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Subject : Fernway Road & Ditch Reconstruction Phases 7, 8 and 9 RFP

To: Selected Engineering Firms from 2020 Prequalified List

From: Kevin Lehmann, Public Improvement Tech II

Summary:

The Village is formally requesting a proposal for Phase 2 design engineering of the Fernway Subdivision road and ditch reconstruction, for the three (3) final neighborhood sub-areas. Please refer to included annual stage exhibit for reference. The years of construction are color-coded accordingly by year and the watershed sub-areas are identified by the bold borders and respective numbers. This project consists of all streets within drainage subareas #5 and #6 and the northern portion of Sherwood Drive within the north region of subarea #4'

Background:

The Fernway Subdivision primarily consists of an open drainage system that outlets to the Tinley and Midlothian Creeks within the neighborhood. The Village has previously completed five stages of road and ditch reconstruction within the area bounded by 171st St. to the south, 164th Pl to the north, 88th Ave to the west, and the Orland Park-Tinley Park village limits to the east. The sixth stage is currently in design. The Village desires to now complete the nine phase project by combining years 2022, 2023 and 2024 into one final project year- spring of 2022.

The general intent of the project design is to reestablish problematic, substandard conveyance of the roadside ditches via wholesale ditch regrading, which includes replacement of all driveway culverts and street culvert crossings (creek crossings not included). Ditches must maintain a minimum flowline grade of 1% where possible. If a maintainable flowline grade cannot be achieved, the ditch shall be piped. Side slopes of proposed ditching cannot exceed 3:1. Ditch design that cannot maintain a 3:1 side slope shall be piped. It is the intent of the project to keep ditch piping to a minimum to keep costs down and most importantly preserve the nature and consistency of the neighborhood.

The project also requires complete excavation of the substandard roadway pavement section, subgrade stabilization and reconstruction of the new pavement section which

includes PCC shouldering. A consistent roadway profile shall be established to complement the improved ditch profiles. It is worth noting that the proposed roadway profile typically mimics the existing profile rather closely. This is due to most existing driveway approaches being relatively flat, and therefore the roadway cannot be raised an appreciable amount, in order to avoid back-pitched driveway approach(s).

The project shall include the overlay or wholesale removal and replacement of the existing asphalt multi-use path along 88th Avenue within the project limits, including construction of new concrete ADA ramps at roadway intersections where applicable. Selective removal and replacement of hazardous PCC sidewalk sections along 88th Avenue must also occur.

The project typically utilizes general funds and therefore no outside agency approvals are necessary.

Past project plans, specifications and bid results for recently completed project phases 2020, 2019 and 2018 can be viewed on Orland Park's exclusive solicitation hosting site BidNet Direct. The respective 2020, 2019 and 2018 project numbers are ITB 20-027, ITB 19-019 and ITB 18-032

<https://www.bidnetdirect.com/illinois/villageoforlandpark/solicitations/closed-bids?selectedContent=BUYER>

Plan Design Minimum Requirements:

Topographic Survey: The survey shall be used to determine necessary drainage improvements to accommodate overland flow and reduce nuisance flooding in the ROW, as well as isolated rear yard drainage laterals. Most notably, there are some rear yard areas on Chadbourn Drive and Byron Drive which are in need of storm sewer outfalls to provide a point of relief to the roadside ditches.

The survey will include:

- Horizontal and Vertical Control
- Existing Right-of-Way: establish the approximate existing right-of-way boundary of the roadways within the project limits based on monumentation found in the field, subdivision plats and any other available information.
- Utility Survey and Coordination: All existing receiving storm sewers must be surveyed to determine rim and invert elevations and pipe sizes. Orland Park has GIS data of the storm system to assist in guiding the field survey collection. Above ground facilities of any additional underground utilities including water main, gas, electric, cable, etc. will also be located. Note that the project area is primarily, but not exclusively, served by numerous overhead utilities, which is a benefit here. Sanitary sewer is owned and operated by Illinois American Water and an occasional shallow sanitary sewer service line is encountered during the ditch re-grading. ILAW has historically been very

responsive in addressing the matter promptly. The public water supply system is owned and operated by the Village of Orland Park.

- Base Mapping- compile all of the above information into base mapping that is representative of existing conditions.

Utility Coordination: Identify utilities that may have facilities within the project limits and send a Preliminary Utility Request to known utility companies to obtain pertinent information. Based on the information received from the utility companies, include locations of facilities on the plans, identify potential conflicts with the proposed project and design the proposed improvements to minimize utility conflicts. Note that in the past, Nicor gas facilities have presented occasional existing conflicts with the project. Fortunately Nicor recognizes the road & ditch reconstruction project as an opportunity, thereby prompting Nicor to implement service line and main improvements as a result of the project, somewhat concurrently.

Preliminary Engineering: Prepare plans in accordance with Village and IDOT design criteria. The plans should typically include the following sheets:

- Title Sheet
- General Notes/ Summary of Quantities/
- Typical Sections
- Alignment Ties & Benchmarks
- Roadway and Ditch Plan & Profile
- Erosion Control Plan
- Quantity Schedules
- Cross-Sections
- Construction Details
- Specifications/Special Provisions
- Opinion of Probable Costs/Quantity

Village will provide supplemental soil borings and geotechnical report of the existing pavement section conditions. One boring is typically taken upon each street in each project area to substantiate the design of the new pavement section, per the proposed typical section. Given the scope of the project, anticipate at least eleven (11) boring locations will be provided.

Preliminary Plans, Specifications and opinion of probable cost will be submitted to the Village for one review meeting with Village Staff.

Permitting: Although the Village has jurisdiction over the majority of the areas where work is proposed, several other agencies and/or municipalities are located in one or more of the sub-watersheds. As needed to permit and/or construct the proposed improvements, design engineer will coordinate with Metropolitan Water Reclamation District of Greater Chicago (MWRDGC), Illinois Department of Natural Resources – Office of Water Resources (INDR-OWR) and the Village of Orland Hills. Engineer will also prepare a Stormwater Pollution Prevention Plan (SWPPP) consistent with the requirements of the Village's NPDES Phase II permit and submit it to the Illinois Environmental Protection Agency (IEPA).

Final Engineering: Upon meeting with the Village Staff to review their comments on the preliminary submittal, Engineer will revise and finalize the contract documents and cost estimate. During this task, the exact letting date will be determined and an estimated construction schedule will be provided.

Proposal evaluation will be based on total per-hourly cost of Engineer's summary for above design requirements.