CIVIL ENGINEERS
LAND SURVEYORS
LAND PLANNERS

September 2, 2021

Mr. Allan E. Schneck, P.E.
Director, Department of Public Services
City of Rochester Hills
1000 Rochester Hills Drive
Rochester Hills, MI 48309

RE: Borden Park Parking Lot Reconstruction - City File E21-TBD
City of Rochester Hills, Michigan
Proposal #9-D582

Dear Mr. Schneck:

In response to your request, we have reviewed the project requirements relative to development of plans and specifications for the Borden Park Parking Lot Rehabilitation Project. This project includes the rehabilitation of approximately 64,000 square yards of HMA parking lot and associated access drives. The original pavement in this parking lot was constructed in 1991, approximately 30 years ago and is at the end of its life expectancy. In April of 2019 Hubble Roth and Clark was commissioned to prepare a Parking Lot Condition Assessment of Borden Park where it was determined that Areas A-F has a PASER rating of 3 to 5 and a useful life of between 2 and 7 years. Area G has a PASER rating of 6 with a useful life of 6-8 years.

Considering nearly three years have passed since the publishing of this report, and based on visual observation, much of the pavement is at the end of its useful life and required replacement. The HRC report identified/recommended a 2-inch overlay with a 2-inch mill in areas where the pavement is controlled with curb and gutter. Our observation was that much of the pavement cracking is substantial and any 2-inch overlay will have reflective cracking. The HMA surface in much of the paved areas is uneven and undulating which is indicative of potential base issues.

Considering the above, we recommend a full reconstruction of the pavement system. NFE has communicated with Testing Engineer's and Consultants whom we have partnered with on multiple projects of similar nature including the Parking Lot Reconstruction Project for West Bloomfield Township Hall. In this case, it was determined to pulverize the existing HMA pavement creating a new base material and then paving 2.5 inches of leveling course and 1.5 inches of top course in parking areas and a 2.5-inch base course, 2-inch leveling course and 1.5-inch top course in heavy traffic drive aisles/entrance roads. TEC and NFE believe a similar program would be successful in the Borden Park application, and this is the basis of our proposal.

In addition to the rehabilitation of the existing parking lots, it is requested that NFE design services for lighting the pickleball/roller rinks that are in proximity to area C of the park. Additionally, it is requested that the parking areas in area G be expanded to accommodate more parking along east soccer drive. This area has a tree line where a tree survey will be required for the parking expansion.

Considering an overall quantity of 64,000 square yards with a unit price of approximately $40 per square yard to pulverize, reshape, pave and new striping; and also considering lighting and parking lot expansions, the overall construction budget for this project will be approximately $2,750,000 to $3,000,000 which does not include PE or CE. Our fee does not include storm water management enhancements for this site.

Based on our review of the project requirements, we have identified the following scope of work required to develop these projects and advance them to the construction phase:

SCOPE OF WORK

PHASE I SERVICES – PRE-ENGINEERING

- Perform all field investigation and survey services required to support the full design development of the project. Field investigation and survey services will include the following:

    - Perform required field survey of the project development area and prepare existing condition drawings consistent with Rochester Hills requirements.
    - Existing underground utilities shall be located and identified, including rim elevations and pipe inverts.
    - Existing spot grades shall be obtained at 50-foot intervals for road edges and centerline, centerline of driveways and driveway edges, road intersection PC's, and other locations needed for design. Parking lots will have a 50-foot grid together with grade shots at all low points and high points.
    - All existing trees and improvements within the limits of the project shall be located and identified.
    - Perform field engineering analysis to identify construction constraints, conditions and make engineering assessment of current conditions to support design initiatives.

PHASE II SERVICES – PRELIMINARY ENGINEERING

- Prepare preliminary construction plans in accordance with City requirements. Construction plans to include the following:

    - Cover sheet, including location map
    - Existing Condition Plans
    - Preliminary Paving Plans including utility adjustments

  - Preliminary Typical Detail sheet with existing and proposed cross-sections.
  - Preliminary Electrical Design for Sport Courts
  - Standard Detail Sheet(s)
  - Preliminary Traffic Maintenance Plan/Construction Staging Plan
  - Preliminary Permanent Striping and Signing Plans
- Plan sheets will be drawn to a scale of 1"=30' horizontal and 1"=3' vertical. Quantity lists will be provided on each plan sheet
- Identify work items consistent with MDOT Standard Specifications for Construction and prepare preliminary Engineer's Opinion of Construction Cost.
- Coordinate project development with the City and other permitting agencies as required for project permits.
- Identify potential utility conflicts and coordinate with utility companies to resolve utility conflicts.
- Attend project design review meeting to present preliminary design and obtain critical feedback from City staff and departments.
- Attend public hearings, City Commission meeting, etc. as requested

PHASE III SERVICES – FINAL ENGINEERING

- Prepare final construction plans in accordance with City requirements. Construction plans to include the following:

  - Existing Condition Plans
  - Final Paving & Grading Plans including utility adjustments
  - Final Typical Detail Sheet with existing and proposed Cross-Sections.
  - Final Electrical Design for Sports Courts
  - Standard Detail Sheet
  - Final Traffic Maintenance Plan / Construction Staging Plan
  - Final Permanent Striping and Signing Plans
- Identify work items consistent with MDOT Standard Specifications for Construction and prepare final Engineer's Opinion of Construction Cost.
- Coordinate project development with the City and permitting agencies, as required for project permits. Apply for and obtain all required permits from permitting authorities.
- Prepare construction bid documents including modified Rochester Hills boiler plate, standard specifications for construction
- Submit 90% complete final design package to City for final review and comments.
- Make all necessary changes to final design documents and assist City with project bidding process
  - Review submitted bids for completeness and accuracy and prepare a bid tabulation sheet
  - Review references and prepare a letter recommending award to the desired contractor
- Attend project meetings as required to develop final design consistent with City requirements. Based on the work outlined above, we submit the following engineering fee for your approval:

Based on the work outlined above, we submit the following engineering fee for your approval:

PROJECT – BORDEN PARK PARKING LOT REHABILITATION PROJECT

WORK	ESTIMATED FEE
Phase I – Pre-Engineering Services	$34,784.00
Phase II – Preliminary Engineering Services	$38,344.00
Phase III – Final Engineering Services	$36,344.00
Reimbursable Expenses	$1,000.00
TOTAL NOT-TO-EXCEED AMOUNT PROJECT 1:	**$110,472.00**

We submit the following cost breakdown as evidence of our expected costs associated with the design of the project:

PHASE I – PRE-ENGINEERING

Classification	Description of Work	Estimate Hours	Hourly Rate	Amount
2 Person Survey Crew	Topographic Survey	96	$139.00	$ 13,344.00
Engineering Tech III	Topographic Survey	120	84.00	10,080.00
Engineer II	Field Review/Investigation	60	78.00	4,680.00
Associate	Field Review & Coordination	12	100.00	1,200.00
Principal	Coordination	4	120.00	480.00
Tree Survey Allowance				$5,000.00
			Subtotal Phase I	**$34,784.00**

PHASE II – PRELIMINARY ENGINEERING

Classification	Description of Work	Estimate Hours	Hourly Rate	Amount
Engineering Tech. III	Prepare Const. Drawings in CAD	140	$ 84.00	$11,760.00
Project Engineer	Design of Improvements	100	96.00	9,600.00
Associate	Design of Improvements, etc.	68	100.00	6,800.00
Engineer II	Quantities & Cost Estimate, etc.	48	78.00	3,744.00
Principal	Review & Coordinate	12	120.00	1,440.00
Electrical Design Allowance	Electrical Design			$5,000.00
			Subtotal Phase II:	**$38,344.00**

PHASE III – FINAL ENGINEERING

Classification	Description of Work	Estimate Hours	Hourly Rate	Amount
Engineering Tech. III	Prepare Const. Drawings in CAD	120	$ 84.00	$10,080.00
Project Engineer	Design of Improvements	80	96.00	7,680.00
Associate	Design, Specifications, etc.	64	100.00	6,400.00
Engineer II	Quantities & Cost Estimate, etc.	48	78.00	3,744.00
Principal	Review & Coordinate	12	120.00	1,440.00
Electrical Design Allowance				7,000.00
			Subtotal Phase III:	**$36,344.00**

REIMBURSABLES

Blueprinting, delivery charges, etc.	$ 1,000.00
Subtotal Reimbursables:	**$ 1,000.00**
TOTAL NOT-TO-EXCEED AMOUNT PROJECT 1:	**$110,472.00**

The work will be undertaken in accordance with our professional services agreement dated August 5, 2020, and we will proceed with the design work upon your authorization and complete the required construction documents within the following design development schedule:

Pre-Engineering Phase	Completed by October 29, 2020
Preliminary Engineering Phase	Completed by November 30, 2021
Final Engineering Phase	Completed by December 31, 2021
Permits	Completed by January 14, 2022
Bid Package Complete	Completed by January 31, 2022
Bids Received	February, 2022

Please be advised that invoices will be based on actual hours and work required as approved by your office and the not-to-exceed amount will not be exceeded unless authorized by our office. We look forward to working with you on this important project for the city.

If you have any questions or require further information, please feel free to contact me.

Sincerely,
Nowak & Fraus Engineers

Jeffrey J. Huhta, P.E., P.S.
Managing Partner

Date: September 2, 2021

Recommended By:
CITY OF ROCHESTER HILLS

Allan E. Schneck, P.E., DPS Director

Date: _____

Approved By:
CITY OF ROCHESTER HILLS

Bryan K. Barnett, Mayor

Date: _____