

Memo

To: Julie VanderWiere, Charter Township of Texas
From: Kelly N. Rice, PWS, GEI Consultants of Michigan, P.C.
cc: Thomas Wheat, P.E., Prein & Newhof
Date: May 13, 2019
Re: Wetland Monitoring Plan for Charter Township of Texas
MDEQ Permit No: WRP015489 v.1, Site Name: 39-7244 Bentwood Trail-Kalamazoo

Baseline Survey and Assessment

Prior to the initiation of pumping and subsequent weekly wetland monitoring, a baseline survey will be conducted at each of the seven (7) monitoring sites established by Michigan Department of Environment, Great Lakes & Energy (EGLE – formerly MDEQ). A baseline assessment of conditions will be completed at each monitoring site within a 30-foot radius around a previously-installed staff gage, which marks the center point of each of the monitoring plots. During the baseline survey, GEI will create an initial floristic inventory of species present within the seven designated monitoring sites along with approximate percent cover by species, record baseline water levels at each staff gage, take baseline photographs in each cardinal direction from the staff gage (monitoring plot center point), and identify several representative woody shrubs and trees at each monitoring site where water level depths will be recorded during future weekly monitoring events. Each of the representative woody stems that are identified will be mapped with GPS equipment capable of sub-meter accuracy. A baseline summary report will be prepared and submitted within three days of field work completion.

Weekly Wetland Monitoring

After completion of the baseline survey, GEI wetland ecologists will conduct weekly wetland monitoring site visits in accordance with Permit Condition No. 16 of the above-referenced permit for this project. The weekly monitoring will assess and document the following parameters within the 30-foot-radius monitoring plots.

- General vegetation including an inventory of all species present and approximate percent cover to the nearest 5% (the list may expand as the growing season progresses).
- Current water level (depth of inundation) at the staff gage and at the representative trees and large shrubs identified during the baseline assessment.
- Permanent photopoint documentation facing north, south, east, and west from every installed staff gage.
- Evidence of stunted or stressed woody or herbaceous vegetation such as dead or dying stems, tip die back, and yellowing or disfigured leaves.
- Changes noted since previous monitoring event.

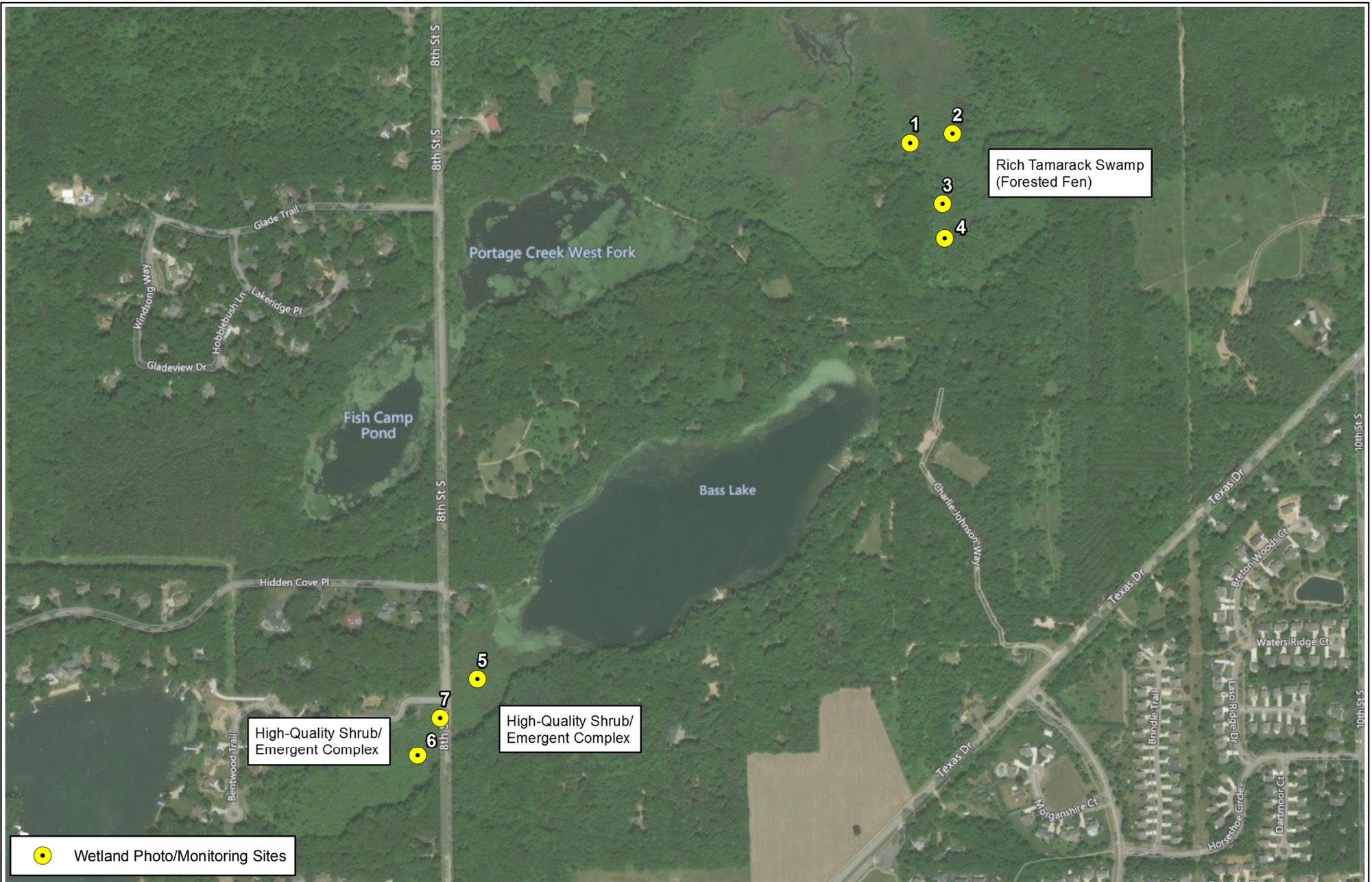


Additional general observations on the effects of water level fluctuations noted within the wetland while walking between plots will also be recorded, as applicable.

A concise weekly monitoring report will be developed and submitted to the Charter Township of Texas within one day of the wetland monitoring event

Attachments

Figure 1: Wetland Monitoring Site Location Map



● Wetland Photo/Monitoring Sites

MDEQ Permit No. WRP015489 v.1
Bentwood Trail
Kalamazoo County, Michigan

Charter Township of Texas



0 250 500 750 1,000 Feet
1 inch = 750 feet



**WETLAND MONITORING
SITE LOCATION MAP**

Project: 1902439

Figure: 1