Kimley»Horn

August 24, 2018

David Kanarek
Land Development
Pulte Group, Inc.
4400 PGA Boulevard, Suite 700
Palm Beach Gardens, FL 33410

Re: The Lakes at Waterway Village – 58th Avenue Widening Project Extension
Indian River County, FL

Dear David:

Kimley-Horn and Associates, Inc. ("Kimley-Horn" or "the Consultant") is pleased to submit this letter agreement (the "Agreement") to Pulte Group, Inc. ("the Client") for providing professional consulting services. Our project understanding, scope of services, schedule, and fee are below.

## *PROJECT UNDERSTANDING*

It is our understanding that the Client wishes to expand the 58th Avenue Widening Project to include development of final construction documents and obtain jurisdictional permits associated with extending the widening 58th Avenue between 53rd Street and 57th Street. The 58th Avenue Widening is understood to consist of reconstructing 58th Avenue from its current two-lane rural roadway to a four-lane divided urban roadway with paved shoulders and pedestrian facilities between 53rd Street and 57th Street. It is anticipated that additional right of way will be necessary to be acquired to facilitate the proposed improvements. It is understood that the Client and/ or the County will provide the design survey and geotechnical investigation by others.

The terminal intersections are understood to be required to have the following improvements:

- 57th Street/ 58th Avenue – Expand intersection to ultimate four lane divided configuration and add left turn lanes on all approaches.

The PROJECT LIMITS are projected to extend 3,500 feet along 58th Avenue. The replacement of the 58th Avenue bridge over the Indian River Farms Water Control District North Canal will be required.

Based upon this understanding, our proposed Scope of Services, Schedule and Fee are as follows:


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## SCOPE OF SERVICES

A. Roadway Analysis and Plans:

Roadway set of plans shall consist of the following:

| | *30%* | *60%* | *90%* | *100%* |
|---|---|---|---|---|
| Cover Sheet | P | C | C | F |
| Typical Sections | P | C | C | F |
| Summary of Quantities & General Notes | P | P | C | F |
| Summary of Drainage Structures Sheets | | P | C | F |
| Project Layout | P | C | C | F |
| Plan and Profile Sheets (40 scale) | P | C | C | F |
| Intersection Plan & Details | | P | C | F |
| Special Details | | P | C | F |
| Drainage Structure Sheets | | P | C | F |
| Roadway Soil Survey | | P | C | F |
| Cross Sections at 100 ft intervals | | P | C | F |
| Stormwater Pollution Prevention Plans | | P | C | F |
| Signage & Pavement Marking Plans (40 scale double plan) | P | C | C | F |
| Signalization Plans | | P | C | F |
| Structure Plans | | P | C | F |
| Construction Cost Estimate and Quantities | P | C | C | F |

Notes: P – Preliminary, C – Complete, but subject to change, F - Final

The plans will be prepared based upon English units. Design will be conducted in MicroStation and Geopak. The following additional data shall be utilized for development of the plans:

1. The roadway plans sheets will be drawn at a scale of 1" = 40' prepared on 11" x 17" sheets.

2. Plan sheets shall depict existing right-of-way, section lines, property lines, temporary construction easements, and centerline of construction. Horizontal control points with state plane coordinates for all PC's, PT's, curve radius, curve length and horizontal PI's shall be included on the Plan or summarized in an alignment table.

3. Plans shall include spot grades adequate to describe any proposed grading.

4. Match lines shall not be located within the limits of an intersection.

5. If applicable, soil boring information shall be plotted on cross sections with soil classification and high season water table.

6. All details shall reference FDOT Index Numbers.

7. All specifications shall reference to County and/ or FDOT Specifications for Road and Bridge Construction. Any deviations are special specifications not included in FDOT Specifications are required in the Technical Specifications.

8. Initial, interim and Final Plan Submittal shall include the following:
   i. Three (3) Sets of Signed and Sealed Plans.
   ii. One (1) Opinion of Probable Construction Cost
   iii. One (1) CD with drawings in PDF format.
   iv. The Consultant will provide construction documents and calculations in sufficient quantity as required by the various reviewing agencies.

B. STRUCTURAL ANALYSIS AND PLANS:

This scope of services is to provide engineering design and contract plans for the new roadway bridge along 58th Avenue crossing over the North Relief Canal. As part of this scope, the bridge tasks will include a Bridge Development Report (BDR), 30% Plans, 90% Plans and Final Plans.

1. Bridge Development Report (BDR)

The Bridge Development Report will be prepared in accordance with FDOT Plans Preparation Manual Design Criteria and Process. The BDR is intended to establish all the basic parameters that will affect the work done in the Design and Plans Preparation phase. The BDR will define the continuing work by the PROFESSIONAL. The BDR phase of work will contain sufficient detail for the justification of the proposed bridge type. The major items to be considered in the BDR are:

A. General: The bridge length, height and pier locations are subject to vertical and horizontal design clearance requirements such as those for clear zone, navigation, and hydrology. After these considerations are met, span lengths are governed by economics and aesthetic considerations. Superstructure depths (grade separation structures in particular) shall be kept to the minimum that is consistent with good engineering practice. Recommended span/depth ratios for steel superstructures are shown in AASHTO.

   The length of the bridge will be affected by:

   a. Opening required by Hydraulic requirements.

   b. Environmental Considerations.

   c. Width of waterway and/or width of cross section of roadway being spanned including the use of retaining walls.

B. Statical System: The economic and engineering advantages of both simple span and continuous spans shall be addressed.

C. Superstructure: Some superstructure types that could be considered are prestressed concrete girders, reinforced or prestressed concrete slabs, steel rolled sections or plate girders and post tensioned slabs.

D. Substructures: Some substructure types that could be considered are pile bents and multi-column or hammerhead piers. Variations of column shapes may be appropriate for aesthetic or economical requirements.

E. Foundations: Some foundation types that could be considered are steel and concrete piles, drilled shafts and spread footings.

G. Temporary Traffic Control: Show how traffic will be maintained during construction for each of the bridge alternates considered. Consider all major overhead work items such as bridge demolition and girder placement.

H. Quantity estimates: For minor bridges rough quantities (such as reinforcing steel based on weight per volume of concrete) may be sufficient. keeping in mind that the intent is to establish relative and equitable costs between alternates and not necessarily to require the accuracy of the Final Estimate

2. 30% Bridge Plans:

Based on the selected bridge alternative by the City from the BDR, 30% Bridge Plans will be developed and submitted to the City for review which will include the following sheets:

A. General Notes
B. Plan and Elevations
C. Foundation Layouts and Pile Data Table
D. End Bent Layouts
E. Pile Bent Layouts
F. Framing Plans
G. Typical Section

The Bridge Plans will be produced in CADD format and placed on 11"x17" sheets and provided in PDF format.

3. 90% Bridge Plans:

In this phase the bridge plans will be brought up to 90% complete and submitted to the City for review concurrent with the 90% roadway plans. The 90% Bridge Plans will consist of the following type of sheets:

A. General Notes
B. Plan and Elevations
C. Foundation Layouts
D. End Bent Layouts
E. End Bent Details
F. Pile Bent Layouts
G. Pile Bent Details
H. Finish Grade Elevations
I. Framing Plans
J. Typical Sections
K. Superstructure Layouts
L. Superstructure Details
M. Beam Data Sheets
N. Approach Slabs
O. Bar Reinforcing List

Along with this submittal the Bridge Design Calculations and the Bridge Load Rating Calculations will be submitted based on the 90% Plans. The Designs and Load Rating Calculations will utilize the Florida Department of Transportation (FDOT) Structures Design Manual. The 90% Plan Quantities will also be provided along with a Probable Opinion of Construction Cost based on FDOT statewide averages. The 90 % Bridge will be produced in CADD format and placed on 11"x17" sheets and provided in PDF format. The design and load rating calculations will also be provided in PDF format. The Bridge Specifications will be based on the FDOT Standard Specifications for Road and Bridge Construction.

4. Final Bridge Plans:

   For this phase we will submit the Final Signed and Sealed Bridge Plans, Design Calculations, Load Rating Calculations, Quantities and the Probable Opinion of Construction Cost based on Indian River County historical pricing averages.

   Final Plans will be signed and sealed (2 sets) along with a PDF document that is not signed and sealed. The Final Design and Load Rating Calculations will also be signed and sealed (2 sets) along with a PDF document that is not signed and sealed.

C. Drainage analysis and Plans:

1. Perform drainage investigations and analysis necessary to prepare a design which will drain the project in accordance with the Indian River County (IRC), Indian River Farms Water Control District (IRFWCD) and St Johns River Water Management District (SJRWMD) design criteria. The work will include the analyses for the following:

   a. Determine Base Clearance Water Elevation
      Analyze, determine, and document high water elevations which will be used to set roadway profile grades. Determine surface water elevations at cross drains, floodplains, outfalls and adjacent storm water ponds. Determine groundwater elevations at intervals between the above-mentioned surface waters.

   b. Design of Stormwater Management Facility
      It is understood that the proposed roadway will utilized existing on-site stormwater management facilities. The Consultant will prepare construction documents depicting the physical connections to these facilities. The Consultant will provide supplemental routing calculations should they vary from existing permit assumptions.

   c. Design of Storm Drains
      Develop a "working drainage map", determine runoff, inlet locations, and spread. Calculate hydraulic losses (friction, utility conflict and, if necessary, minor losses). Determine Design tailwater and, if necessary, outlet scour protection.

   d. Drainage Design Documentation Report
      Compile drainage design documentation into report format. Include documentation for all the drainage design tasks and associated meetings and decisions.

2. A Stormwater Pollution Prevention Plan (SWPPP) will be developed in conjunction with this project. The site specific SWPPP is a requirement of both the EPA National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges from Construction


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Activities, and the FDEP Generic Permit for Stormwater Discharges from Construction Activities.

D. Jurisdictional Permitting:

The Consultant shall prepare permit applications for the Indian River Farms Water Control District (IRFWCD), St Johns River Water Management District (SJRWMD), Army Corp of Consultants (ACOE) and Indian River County for submittal by the Client. This will consist of all required evaluation, design, coordination, and follow-up work necessary to support permit applications. The Consultant shall assemble and be responsible for the final submittal.

The Consultant shall prepare permit sketches for submission to IRC, IRFWCD, ACOE and SJRWMD for dredge and fill activities, if necessary. The Consultant shall submit all permit sketches on 8.5" x 11" sheets. Sketches shall be neatly scaled, signed and sealed, and reproducible.

1. Environmental Resource Permitting/Section 404 Permitting

The Consultant will prepare and submit the joint Environmental Resource Permit (ERP) application package to the SJRWMD and the ACOE. The application includes the ERP standard forms and a compilation of supplemental materials such as permit sketches, Vegetation (FLUCFCS), soils, quadrangle and FEMA-FIRM maps.

The Consultant will coordinate on the behalf of the Client with each agency identified in this task. This may include up to one (1) meeting with the agencies to discuss requests for additional information (RAI), and written responses to one (1) request for additional information (RAI) including plan modifications. This scope assumes that mitigation measures will not be necessary or required. This scope assumes that coordination with US Fish and Wildlife Service through the preparation of Biological Assessments or Biological Opinions will not be required.

Permit application submittals will be made subsequent to the 60% plan set submittal approval by the Client.

E. Signing and Pavement Marking Plans:

Signing and Pavement Marking plans shall include: Preparation of the plan layout, quantities (including signing and pavement marking quantity) and tabulation of quantities. All plans are to be prepared in accordance with the latest design standards and practices (MUTCD), FDOT Standard Specifications, Indexes, and shall be accurate, legible, complete in design and drawn at the same scale as the Roadway Plans, furnished in reproducible form. Plans will be included with

the roadway plans and submitted as indicated above.

F. Utility Coordination:

The Consultant will coordinate with franchise utility operators in the vicinity of the project such that the proposed construction activities can be developed to minimize impacts to existing utilities located within the project limits. It is anticipated that the 58th Avenue alignment will be developed as to not require relocation of the existing FP&L transmission facilities located along the west side of 58th Avenue. Any utility permitting and relocation design required to accommodate the proposed improvements will be addressed as an additional service relative to this scope of work.

G. Signalization Plans:

Mast-arm traffic signals will be designed at the following intersection:

- 57th Street and 58th Avenue (full signal design)

The signalization improvements will be designed to meet current County and FDOT standards. Luminaries will be provided on each mast arm pole. The pole analysis and design of the signal systems will be completed and submitted to County for review. Signalization plans will be included with the roadway plans and submitted as indicated above.

## SCHEDULE

Upon authorization to proceed by the Client, final design documents are expected to take approximately twelve (15) months from the Notice to Proceed (NTP).

| | |
|---|---|
| NTP | Client Execution (1) |
| Phase I Submittal (30% Design Plans) | 3 months following NTP |
| Phase II Submittal (60% Design Plans) | 6 months following NTP |
| Phase III Submittal (90% Design Plans) | 9 months following NTP |
| Phase IV Submittal (Final Design Plans) | 12 months following NTP |

Footnote:
(1) And receipt of Design Survey and Geotechnical Investigation


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## FEE AND EXPENSES

Kimley-Horn will perform the services in all the tasks listed below for the total lump sum labor fee below. In addition to the lump sum labor fee, direct reimbursable expenses such as express delivery services, fees, air travel, and other direct expenses will be billed at 1.10 times cost. All permitting, application, and similar project fees will be paid directly by the Client.

| Task | Labor Fee |
|---|---|
| Roadway Analysis and Plans | $ 82,275 |
| Drainage Analysis and Plans | $ 17,680 |
| Erosion Control and SWPPP | $ 3,620 |
| Jurisdictional Permitting | $ 8,710 |
| Signing and Marking Plans | $ 9,275 |
| Utility Coordination | $ 3,410 |
| Signalization Plans | $ 22,716 |
| Bridge Development Report | $ 8,435 |
| Structural Analysis and Plans | $ 75,190 |
| *Project Total* | *$ 231,311* |

Lump sum fees will be invoiced monthly based upon the overall percentage of services performed. Reimbursable expenses will be invoiced based upon expenses incurred.

## CLOSURE

In addition to the matters set forth herein, our Agreement shall include and be subject to, and only to, the attached Standard Provisions, which are incorporated by reference. As used in the Standard

Provisions, "Consultant" shall refer to Kimley-Horn and Associates, Inc., and "Client" shall refer to **Pulte Group, Inc.**

Kimley-Horn, in an effort to expedite invoices and reduce paper waste, submits invoices via email in an Adobe PDF format. We can also provide a paper copy via regular mail if requested. Please provide the following information:

____ Please email all invoices to _____

____ Please copy _____



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If you concur in all the foregoing and wish to direct us to proceed with the services, please have authorized persons execute both copies of this Agreement in the spaces provided below, retain one copy, and return the other to us. We will commence services only after we have received a fully-executed agreement. Fees and times stated in this Agreement are valid for sixty (60) days after the date of this letter.

To ensure proper set up of your projects so that we can get started, please complete and return with the signed copy of this Agreement the attached Request for Information. Failure to supply this information could result in delay in starting work on your project.

We appreciate the opportunity to provide these services to you. Please contact me if you have any questions.

Sincerely,

KIMLEY-HORN AND ASSOCIATES, INC.

By: Kinan Husainy, P.E.
Project Manager

Brian Good, P.E.
Sr, Vice President



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