May 21, 2024

S. Khurshid Hoda, CPP
Director, Engineering Programs and Services
Village of Orland Park
14700 Ravinia Avenue
Orland Park, Illinois 60462

RE: 143rd Street at John Humphrey Drive Phase II
Supplement #1 - Additional Geotechnical Investigations

Dear Mr. Hoda:

Patrick Engineering (Patrick) is currently under contract with the Village of Orland Park (Village) for preparing the contract plans for the 143rd Street and John Humphrey Drive intersection which includes addressing differential settlement issues at the dry land bridge along 143rd Street just east of John Humphrey Drive. As discussed on our meeting at your offices on May 9, 2024, additional geotechnical information in within the project area is necessary to properly design the structural and subsurface remediation measures to provide a sound and stable roadway facility for the travel demand.

Patrick proposes to obtain additional geotechnical borings, to supplement borings taken during earlier phases of the project, to develop a more accurate picture of the subsurface conditions in the area of the dry land bridge and the intersection. The previous geotechnical boring program performed by Patrick during Phase I was targeted at the areas at the immediate ends of the existing dry land bridge to determine the cause of the differential settlement that was resulting in safety issues along this heavily traveled corridor. This effort identified the presence of seams of peat in these areas. Based on these findings, a supplemental boring program was undertaken during Phase II, which was targeted at locating an area beyond the bridge where no peat was present, which would yield a suitable location where to end the bridge expansion and locate the approach slabs. This effort found some locations with no peat, however, they were at extensive distances away from the bridge, while areas closer to the bridge still had the presence of some peat.

The reason for the current proposed supplemental geotechnical boring program would be to seek areas closer to the bridge where there is no peat, so we can limit the proposed bridge expansion to these areas and save a substantial amount of construction cost by keeping the size of the proposed bridge to a reasonable amount. The need for this additional geotechnical investigation is underscored by recent observations of other dry land bridge projects beneath other roadways in the Orland Park area. It is critical that this intersection be built with a solid foundation with low to no risk of future differential settlement as it serves as a major access from properties to the north and east to get to the Orland Square Mall without having to travel on the already overburdened US Route 45 (LaGrange Road).

Additionally, since the west end of the dry land bridge is extremely close to the 143rd Street intersection with John Humphrey Drive, in order to address concerns with limiting the settlement of the intersection, the proposed boring plan includes several borings within the intersection proper and extending slightly into the south, west, and north legs of the intersection. This will allow us to better understand the actual limits of peat within the intersection area and design remedial soil treatment methods to address this condition for the long term stability of this importation intersection.

Based on this, Patrick proposed to conduct an additional 12-14 soil borings, comprising four days of drilling, including traffic control for proposed borings within the pavement, lab testing, and geotechnical analyses and recommendations. Patrick proposed to perform this work for the not-to-exceed fee of $43,800.

This additional testing will meet our engineering data requirements to allow us to be able to deliver acceptable contract documents for the Village's project. Please note that any additional redesign for the project based on this collected information and analyses will be performed by Patrick under the current limits of our existing design contract. We are prepared to commence this work immediately upon the Village's authorization to proceed.

Thank you for allowing us to be of service to the Village of Orland Park. If you should have any questions or desire additional information, please contact me at (630) 795-7468 or jcebulski@patrickco.com.

Very truly yours,

PATRICK ENGINEERING INC.

Jarrod J. Cebulski

Jarrod Cebulski, P.E.
Project Manager