



**CHRISTOPHER B. BURKE ENGINEERING, LTD.**

9575 West Higgins Road Suite 600 Rosemont, Illinois 60018 TEL (847) 823-0500 FAX (847) 823-0520

November 14, 2018

Village of Orland Park  
14700 Ravinia Avenue  
Orland Park, IL 60462

Attention: Mrs. Karie Friling  
Assistant Village Manager and Director of Development Services

Subject: Professional Engineering Services  
Municipal Basin Hydraulic Analysis and Permitting

Dear Mrs. Friling:

Christopher B. Burke Engineering, Ltd. (CBBEL) is pleased to provide this proposal for the above-mentioned services. Included in this proposal is our Understanding of the Assignment, Scope of Services, and Fee Estimate.

**UNDERSTANDING OF THE ASSIGNMENT**

We understand that there is an existing detention basin located west of Ravinia Avenue at 156<sup>th</sup> Street which is referred to as the Municipal Basin (Basin). The Basin was constructed in the 1970's and was designed as "on-line" storage on Marley Creek. There is an embankment and control structure at the west (downstream) end of the Basin. The embankment has settled over time, lowering the overtopping elevation and resulting storage volume in the basin. We understand that the Village would like to restore the embankment to its original elevation to increase the available storage volume in the pond. This will involve preparing construction plans for the restoration and significant permitting efforts because the basin is now considered to be regulatory floodplain and floodway. We have assumed that permits from the Illinois Department of Natural Resources – Office of Water Resources (IDNR-OWR) for floodway construction and for dam safety. We have also assumed that a Letter of Map Revision will not be required by IDNR-OWR or the Village.

**SCOPE OF SERVICES**

**Task 1 – Hydrologic Analysis:** We will obtain and review any available hydrologic studies, including the regulatory analysis if it is available. However, we have assumed that a new hydrologic analysis of the watershed will be required. We will review contour mapping and Village utility atlases to determine the watershed tributary to the Basin. We

will prepare a HEC-HMS model of the watershed and will perform a critical duration analysis to determine the peak flow rates tributary to Marley Creek and the Basin.

**Task 2 – Hydraulic Analysis:** We will prepare a hydraulic model of Marley Creek using HEC-RAS modeling software. We anticipate the limits of the modeling to be West Avenue on the downstream end and Ravinia Avenue on the upstream end. The modeling will establish the existing flood profiles for Marley Creek and the appropriate floodway limits, which are critical for establishing the permit requirements.

**Task 3 – IDNR-OWR Permitting:** A permit submittal will be made to the IDNR-OWR requesting a Floodway Construction and Dam Safety permit. The submittal will demonstrate that any increases in flood profiles due to restoring the embankment to its original elevation will be contained within the Village's property. If offsite increases are projected to occur, either the embankment elevation will need to be lowered or flood easement for the areas of flood increases will need to be secured. Any work to delineate or secure flood easements has not been included in this proposal.

**Task 4 – Wetland Permitting:** The extent of wetland permitting required will not be known until a wetland delineation is completed and the limits of the berm restoration are determined. We have included the following tasks regarding wetland permitting within this proposal. Note that depending on the extent of wetland impacts and permitting complications, the actual permitting scope may require additional agency coordination with the regulatory agencies, which would be provided under separate agreement.

The following services for a wetland assessment and report are proposed to comply with Section 404 of the Clean Water Act.

**Task 4.1 - Field Reconnaissance:** An investigation of the project site will be completed to delineate the limits of wetlands and waters of the United States present. The delineation will be completed based on the methodology established by the U.S. Army Corps of Engineers. Also during the site visit, wildlife and plant community qualities will be assessed. The limits of the wetland community will be field staked so that they can be professionally surveyed by others in relation to the project coordinate system. We also will locate the delineated boundaries using a submeter accuracy handheld GPS unit.

**Task 4.2 –Letter Report:** The results of the field reconnaissance will be summarized in a letter report. The wetlands' generalized quality ratings, according to the Swink and Wilhelm Methodology (1994), will be included along with exhibits depicting the approximate wetland and project boundaries, National Wetland Inventory, Soil Survey, floodplain, USGS topography, site photographs and their locations, and the U.S. Army Corps of Engineers (USACE) Routine On-Site Data Forms. If the delineation is field surveyed, that will be used as our base wetland boundary map, otherwise we will use the best available aerial photograph.

Task 4.3 – Request for Jurisdictional Determination and Boundary Confirmation: CBEL will prepare and submit a request for a Jurisdictional Determination to the US Army Corps of Engineers to determine if that agency will regulate any onsite waters or wetland. CBEL staff will also contact DuPage County to request a wetland boundary confirmation site visit.

Task 4.4 – US Army Corps of Engineers Application: If necessary, CBEL Environmental Resources Staff will prepare the Corps of Engineers Permit Application. This information will include the required exhibits, specifications, data and project information. This information will also be compiled and assembled for placement in a permit application package to the Illinois Environmental Protection Agency.

**Task 5 – Construction Plans:** CBEL will prepare plans, specifications, and a cost estimate to restore the embankment to its original elevation. The following plan sheets will be prepared:

- Cover Sheet
- Typical Section, Summary of Quantities and General Notes
- Existing Conditions and Benchmark
- Grading Plan
- Erosion Control and Landscaping Plan

**FEE ESTIMATE**

We estimate the following fee for the above Scope of Services:

<b><i>Task</i></b>	<b><i>Description</i></b>	<b><i>Fee</i></b>
1	Hydrologic Analysis	\$ 8,500
2	Hydraulic Analysis	\$18,000
3	IDNR-OWR Permitting	\$16,000
4.1	Field Reconnaissance	\$ 1,000
4.2	Letter Report	\$ 2,900
4.3	Jurisdictional Determination and Boundary Confirmation	\$ 600
4.4	US Army Corps of Engineers Application	\$ 3,500
5	Construction Plans	\$ 7,500
	<b>TOTAL</b>	<b>\$58,000</b>

We will bill you at the hourly rates specified in the Professional Engineering Services Master Agreement including previously agreed upon Schedule of Charges and General Terms and Conditions. These General Terms and Conditions are expressly incorporated into and are an integral part of this contract for professional services. It should be emphasized that any requested meetings or additional services are not included in the preceding fee estimate and will be billed at the previously accepted Schedule of Charges.

Please sign and return one copy of this agreement as an indication of acceptance and notice to proceed. Please feel free to contact us anytime.

Very truly yours,

Handwritten signature of Christopher B. Burke in black ink, followed by the word "for" in a smaller, cursive font.

Christopher B. Burke, PhD, PE, D.WRE, Dist.M.ASCE  
President

THIS PROPOSAL ACCEPTED FOR THE VILLAGE OF ORLAND PARK:

BY: \_\_\_\_\_  
TITLE: \_\_\_\_\_  
DATE: \_\_\_\_\_