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May 27, 2021

**Statement of Qualification
Engineering and Design Services of
Hartwood Marsh Road – Phase 1
21-0921
Lake County, FL**

3. Proposed Solution

3. PROPOSED SOLUTION

APPROACH

We understand that the scope of this project is to update previously completed design documents and permits for Hartwood Marsh Road to accommodate recent widening along SR 25 (US 27). Our mission is to develop a complete set of construction plans, supporting documents (quantity and cost estimates, etc.), and technical specifications sufficient to enable the County to secure reliable construction bids from contractors. Our work will extend to full coordination to secure or prepare for environmental permits, encroachment permits, utility agreements, and right of way acquisition documents. We will stand behind this work as Engineer of Record while using all existing work product to move efficiently to completion.

The updated plan set will not change the proposed typical section for Hartwood Marsh Road as previously defined, which consists of four 12-foot lanes, 4-foot bike lanes, full and directional median openings, dedicated left and right turn lanes in various locations of the project, and urban shoulders including 4-foot sidewalks on both sides. Modifications will be made to the plans as stated in the proposed RFQ. Modifications will be made to the plan set as necessary including the plans for modifying the existing traffic signal.

Preliminary Plans

Our preliminary engineering plans will be built upon the plan updates as stated in the RFQ. To avoid delay caused by property discrepancies, we will begin by securing the property survey early in project development. Field reviews and data review with our surveyor ensure our property database is high quality. Preliminary plans, profiles, and cross sections will be developed. A first priority is to develop construction limits for use in identifying any potential environmental impacts. Our assumption is that there will not be any significant areas of environmental concern. Our focus will then switch to the identification of solutions that minimize or eliminate impact to existing utility facilities. If utility relocation becomes necessary, we will initiate enhanced coordination with the affected utility company. At this point, we will detail the preliminary signing and marking plans, stage construction plans, erosion control plans, traffic signal plans (if required), lighting plans (if required), and quantities and cost estimates.

Environmental

As part of our team, DRMP will provide environmental services. They will conduct a site visit and delineate any streams or wetlands within the project limits and will conduct background research for cultural resources (i.e., historic and archaeological resources). The team will prepare a technical memo that documents the findings of the ecology, history, and archaeology efforts. We anticipate that an NPDES permit will be necessary.

Utility Avoidance

Understanding the location of utilities early in the design effort is important in the development of a design that minimizes impacts and reduces the cost associated with utility relocation. There are 11 individual utility owners within the project corridor that will require close coordination. A large portion of these utilities will require relocation of their facilities. Where practical, it is the team's goal to avoid utility impacts. Our utility coordination group will work closely with all stakeholders to identify and mitigate these conflicts. We will use SUE (Subsurface Utility Engineering) data to analyze and determine the best alternative. The team will create and update a utility conflict matrix. This 'living' document will be used to maintain an inventory of all potential conflict sites and document their resolutions as we progress through the design phases. The matrix will also be used as a communication tool with the utility owners to review the sites and negotiate a resolution. If a utility conflict cannot be avoided, we will work closely with the utility owner to determine if the facility can be protected in place, adjusted, or must be relocated. Once this phase is completed, the RGB (Red-Green-Brown) plans will be collected from the utility owners and incorporated within the 90% plan submittal.

Overhead power, telephone, and cable exist on the north side of Hartwood Marsh Road, along with underground fiber optic lines. Underground water and gas are located on the south side of Hartwood Marsh Road, along with multiple fire hydrants near the intersection. Existing signals are present along the intersection of US 27 and at Hancock Road. At US 27, the existing signal strain poles are at all four

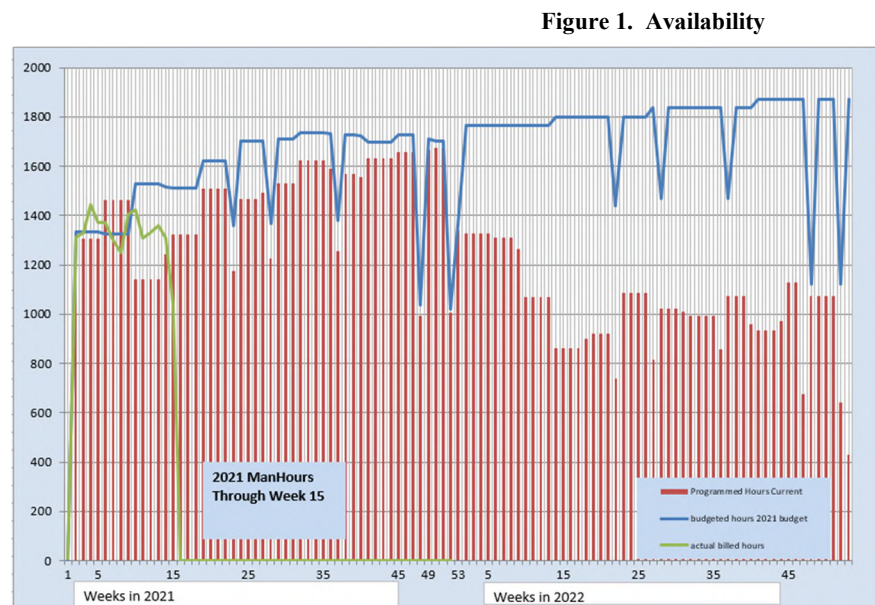
STAFFING AND EQUIPMENT RESOURCES

Staffing

H&L has a staff of 56, with 24 Professional Engineers, all specializing in transportation infrastructure design, inspection, and maintenance. Our staff is stable and deep and brings 27 years of continuous history of working within the transportation market. By virtue of our experience, we are well-qualified to serve as prime firm for this contract, leading the management effort and directing our subconsultants to deliver design support services. If we are selected for this project, we will give you and your project our highest priority. Almost fifty percent of our staff have worked together for over 20 years. We have the processes and collaboration skills in place to ensure our work is efficient and quality focused.

We have no limitations when it comes to successfully delivering this project to meet your needs and the project Need and Purpose. We continuously evaluate and upgrade our technological capabilities, and we are always available for in-person meetings, virtual meetings, and site visits. We have full technology and resources that allow our staff to work in our physical office or work from home.

Figure 1 illustrates our capacity to complete work based on available budgeted direct hours - shown in blue and developed assuming a billable ratio of 63% (direct/total hours company-wide). The red line is our programmed hours which is direct hours required for known work “on the books”. The difference between budget and programmed is available capacity for new work. As is clear, we offer significant available capacity to accept new work assignments. The green tracking reflects actual billable hours each week year to date. This data tracks well versus programmed hours.



Equipment

H&L is fully invested in the highest levels of technology – CADD software, design software, and management and accounting software to ensure efficiency in the execution of the work and the highest quality of graphics and drawings. Our philosophy is to ensure that our staff take responsibility and have accountability for the quality of the work product through independent thinking, quality control of the day-to-day effort and work product, and quality assurance of the overall project and deliverables. This philosophy has assured that we create significant value by increasing efficiency in delivery of design and construction plans with a high quality of work and the resulting compressed schedules for review and approval. We have the following computer software for use on all of our projects:

- Drafting
- Engineering/Environmental
- Earthwork
- Hydraulics
- Accounting
- Structural
- Microstation/Autocad
- CAiCE/InRoads/OpenRoads/Civil3D
- CAiCE/InRoads/OpenRoads/Civil3D
- HY-8, HEC-2, HEC-RAS, WSPRO
- Axiom Ajera Project Management/Accounting
- GDOT Programs, SAP, Leap, Conspan, Leap RC Pier, L Pile, SEISAB, BD2
- Xerox Wide Format High Speed Printer & Scanner
- Reproduction

We are proficient in the programs, software, and equipment listed above. We stay current with the latest versions, attend training courses to stay knowledgeable on the latest techniques, and provide in-house training to junior staff to continuously build our skill base.

ADDITIONAL INFORMATION

Quality Control and Quality Assurance

To ensure we deliver a work product that is legible, adequately detailed, and accurately drawn, we adhere to a solid QC/QA plan.

QC/QA Personnel

Lake County deserves an aggressive approach to scheduling the work effort and delivering the final products – and the work product should be legible, adequately detailed, and accurately drawn. It is our intention to meet these goals by adhering to a solid QC/QA plan.

Quality Assurance begins with the Principal, John Heath, ensuring that:

- the project is assigned to the appropriate individual or team
- the individual or team is properly briefed on the scope and expectations
- the work effort is monitored for budget and schedule control
- the QC/QA team overviews the effort early enough to correct misassumptions or oversights without jeopardizing the schedule
- the design team completes and documents a formal internal QC effort
- the QC/QA team completes an independent quality review, including formal peer review, if deemed appropriate

John will also establish formal requirements for documentation to be prepared by the Project Manager, Allen Krivsky, before beginning the task. This will include:

- Quality Control Plan
- Project Management Plan
- Design Data Book Requirements
- Schedule, including milestones and task completion matrix

We require that Allen, as PM, maintain a log documenting regular coordination with the County's contacts and other stakeholders, as necessary. We also require that the design team review and become familiar with the available information and the project before the design begins.

Quality Control is the detailed, line-by-line checking of design reports, sketches, details, drawings, and documents prior to their being issued from the design office. Allen will ensure that an independent engineer reviews each work product and that the reviewer is appropriate to the task. If an effective QA program has been maintained, the QC task is not overwhelming.

Quality Control Plan: Our project-specific Quality Control Plan identifies the organization or individuals responsible for quality control and identifies the specific procedures used to ensure delivery of a quality product. The plan details quality assurance measures, explains accountability, and identifies required documentation. Our rigorous procedures are continuous and duplicated at each milestone and each deliverable.

- **Design Engineer and Project Engineer review their own work**
 - **Lead Engineers review for completeness, accuracy, and conformance**
 - **Project Manager reviews for scope conformance and intent of the project**
 - **Quality Control Reviewer performs line-by-line check of calculations, drawings, and other work product**
 - **Design Engineer and Project Engineer address all comments**
 - **Quality Control Reviewer back-checks to ensure comments are addressed properly**

- **Project Manager documents the QC Review**
- **Quality Assurance Reviewer reviews all previous review comments for thoroughness and accuracy, validates the solution, and ensures adherence to the QC/QA Plan**

Throughout the review process, the Project Manager, Lead Engineers, Quality Control Reviewer, and Quality Assurance Reviewer evaluate any errors found and eliminate their sources.

Quality Management

Our philosophy is to ensure continuous oversight of project development by senior, experienced staff capable of identifying potential conflicts and redirecting the work effort in a timely manner. This is an effort of Quality Assurance that, when completed consistently, ensures that Quality Control review is for minor revisions that do not impact project design fundamentals, scope, and environmental commitments.

Design constraints, changing requirements, project costs, compressing schedules, and resource management can compromise scope, schedule, and budget. Therefore, we communicate openly and often, respond thoughtfully and in a reasonable timeframe, and proactively resolve hurdles and issues. Our strong, project-specific Project Management Plan provides the control and guidance to ensure excellence in project delivery.

The **Quality Management Team (QMT)** consists of senior engineers who offer continuous, independent oversight, advice, and guidance to Theodore and the design team throughout project development. The QMT provides project specific quality assurance review and peer review, as necessary.

Keys to Success

The keys to success for our design projects are based on the experience we have gained over the years and specifically include:

Managing Resources - The team must include strong resources – talented, experienced staff, solid and reliable computer systems and capability, and committed staff at all levels. Our most successful projects include working as a team with client and staff in a spirit of partnership, combining the strength and experience of our clients with our own resources.

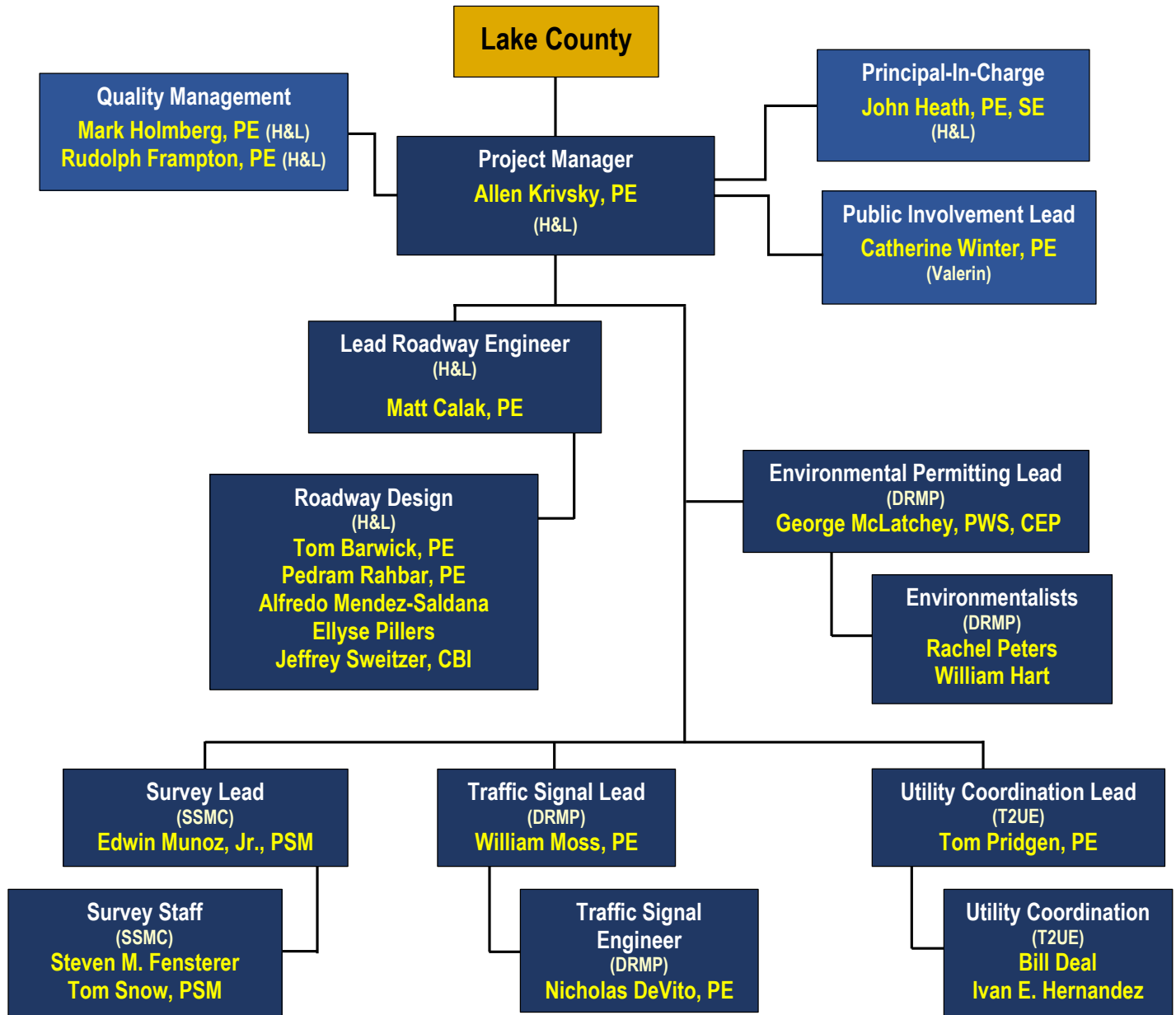
Understanding the Lake County Plan Process - It is vital that all our staff understand the plan development process and the critical nature of project milestones, submittals, and reports. We consider it key to develop and follow a project-specific plan development process that captures client desires and funding requirements. This plan includes critical requirements for management and quality control and is used as a guide throughout project development.

Responsiveness - We know that our clients are under pressure to deliver. We must serve them by providing quality services comprised of complete contract document packages properly formatted, delivered on time, to the right people. It sounds like a simple mission – but attention to detail is the difference between success and failure. Our mission is to free our clients from worrying about the small details so that they can add value to the projects by helping to produce better work products.

Technical Expertise - Finally, it is, of course, vital that our staff offer the highest technical expertise, backed up by the best resources and knowledge of current design-related requirements.

Our approach to manage our team is based on these four keys to provide the highest quality, schedule-sensitive plans in a cost effective, reliable manner.

Since our founding in 1994, we have consistently provided a depth of knowledge of roadway design. Our firm has provided over 27 years of consistent and continuous service to our clients, and the key staff selected for this project are veterans of transportation design. Supporting the key staff is a strong, well trained, and experienced staff of engineers and technicians. The staff is stable and mature and has successfully delivered numerous roadway design projects for state, county, and city clients. This is a talented team offering a deep bench of experience and a team mentality where all staff understand their role.



H&L – Heath & Lineback Engineers, Inc.
 DRMP – DRMP, Inc.
 Valerin – The Valerin Group
 SSMC - Southeastern Surveying & Mapping Corporation
 T2UE – T2 Utility Engineers