in Providence, Rhode Island for the future improvement of an access road along the sewer line. The blue flagging numbered 100-126 and 199-204 is located within the tidally influenced portion of the site. The blue flagging numbered 300-343 and two Centerline locations (C1 and C2) are located north of the coastal flagging and mark the inland edge of a stream/freshwater wetland.

The wetland delineation methods employed follow the guidelines established by the *CRMC – Coastal Resource Management Program, as amended; the CRMC Rules and Regulations Governing the Protection and Management of Freshwater Wetlands in the Vicinity of the Coast, as amended; and the U.S. Army Corps of Engineers Wetland Delineation Manual, as amended with the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: North central and Northeast, Version 2.0, as amended.*

The freshwater wetland associated with flags 300-343 is a stream/riverside freshwater wetland complex that is connected hydrologically to the Seekonk River. The primary wetland species bordering the wetland flagging is various emergent grasses such as soft rush (*Juncus effuses*) and deer tongue ( ). Many areas are simply scoured by river overwash from flooding. Upland of the flagged wetland edge are red maples (*Acer rubrum*), American beech (*Fagus grandifolia*) plus a few scattered invasive plants including multiflora rose and honeysuckle. A steep bank borders Woodland Terrace to the west and the Butler Hospital campus to the east.

Flags 100-126 and 199-204 are located at the edge of the more tidally influenced portion of the area as the Grotto Brook flows to the Seekonk River. Flags # 100-126 border the low bank sloping to the salt marsh/coastal wetland along the existing access road. There are several

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manholes in this area. The predominant vegetation within the salt marsh is smooth cordgrass (*Spartina alterniflora*), salt marsh hay (*S. patens*), and high-tide bush (*Iva frutescens*). Some tall reed (*Phragmites australis*) and cattail (*Typha* sp.) are located within the more northern portion of this wetland.

The Soil Survey Geographic (SSURGO) database for the State of Rhode Island: Bristol, Kent, Newport, Providence, and Washington Counties (NRCS, 2012) classifies the soil units within the coastal feature and upland as Hinckley gravelly sandy loam, rolling (HkC). These are excessively drained soil is on terraces, outwash plains, kames, eskers, and recessional moraines. The wetland soil unit is Sandyhook mucky peat, 0-3% slopes (Sa). This nearly level, very poorly drained soil is in tidal marshes and is subject to tidal flooding.

The CRMC would require a CRMC Application submission for the entirety of the project if any alteration of the site is within 200 feet of the flagged coastal feature/freshwater wetland. Work within the streets and/or work considered maintenance could be a Category A Coastal Application. A Category B application most likely will be required for access road work in these locations.

This letter is the sole opinion of Applied Bio-Systems, Inc. and is not to be construed in any way as an authorization from any regulatory agency. Please note that as of the date of this letter, the wetlands have not been verified by CRMC. CRMC is the ultimate authority in deciding the edge of freshwater areas and their jurisdictional boundaries in this location. If there are any questions regarding this letter or if you require further assistance, please contact my office.

Sincerely,



Linda A. Steere  
President/ Principal  
Wetland Biologist

