EXHIBIT A

SCOPE OF SERVICES

PHASE 2

TROPIC ISLE NEIGHBORHOOD IMPROVEMENTS

May 5, 2022

I. PROJECT DESCRIPTION

The Tropic Isle Neighborhood Area is located immediately east of Federal Highway, bordered by Linton Blvd on the north, Intracoastal Water Way (ICWW) on the east, and C-15 Canal on the south. The City of Delray Beach (City) would like to invest in infrastructure improvements in the Tropic Isle Neighborhood Area. These improvements include roadway paving, stormwater management, water main, sanitary sewer and lighting improvements. **Figure 1** illustrates the Neighborhood Area and shows the limits of the project. The area includes a total of approximately 5.75 miles of roadways.

The neighborhood streets are built on muck and loosely consolidated soils that have caused the pavements to deteriorate over the years. The neighborhood borders the ICWW and is susceptible to flooding from high tides and projected sea level rise. The City considered high tides and 30-year sea level rise projection when they recently updated the stormwater master plan. The updated master plan recommended a long-term solution of raising the roads and converting the stormwater system to a pump system sometime in the future. The City retained Kimley-Horn and Associates to design the proposed improvements. The design had a two-phase approach. Phase 1 included preparation of a follow up analysis of the proposed improvements to evaluate available options and recommend a solution. This analysis was completed and documented in a basis of design report (BDR) dated July 2021 at the conclusion of Phase 1. Phase 2 will be the final engineering design of the recommended improvements. These improvements will be phased over a 3-year period for budgeting purposes and to reduce the impacts to the neighborhood during construction. The BDR estimated the project budget at $29 million for construction and $6 million for engineering and construction engineering and inspection (CEI) services. With the recent decision by the City to select the alternative for total replacement of the asbestos water main, the project budget will be $31 million. The recommended solution was to design the stormwater improvements based on a 20-year horizon. This solution consists of raising some street elevations, upgrades to the stormwater system including placement of check valves on all outfalls, rehabilitation of the existing sanitary sewer system, total replacement of existing asbestos water main with addition of fire hydrants, and upgrades to FPL streetlights to LED. Conversion of existing overhead utilities to underground was estimated at approximately $14 million and will not be proceeding to final design at this time. In the future, the stormwater system may be converted to a costly pump system if needed based on future sea level rise conditions.

The following project components will be included in Phase 2 of the Project:

- Additional data collection and coordination
- Design survey (drainage structure details that were not part of Phase 1 and miscellaneous survey)
- Geotechnical engineering services
- condition assessment of existing sanitary sewer from video pipe inspection. The City has already performed the video inspection of the sanitary sewer through Shenandoah.
- Video pipe inspection / cleaning and condition assessment of existing storm sewer.
- Subsurface utility exploration (SUE)
- Stormwater analysis and modeling based on proposed conditions
- Roadway engineering design
- Driveway and lot grading design
- Drainage design
- Environmental permitting
- Signing and pavement marking
- Water main improvements and fire hydrant addition
- Gravity sanitary sewer improvements
- Utility permitting
- Streetlighting photometrics
- Landscape, hardscape and irrigation encroachment removal
- Project phasing plan
- Excavation and backfill spoils management plan
- Traffic management plan
- Franchise utility coordination
- Community outreach
- Opinion of probable construction cost
- Design documentation report
- Project management
- Technical specifications
- Bid phase services
- Post-design services during construction

II. SCOPE OF SERVICES

Prepare final engineering and construction documents of the proposed neighborhood infrastructure improvements suitable for bidding. Design the improvements based on the final BDR report as one project but phase the construction plans into a maximum of 3-bid packages using boundary lines. The construction documents for each phase will include plans, same specifications and engineer's opinion of probable construction cost.

1. **Additional Data Collection and Coordination**

   Coordinate with subconsultants additional survey needs, video inspection records for sanitary sewer and new video inspection of storm sewers, subsurface utility exploration and geotechnical engineering recommendations.

2. **Design Survey Services**

   Topographic survey was completed as part of Phase 1 for streets that have been identified for reconstruction. Detailed drainage related survey to obtain information from inside structures is to be included in Phase 2. Consultant to provide drainage structure invert and bottom of structure elevations for 142 accessible structures. Additionally, survey drainage structure run that has been identified by City staff as belonging to the City not FOOT and causing settlement. It consists of 6 additional structures and is located behind car dealerships from Florida Blvd crossing Spanish Trail to outfall into a canal. Provide spot elevations for some of the streets between Spanish Trail and Federal Highway as needed up to the budgeted amount. Provide miscellaneous survey as needed such as at locations of outfall pipes and driveway tie-in up to the budgeted amount. It is assumed the City crews will provide access to structures and pipes only if needed to clear structures to obtain elevations since surveyors do not have the means to do this work.

3. **Geotechnical Engineering Services**

   As recommended in the BDR, engineered light weight material will be added to mitigate future settlement that may result from raising the elevation of some streets. The geotechnical engineer will review plans and specifications to determine the dimensions of the required light weight material. Develop a table of values for the depths and/or elevations for the top and bottom of the lightweight fill for typical cases of raised grade. The tables will be developed for pavement areas and for green landscaping areas. Where full depth pavement reclamation (FDR) is proposed, provide FDR design parameters.

   Provide as optional services, 8 additional soil borings as required by the roadway designer to help better delineate muck soils at specific locations.

4. **Condition Assessment of Sanitary Sewer**

   Kimley-Horn will review the sanitary inspection videos obtained by the City and provide recommendations for improvements to be incorporated into Task 12.2. City to make all inspection information readily available for review.

5. **Video Pipe Inspection and Condition Assessment of Storm Sewer**

   Consultant's subconsultant to provide video inspection of existing storm sewer to evaluate existing conditions. Upon completion of the video inspection, Kimley-Horn will

perform a condition assessment and provide recommendations for improvements and estimated construction costs. The quantity of anticipated pipes is shown below:

Pipe Diameter (in.)	Length of Pipe (LF)
10	37
12	3097
15	4736
18	1950
21	216
24	1701
28	409
30	72
36	238
42	435
48	208
12x24 oval	182
14x23 oval	145
Total	**13,426**

6. Subsurface Utility Exploration

Consultant's subconsultant to provide subsurface utility information (softdig) at anticipated underground utility conflicts for up to 200 test holes. Potential conflict locations will be identified during design. Utility conflict resolution will be addressed in the design tasks of this scope. Kimley-Horn will work with the subconsultant to identify test hole locations and exhibits with tables for those identified locations. In addition, this task entails coordination with the subconsultant field crews, management, reviews, and coordination with subconsultant to complete this task.

7. Basin Drainage

Stormwater modeling completed in Phase 1 was based on existing roadway conditions and performed by another consultant. Consultant to review the existing conditions ICPR model to ensure model methodology are consistent with generally accepted engineering practice and ensure modeling assumptions match those to be understood by City. Prior to commencing work on proposed condition model, Consultant to perform a sensitivity analysis of the existing stormwater system's response to upsizing outfalls on one street. Consultant to revise the adopted existing conditions model one time to reflect upsized outfall pipes on one street and report results in tabular format to the City.

Consultant to revise the adopted existing conditions ICPR model to reflect the proposed stormwater design. In the proposed condition, the proposed stormwater design associated with the streets' profile design will include stormwater inlets and pipes with pipe connections that must be designed within the proposed basin conditions. These

proposed conditions have to be modeled within the ICPR model to develop the results and engineer the design that will be shown in the plans.

Consultant will run the existing and proposed conditions ICPR models if applicable for the four previously selected storm events: the 5-year 1-day, 10-year 1-day, 25-year 3-day, and 100-year 3-day storm events. Consultant to provide a typical storm flood drawdown time analysis for the 5-year 1-day storm event. Flood depth inundation mapping may be demonstrated for the 5-year 1-day storm event for the existing and proposed conditions models to show a general comparison of flood conditions and impacts between the two scenarios.

Consultant to provide analysis output report summaries for permitting agency review and use. The output report summaries will include a summary of the existing input parameters, the peak stage modeled at each node within the project area for all four modeled storm events, and the peak discharge from all outfalling links within the project area for all four modeled storm events. This specific modeling task does not include additional analysis effort required to address permitting agency comments.

8. Roadway Engineering Design

Provide engineering analysis and roadway construction plans as detailed below.

8.1 Design Files

Utilizing survey data, prepare a horizonal and vertical digital master design file for all project streets within the neighborhood specified in the BDR. Provide drawings in CADD format for entire project. Prepare project layout sheets for the entire project based on 22"x34" sheet size at 1" = 20' scale for convenience during design and in construction (provide for true half size prints as needed). PDF files of all plan sheets will be provided. Print paper copies from the PDF can be on 11"x17" (half scale), 22"x34", or 24"x36" as needed.

8.2 Roadway and driveway design concept and typical street block

Prepare typical sections for all raised streets assuming three typical sections for 16 streets. Prepare a maximum of 3 typical sections for streets to be constructed at grade. Prior to design of all neighborhood streets, develop design for a typical street including typical section, street profile with high and low points showing their elevation impact on existing driveways. Show drainage structure locations horizontally and vertically, drop curb, driveway and typical lot grading and harmonization. Driveway grading will show proposed driveway profiles, grade break between existing driveway and reconstructed portion. It will also show relative grading at driveway low points towards grass areas. Coordinate proposed utility locations with the proposed drainage system improvements to identify separation, typical depths and relationships to muck soils. Prepare street plan and profile sheets for a typical block. Prepare special typical grading plan sheet that address affected driveways. Prepare roadway cross sections and street typical section. Review design concept and driveway impacts/ harmonization with City staff.

Upon concept design approval by the City we will prepare preliminary profiles for the raised roadways.

8.3 Roadway Plans

Based on City staff review and input of the concept street, develop roadway and driveway plans for the remaining streets. Roadway plan views will be on 22"x34" PDF sheets at 1" = 20' scale (to allow for true half size prints). In accordance with BDR recommendations for the 20-year duration condition, 16 streets will be raised in elevation. The remaining 9 streets / segments will be reconstructed in place with a crowned road section.

The following streets are recommended for raising their elevation:

1. Spanish Trail (Gardenia Drive to Avenue L)
2. Eve Street
3. Tropic Blvd
4. Bolender Drive
5. Allamanda Drive
6. Banyan Drive (Cul-de-sac)
7. Cypress Drive
8. Dogwood Drive
9. Evergreen Drive
10. Florida Blvd (Iris Drive to Avenue L)
11. Gardenia Drive
12. Hyacinth Drive
13. Iris Drive
14. Jasmine Terrace
15. Jasmin Court
16. Jasmine Drive

The following streets will be reconstructed in place:

1. McCleary St
2. Spanish Trail (McCleary St to Avenue E)
3. Tropic Blvd
4. Banyan Drive
5. Fern Drive
6. Florida Blvd (North of Evergreen Dr/Fern Dr)
7. Florida Blvd (Fern Dr to Iris Dr)
8. Spanish Trail N
9. Spanish Trail S

8.4 Pavement Design

Prepare pavement design for raised streets including design of light weight material backfill. Prepare full depth reclamation (FDR) design where applicable for streets that

will maintain existing grades. Prepare milling and resurfacing design for streets that are not compatible with FDR construction.

8.5 Roadway Profiles

Develop street profiles for raised streets. Utilize existing low points and drainage structures where practical. Identify locations of new low points and drainage structures. Street profiles may be raised between O" to 6" in elevation to create proposed profiles that direct runoff to low points using valley gutter/ drop curb. The BDR identified 16 streets that can be raised. Streets which are not recommended to be raised may require re-establishment of road crown as some streets have water ponding in the center of the road such as Banyan Drive. After development of preliminary street profiles, review results of flood depth and duration with the City to continue the engineering design. Address City comments and proceed with refining the profile design. Roadway profile sheets will be on 22"x34" sheets at 1" = 20' scale (horizontal) and 1" = 2' scale (vertical).

8.6 Driveway and Lot Regrading

There are approximately 780 to 800 driveway connections within the project limits (circular driveways are counted as two driveway connections since both require individual regrading). Out of these driveways noted above, 589 are located on streets that will be raised requiring special design. Connection of raised streets to existing driveways will require a grade break within driveways to limit impacts to driveways and avoid total reconstruction of driveways up to edge of houses. Design and prepare special driveway typical grading / details to address each driveway connection case based on new street elevations and as established in the concept plan for streets and driveways in Task 8.2. Identify driveway material and drainage flow for driveways and their adjacent lots. Some existing custom driveway patterns and materials may be difficult to match. It is anticipated that City staff and design team will meet with some property owners having significant changes to their driveway material or grading if needed to discuss impacts to their driveways. A decision will be made if the reconstructed portion of driveways within City street right of way will be of plain concrete or closely match the existing material. The City will decide if matching custom driveway material will be the responsibility of property owners. The design scope is to address custom driveway design and or material. If required, it will be included in the specifications with a photograph of the existing driveway and notes requiring the contractor to match existing. If the contractor is unable to match existing, then an alternate option will be considered during construction. Kimley-Horn representative will be available if needed to attend meetings and answer questions about driveway grading and harmonization under the post design services task.

8.7 Roadway Cross Sections

Prepare roadway existing and proposed working digital cross sections at 50' intervals or at key locations as needed for raised streets to analyze slopes for connecting proposed roadway to existing lots to produce typical sections and details. Identify approximate muck layer locations from available geotechnical borings. The plans will

include necessary typical cross sections for raised streets and for the remaining reconstructed streets.

8.8 Roadway Field Reviews

Conduct roadway field reviews to confirm survey features with additional reviews to identify proposed design impacts and harmonization during design (30%, 60%, 90%, 100%). Given the large area of the project, it is estimated that the roadway design engineers will conduct field reviews as required in accordance with the task budget.

9. Drainage Design

Review video inspection results of existing drainage structures. Prepare drainage plans to address rehabilitation of existing drainage structures that are to remain and line existing drainage pipes / structures as needed. There are approximately 34 existing outfall pipes that are under 24" diameter. Based on drainage benefits and feasibility, consider rehabilitation of these pipes where applicable and advantageous in reducing flooding depths for those basins. Design check valves (WASTOP) for all 39 outfall systems where feasible to prevent backflow during high tides. New outfalls are not anticipated for the project, only rehabilitation of the existing were applicable. Based on the stormwater model condition results and proposed profile design, provide drainage structures and connect new low point structures to existing structures where possible. Prepare storm sewer hydraulic analysis to determine drainage structure sizes. Design proposed drainage inlets, manholes and pipes for affected roadway grades and connect to existing outfalls. Provide new drainage structures and modification to existing structures as required (estimated at 204 new structures and less than 108 modified structures) along with proposed interconnecting drainage pipes. Prepare drainage working structure typical sections to show drainage as well as utility lines in cross section view if location is in very close proximity to muck soils as provided by the geotechnical engineering scope to resolve potential conflicts. Provide utility conflict resolution between drainage structures and existing utilities identified in task 6 SUE.

10. Environmental Permitting

Prepare permit applications for City's execution.

10.1 South Florida Water Management District (SFWMD)

The following permits are anticipated:

- ERP (SFWMD)

Kimley-Horn will coordinate and submit the application package to the SFWMD for review (one permit for all phases). The City will be listed on the applications as the permittee and owner upon completion of the project.

10.2 U.S. Army Corps

See Optional Services for potential upsizing of outfalls

10.3 FDEP

See Optional Services for potential seawall repairs due to upsizing of outfalls

11. Signing and Pavement Marking

Include a note in the plans for contractor to re-establish existing signing and marking as indicated by the City. No plans are required.

12. City Utility Improvements

Upgrade the existing water distribution system and perform an evaluation of the existing gravity sewer system as detailed below. There are no proposed improvements to the existing force main and no reclaimed water improvements are planned for this neighborhood.

12.1 Water Main Improvements

Several of the dead-end water mains at the end of the cul-de-sacs have existing flushing valves. Most of these dead-end streets have the last 400 to 500 LF of water main as 4-inch pipe. This design will replace the entire water main, services, valves and backflow preventers at each of the streets included in this project in accordance wth the BDR. Water main sizes will be replaced in kind except for upgrades to the 4-inch diameter pipes to allow for improved fire protection and better flushing capabilities. It is estimated that approximately 27,200 LF of pipe will require replacement. Note that existing water meters will remain in their current location. The City Ordinance mandates a 500-ft spacing for fire hydrants. Using the 500-ft spacing criteria, provide the neighborhood area with up to 61 fire hydrants on the new water main. Appropriate gate valves will be installed to improve operation/maintenance. System modeling is not included in this scope. The design for this task will be included on sheets with a plan and profile with the design from task 12.2. The existing City infrastructure shall be included in plan view.

12.2 Gravity Sanitary Sewer Improvements

The existing gravity sewer system is made up of 28,000 LF of pipe, with pipe sizes of 15, 10 and 8-inch, constructed of mainly vitrified clay pipe (VCP) pipe, 94 manholes, 360 single sewer laterals and 46 double sewer laterals. For this scope and based on similar projects, it is assumed up to 10,000 LF will require replacement via either the pipe bursting and/or direct bury method. (The video inspection review under task 4 will confirm this.) The remaining 18,000 LF will be lined. The sections requiring direct bury will include designs for new laterals while the remaining laterals will be lined. A temporary by-pass plan shall be prepared to provide sanitary service throughout construction. This information will be included in the notes of the sanitary design sheets and construction detail sheets. Determination for manhole replacement or rehabilitation shall be made upon review of available condition documentation and coordination with the City. It is assumed that existing manholes will be raised or rehabilitated in areas where street elevations will be adjusted.

Kimley-Horn shall use City provided record drawings for sewer line and manhole invert elevations with select confirmation to be provided by the project surveyor to confirm City records. The design for this task will be included on sheets with a plan and profile with the design from task 12.1.

12.3 City Utility Coordination Meetings and Interdisciplinary Coordination

Kimley-Horn utility engineers will attend an initial kick-off meeting with City staff to verify scope and approach; prepare for and attend additional monthly virtual meetings (estimated at two per month when needed). Additionally, communicate with designated City staff (via phone, fax, email, etc.) to provide coordination between City staff and the Designer.

12.4 City Utility Permitting

Assist the City in preparation of permit applications.

Palm Beach County Health Department / Florida Department of Environmental Protection

The following permits are anticipated with the Florida Department of Environmental Protection (FDEP):

- General Permit for Construction of Watermain Extensions for PWS
- Notifications for Modification to a Wastewater Collection/Transmission System

Kimley-Horn will coordinate and submit the application packages to the Palm Beach County Health Department (PBCHD) for review. The City will be listed on the applications as the permittee and owner upon completion of the project.

Kimley-Horn will respond to Request for Additional Information (RAI) from the PBCHD for each application (6 RAIs total). Changes to the scope of the project / permit will be considered additional services.

It is assumed the permit application fees will be paid by Consultant and reimbursed by the City.

13. Street Lighting Photometrics

FPL will handle and install any required street lighting as indicated by the City.

14. Landscape, Hardscape, and Irrigation

Since all landscaping, hardscape and irrigation within the street right of way is considered privately owned, the contractor will remove all such encroachments after giving property owners the opportunity to relocate them if desired.

15. Project Phasing Plan

Based on the proposed roadway, drainage and utilities improvements, determine suitable phase limits/ boundries for 3 phases (bid packages). Correlate phase limits to planned City project budgets by preparing order of magnitude opinions of probable construction costs for each phase. Identify and design temporary phase connections for utilities and drainage. Consider including all outfall upgrades and existing drainage sealing and upgrades along with check valves in the first bid package if practicable to limit backwater flooding caused by high tides. Prepare phase lines on overall plan sheets identifying phase limits.

16. Excavation and Backfill Spoils Management Plan

Given the narrow street right of way and existing private landscape and hardscape features within public right of way, the contractor is required to manage the location of excavation and backfill material during construction. To avoid ambiguity in the bidding process, this plan / notes will establish the minimum requirements of the contractor to mitigate the spoils on the project to meet City and resident expectations. The plan may include list of temporary storage locations on available public lands as well as truck convoy management requirements. Proposed available parcels for temporary soil storage will be shown in general terms with overall location and size. Typical truck convey management notes will be included in the plan.

17. Traffic Management Plan

Prepare maintenance of traffic (MOT) concept plan for a typical street for City review and approval. Prepare an overall MOT / Phasing plan for the project. These plan notes will establish the minimum requirements of the contractor to provide residents with access to properties at all times during construction. Raised streets will require excavation of existing roadway to replace with lightweight backfill as well as placement of drainage structures and valley gutter along streets making it challenging to maintain traffic. The plan notes will address access to driveways during the various construction sequences. The MOT approach will consist of typical plan / notes/ typical section detail sheets, construction phasing and work limitation notes.

18. Franchise Utility Coordination

Prepare Sunshine State One Call Design Ticket and coordinate with City to identify all utility owners. Initiate contact with utility owners. Prepare plans and transmit to utility owners to mark location of their existing facilities on design plans. Transfer utility marked locations onto project drawings. Request utility owners to verify location of their utilities on project plans. Conduct an initial utility coordination meeting to discuss project scope and utility disposition. Identify potential utility conflicts and invite for a utility coordination meeting. Explore utility conflict resolution options and meet with utility owners to agree on solutions. Document solutions and request utility owners to provide a schedule for addressing conflicts and relocation.

19. Community Outreach

We will prepare an outreach plan for Phase 2 Design. This plan will be expanded for subsequent phases to provide a uniform process to the public throughout all phases of the project using a full time web based application information (Public Coordinate).

Kimley-Horn will provide their proprietary software application for interactive public coordination throughout all stages of project including during construction. This application/website, Public Coordinate, is accessible as a website from computers or as a mobile application. It shares project information with the public and gathers comments/feedback online in a user-friendly map-based platform. It is an effective method for communicating with a large number of stakeholders. Maintain the software application for 3 years. The software application is provided based on an annual user fee.

It is anticipated that the public involvement process will be continuous in subsequent phases due to the anticipated construction impact on access to residents' homes. The outreach plan will initially focus on understanding community needs and issues, developing trust and communication approach. The plan will engage members of the public focusing on civic and homeowner associations (HOA) consisting of:

- Tropic Isle Civic Association
- Tropic Harbor Homeowner Association
- Tropic Bay Condominiums Homeowner Association

We will consider selection of HOA liaisons for streamlining the coordination process. We will attend one combined meeting with the HOA boards to describe the proposed design recommendations at the start of the project. We will conduct follow up meetings every three months or after 30% design phase, 60% design phase, 90% design phase and prior to start of construction of Phase 1 to share more design details. Project plans may be presented during these meetings. We anticipate attending some of the HOA's regular meetings during design to provide them with project updates without formal presentations. We anticipate regular coordination with public liaisons to keep lines of communication open. ***It is assumed that mailing of public meeting notices to all property owners is not required.***
Since the number of meetings is unknown at this time, we estimate the following meetings will be needed as further detailed in the fee breakdown:

4 meetings with combined HOAs
2 progress meetings for each of the three HOAs for a total of 6
3 meetings with community liaisons
2 meetings to update City commission on project progress as well as HOA feedback
72 meetings/ virtual with individual property owners to discuss impacts to decorative driveways (which is 30% of 243 properties with decorative pavement on raised streets, some driveways will combined and addressed in the same meeting)

20. Opinion of Probable Construction Cost

We will prepare four (4) opinion of probable construction costs (OPC) (at 30%, 60%, 90%, and 100%) for the entire project as one. Cost estimates will be based on historical FOOT

price records and other records of current and similar City projects. The Consultant has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Consultant at this time and represent only the Consultant's judgment as a design professional familiar with the construction industry. The Consultant cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.

21. Design Documentation Report

Given the complexity of the improvements and the decision-making process, it is necessary to document major design decisions throughout the design process. The brief memo report will document these decisions and be submitted to the City with major submittals (30/60/90) and final plans.

22. Project Management

Coordinate with City project manager throughout the duration of the project through virtual meetings, phone calls, email. Prepare monthly project progress reports. The number of anticipated project management meetings (for estimating purposes) will be based on the breakdown below:

4 meetings with City during development of phase submittals
4 meetings with City to address phase review comments
2 meeting on Project phasing limits
1 meeting on MOT scheme
1 meeting on Spoil management plan
2 meetings on Stormwater analysis and 2 for upsizing of outfalls
2 meetings with City utilities department

23. Technical Specifications

Prepare technical specifications (special provisions) for items that are not covered in the project plans to be included with the project bid manual. The City will prepare the boiler plate "front end" portion of the contract and specifications for the project.

24. Bid Phase Services

Assist the City during the bid process (for estimating purposes) as follows:

- Provide project specific information for the City to include in the boiler plate document.
- Prepare schedule of bid items for each phase.
- Review and respond to Requests for Information (RFIs) from bidders (for estimation, use 6 RFIs for each of the three phases).

- Provide written responses to the City so they may include in the City's formal response.
- Provide addendum information to the City for each of the three phases.
- Attend 3 pre-bid meetings, one for each of the three phases.
- Review 3 bid tabulations provided by City for each of the three phases.
- Provide 3 bid recommendation letters.

25. Post-Design Services (Optional Item)

Phase 1-Given the potential long duration of the project; we propose post design services for Phase allowance for the first of the three phases only. Services for other phases in subsequent years will be based on the actual needs as determined in Phase 1 and will be negotiated as additional services at that time with the then current rates. Post design services include shop drawing reviews, response to requests of information and attendance at meetings when required. The City will hire a separate CEI consultant to provide construction administration services.

26. Structural and Drainage Design and Plans to Upsize up to 39 Drainage Outfalls (Optional Item)

Structural and Drainage Design

- Review provided City as-builts and survey data to establish understanding of existing outfall and seawall site conditions
- Conduct a field observation to review general conditions of the wall adjacent to each existing outfall requiring replacement and/or upsizing.
- Develop up to three preliminary outfall concepts for general discussion and coordination with City and drainage engineer for outfall replacement at the seawall. Concepts will be used to obtain decision from stakeholders on path-forward for construction documents. Provide structural consulting for upland pipe routing adjacent to residences.
- Develop up to three different outfall details and unique site conditions for replacement of the existing wall penetration. Details will assume that the existing wall can remain in place and are in good acceptable condition and structurally stable and will not require a full replacement. Assumes outfalls will be within 12 inches in diameter/ size as the original outfall sizes. Design does not include any replacement of private upland features or appurtenances such as pools, retaining walls, patios, buildings, etc.
- Meetings with client and stakeholders on site or at City offices. Up to three (3) meetings are estimated for coordination.
- Drainage Design - Provide drainage structure design and plans to upsize existing outfalls (up to 39 outfalls). Review existing pipe conditions and survey information of all outfalls. Coordinate design and plans with structural engineer, environmental permitting engineer and permitting agencies. Prepare drainage plans with plan view indicating drainage pipe replacement, restoration and referencing applicable structural details.

- Since new seawalls are not proposed, geotechnical testing is not anticipated for seawall repairs to accommodate upsized outfalls and are not included in this scope.

Environmental Permitting

- SFWMD additional permitting - Provide additional permitting effort related to increased discharge from larger outfall pipes. Provide water quality measures such Stormceptors, etc.
- FDEP permitting - Provide FDEP permitting coordination for seawall restoration
- U.S. Army Corps permitting - Prepare Corps permit application
- Seagrass survey - Provide Seagrass survey at each outfall for up to 39 outfalls. Update grass survey after one year, once for phases 2 and another for Phase 3

lll. ASSUMPTIONS

Work described herein is based upon the assumptions listed below. If conditions differ from those assumed in a manner that will affect schedule of Scope of Work, Consultant shall advise City in writing of the magnitude of the required adjustments. Changes in completion schedule or compensation to Consultant will be negotiated with City.

1. The entire project will be designed as one, then 3 phases will be identified with phase lines to split the plans into 3 bid packages.
2. Kimley-Horn's proprietary, PublicCoordinate, software application has an annual user fee and will be provided for 3 years.
3. All streetlights will be handled and installed by FPL.
4. All existing sanitary laterals shall be lined to avoid muck disturbance.
5. Signing and Pavement Markings will be the responsibility of the contractor to re-establish existing configuration.
6. City will provide access to private properties to field verify outfalls.
7. Design assumes that the existing sea walls can remain in place and are in good condition and structurally stable and will not require a full replacement.
8. Outfalls will be within 12 inches in diameter / size of the original outfall sizes.
9. Design does not include any replacement of upland features or appurtenances such as pools, retaining walls, patios, buildings, etc.

IV. ADDITIONAL SERVICES

The following services are considered additional services:

1. Construction phase post design and bidding services beyond those specifically included in the scope and budget will be negotiated at a later time
2. Increasing the number of project phases from three phases
3. Any sea wall analysis or design
4. Engineering design and plans of pump systems
5. Engineering design and plans for water main replacement other than the areas noted in this scope.
6. Signing and Pavement Marking design and plans
7. Street Lighting Design and Photometrics
8. Details to address upland features or appurtenances related to drainage outfall modifications.
9. Structural design beyond what is noted in the scope above.

V. GENERAL REQUIREMENTS FOR WORK

Data Collection:

- Drainage structures and additional misc. survey
- Video pipe inspection

Design Concepts:

Roadway and Driveway design concepts

- Kick-off meeting
- Submit draft concept typical sections, roadway profiles, driveway grading for City approvals
- Develop preliminary profile design for all raised streets
- Conduct stormwater analysis / modeling based on proposed profiles
- Review profile and stormwater modeling results with City
- Project management meetings and coordination

Design Development:

30% Phase Submittal

- 30% Roadway Plan Submittal to City
- Review pipe inspection results and provide recommendations
- Attend meetings with various internal City departments
- Address City comments from design concept phase
- Street profile design
- Prepare OPC
- Conduct additional geotechnical investigation
- Pavement design recommendations
- Stormwater recommendations

- Progress HOA Meeting
- Project management

Construction Documents:

60% Phase Submittal

- 60% Plan Submittal to City
- Address City's 30% Phase review comments
- Meetings with City
- Prepare draft traffic management plan
- Prepare draft project phasing plan
- Prepare streetlight photometric plan
- Update OPC
- Technical specifications Outline
- Community outreach and Progress HOA Meeting
- Project management

90% Phase Submittal

- 90% Plan Submittal to City
- Address City's 60% Phase review comments
- Submit applications to permit agencies
- Update OPC
- Community outreach and Progress HOA Meeting
- Project management
- Technical specifications

100% (Final) Phase Submittal

- 100% Plan Submittal to City
- Technical specifications
- Address permit package comments
- Address City's 90% review comments
- Update OPC
- Final design documentation report
- Community outreach
- Project management

Bid Phase Assistance

- Provide signed and sealed plans
- Assist City with preparation of Bid Tab for use with BidSync
- Attend Prebid meeting
- Respond to RFIs
- Assist the City to prepare bid tabulation in cooperation with City's Purchasing Dept.

Plan sheet list for one project set with phase lines to delineate three (3) project phases

The number of plan sheets will be provided as required. The sheet numbers below are shown only for estimation purposes.

Roadway

- Key sheet
- Summary of quantities sheet
- Existing Conditions sheets
- Demolition sheets
- Drainage Map sheets - Existing and proposed plan views
- Typical section sheets
- Typical section detail sheets
- General notes sheets
- Pay item notes sheets
- Project layout sheets
- Plan sheets per phase
- Profile sheets
- Driveway and lot grading detail sheets - 2 homes/ 4 driveways per sht.
- Special detail sheets
- Cross section sheets
- Drainage structure sheets
- Traffic management plan sheets
- Excavation and backfill spoils management plan
- Project phasing plan
- Utility Verification sheet (SUE)
- Project control sheets (Horizontal, vertical)
- Erosion control plans
- Stormwater pollution prevention plans (SWPPP)

Signing and pavement marking (not included)

- Only a note will be provided as indicated by the City

Street Lighting

- N/A since FPL will provide as indicated by the City

Utilities (Water and Sewer)

- Key sheet
- Summary of quantities
- General notes / plan specifications
- Plan sheets Single Plan/Profile
- Detail sheets

VI. TIME OF PERFORMANCE

Kimley-Horn will provide our services according to a mutually agreed upon schedule. Once notice to proceed is provide the CONSULTANT will prepare a project schedule (Gantt chart style) to encompass major project milestones and task durations for City review and approval. It is assumed the City will need 14-days for review comments when draft materials are submitted for review and 14 days for progress plan submittal reviews.

Due to the everchanging circumstances surrounding the COVID-19 Virus, situations may arise during the performance of this Agreement that affect availability of resources and staff of Kimley-Horn, the client, other consultants, and public agencies. There could be changes in anticipated delivery times, jurisdictional approvals, and project costs. Kimley-Horn will exercise reasonable efforts to overcome the challenges presented by current circumstances, but Kimley-Horn will not be liable to Client for any delays, expenses, losses, or damages of any kind arising out of the impact of the COVID-19 Virus.

Changes in schedule due to unforeseen circumstances (COVID or otherwise) will be presented to the City for review and approval with an updated schedule and notes describing the changes.

VII. COMPENSATION

Kimley-Horn will perform the services in Tasks 1 - 24 for the total lump sum fee shown in the attached fee sheet. Task 26 will be performed as an optional service for the lump sum fee shown in the attached fee sheet. Remaining Optional Services will be performed on a labor fee plus expense (unit) basis with the maximum labor fee shown in the attached fee breakdown. Kimley-Horn will not exceed the total maximum labor fee shown without authorization from the Client. Individual task amounts are informational only. Refer to attached Estimated Effort Proposal for summary of estimated staff hours and expenses. Lump sum fees will be invoiced monthly based upon the overall percentage of services performed including percent of labor direct expense shown in the attached fee sheet. All permitting, application and similar project fees will be paid from an allowance provided by the City. Any permitting, application and similar project fees that exceed the provided allowance will be paid directly by the Client.

EXHIBIT B
Estimated Effort Proposal - Delray Beach
Tropic Isle Improvements Project - Phase II

	TASKS	Kimley-Horn Staff							Subconsultants			
		Principal/ Project Manager	Principal Engineer	Professional	Project Engineer	Analyst I	Senior Design	Support Staff	SHENANDOAH	Total Hours	Labor Cost	Total Cost
	Hourly Billing Rate	$285.00	$215.00	$195.00	$169.00	$135.00	$150.00	$87.00				
1	Data Collection and Coordination										-	$ -
2	Design Survey Services	2	16			12				30	5,630	$ 5,630
3	Geotechnical Engineeing Services & Analysis	2	8							10	2,290	$ 2,290
4	Condition Assesment of Sanitary Sewer		4		12	24				40	6,128	$ 6,128
5	Video Pipe Inspection and Condition Assesment of Storm Sewer		12		18	94	24	2	$ 47,600	150	22,086	$ 69,686
6	Subsurface Utility Exploration (SUE)	4	16		40					60	11,340	$ 11,340
7	Basin Drainage	34	180	88	140	184				626	114,050	$ 114,050
8	Roadway Engineering Design	207	948		1758	1495	872			5279	892,397	$ 892,397
9	Drainage Design	107	324	39	870	190	90			1619	293,730	$ 293,730
10	Environmental Permitting	27	55	110	94	53				339	64,040	$ 64,040
11	Signing and Pavement Marking (SPM)										-	$ -
12	City Utility Improvements	200			387	1709	934	4		3234	493,566	$ 493,566
13	Street Lighting (by FPL)										-	$ -
14	Landscape, Hardscape Assessment		12		8					20	3,932	$ 3,932
15	Project Phasing Plan Analysis	12	54		72					138	27,198	$ 27,198
16	Excavation and Backfill Spoils Management Plan Analysis	14	14	36	56					120	23,484	$ 23,484
17	Traffic Management Plan Analysis	14	52	8	26	76				176	31,384	$ 31,384
18	Franchise Utility Coordination	11	121		197	124				452	78,991	$ 78,991
19	Community Outreach	46	141	42	162		120	40		551	100,387	$ 100,387
20	Opinion of Probable Construction Cost	5	27		56	164		6		258	39,356	$ 39,356
21	Design Documentation Report		8		32	12		12		64	9,792	$ 9,792
22	Project Management	72	88	16						176	42,560	$ 42,560
23	Technical Specifications (1 draft & final for 3 contracts)	10	38		88	34		12		182	31,526	$ 31,526
24	Bid Phase Services (3 bids) / contracts)	16	78		16			16		126	25,426	$ 25,426

EXHIBIT B
Estimated Effort Proposal - Delray Beach
Tropic Isle Improvements Project - Phase II

TASKS	Kimley-Horn Staff							Subconsultants			
	Principal/ Project Manager	Principal Engineer	Professional	Project Engineer	Analyst I	Senior Design	Support Staff	SHENANDOAH	Total Hours	Labor Cost	Total Cost
Hourly Billing Rate	$285.00	$215.00	$195.00	$169.00	$135.00	$150.00	$87.00				
TOTAL HOURS	**783**	**2195**	**339**	**4031**	**4171**	**2040**	**92**		**13650**		
Subtotals	$ 223,013	$ 471,914	$ 66,105	$ 681,256	$ 563,031	$ 305,970	$ 8,004	$ 47,600		**$ 2,319,293**	**$ 2,366,893**
DIRECT EXPENSES 4.6% OF LABOR											**$ 106,687**
KH PUBLIC COORDINATE / WEBSITE APPLICATION (FOR 3 YEARS)											**$ 2,500**
PROVIDE PUBLIC COORDINATE SURVEY FEATURE											**$ 450**
SUBCONSULTANT COORD. & MARKUP 10 %											**$ 63,243**
LUMP SUM TOTAL COST											**$ 2,539,773**

OPTIONAL TASKS

Drainage and Structural Design Analysis & plans, to upsize up to 39 outfalls & sea wall restoration											**$ 178,655**
	Review as-built and coord. survey data	2	4		8					14	$ 2,782.00	
	Field Observations by Structures Engineer		12		40					52	$ 9,340.00	
	Outfall Concepts (up to 3 typical concepts)	4	8		24					36	$ 6,916.00	
	Develop (up to 3) Outfall Structural Details	8	24		48					80	$ 15,552.00	
	Meetings and Coordination	12	12		12					36	$ 8,028.00	
	Drainage Design Details/Const. Plans for Outfalls (up to 39)	39	8		195					242	$ 45,790.00	
	Permitting Plans	4	16			45				65	$ 10,655.00	
	Comment Resoution	4	8			60				72	$ 10,960.00	
	SFWMD Additional Permitting		12	40		8				60	$ 11,460.00	
	FDEP Permitting		8	28		24				60	$ 10,420.00	
	US Army Corps Permitting		16	60		20				96	$ 17,840.00	
	Seagrass Survey Initial for 39 outfalls			60	12					72	$ 13,728.00	
	Seagrass Survey Phase 2 update			32	8					40	$ 7,592.00	
	Seagrass Survey Phase 3 update			32	8					40	$ 7,592.00	

EXHIBIT B
Estimated Effort Proposal - Delray Beach
Tropic Isle Improvements Project - Phase II

TASKS	Kimley-Horn Staff							Subconsultants			
	Principal/ Project Manager	Principal Engineer	Professional	Project Engineer	Analyst I	Senior Design	Support Staff	SHENANDOAH			
Hourly Billing Rate	$285.00	$215.00	$195.00	$169.00	$135.00	$150.00	$87.00		Total Hours	Labor Cost	Total Cost
Geotechnical Investigation & Borings (see sub rates)											$ 10,500
Optional Miscellaneous Survey Services (see sub. rates)											$ 55,930
Allowance (Permits and Application Fees)											$ 8,950
Optional Allowance Subsurface Utility Exploration SUE (see sub. rates)											$ 90,000
Allowance Post Design Services (Initial for Phase 1)											$ 25,000
DIRECT EXPENSES 4.6% OF LABOR											$ 16,976
OPTIONAL SERVICES (On As Needed Basis with Client Approval) TOTAL COST											$ 386,011
TOTAL PROJECT											$ 2,925,784

CRAIG A. SMITH & ASSOCIATES

PROPOSED SCOPE OF SERVICES AND PROPOSED FEE

FOR

PROFESSIONAL SURVEYING AND UTILITY LOCATING SERVICES

AT

TROPICAL ISLE – UTILITY LOCATIONS
CITY OF DELRAY BEACH
PALM BEACH COUNTY, FLORIDA

DATED: February 7, 2022
REVISED: March 1, 2022

CRAIG A. SMITH & ASSOCIATES
Engineers•Surveyors•Utility Locators•Grant Specialists
21045 COMMERCIAL TRAIL, BOCA RATON, FL 33486
(561) 314-4445 FAX (561) 314-4458
EMAIL: BKEENER@CRAIGASMITH.COM

CRAIG A. SMITH & ASSOCIATES

PROPOSED SCOPE OF SERVICES AND PROPOSED FEE
FOR
PROFESSIONAL SURVEYING AND UTILITY LOCATING SERVICES

PROJECT NAME: Tropical Isle Utility Locations
City of Delray Beach, Palm Beach County, Florida

PROPOSAL NUMBER: 22-9999-P4264

PROJECT DESCRIPTION: Map of Specific Purpose Survey

PROJECT PLANS: N/A

CLIENT: Kimley - Horn

Name: Mr. Marwan Mufleh, PE
Principal

Address: 1920 Wekiva Way, Suite 200
West Palm Beach, Florida 33411

Phone: 561-840-0850

E-Mail: Marwan.mufleh@kimley-horn.com

GENERAL :
Craig A. Smith and Associates (CAS) propose to accomplish the professional surveying services for the above project as outlined in this proposal. When the parties have agreed upon the details of the services to be provided, the fees to be paid for the services, and sign this proposal, this proposal will become a formal written agreement. CAS proposes to accomplish the services as follows:

S86 MAP OF SPECIFIC PURPOSE SURVEY
Utility test holes (soft digs) will be performed, and reports provided for each with utility depth, elevation, size, material, and type by the Utility Locates Department. Up to 200 vacuum excavation test holes (pervious) will be included based on the direction of the prime consultant. The Survey Department shall locate each test hole and provide a Base map (Cad file) showing the Test Hole number, a short line of the utility for direction and the

reference elevation. An FDOT style utility table will also be created including the test hole number, northing, easting, utility type, size, material, and top of pipe elevation as provided by the utility locators. This information will all be included in a Map of Specific Purpose Survey. Horizontal data will be based on the Florida State Plane Coordinate Grid System (1983/2011 adjustment) and vertical data will be based on North American Vertical Datum of 1988 (NAVD '88) unless otherwise directed. The information will be added to a base map created for the project in current software parameters and provided to the Engineering Consultant as well as said Map of Specific Purpose Survey for submittal to entities of interest.

UNIT PRICE $450.00 PER HOLE
TOTAL = $90,000.00

FEE TOTAL

The fee for items **S86** listed above will be **NINETY THOUSAND AND 00/100 DOLLARS ($90,000.00)**. Any service not specifically included in the Final Agreement will be considered as an Additional Service. CAS will accomplish Additional Services upon proper written authorization from the CLIENT. The fees for Additional Services are at a mutually agreed upon Lump Sum Fee:

If you are in agreement with the above scope of services and the terms, please sign in the authorization space provided below and return one (1) executed copy of this proposal to our Boca Raton office so that we can proceed. Should you have any questions or need additional information, please do not hesitate to call.

AGREED TO AND ACCEPTED BY:

CRAIG A. SMITH & ASSOCIATES

Robert D. Keener

Robert D. Keener, PSM
Vice President

Signature

Name of Authorized Representative

Title

Date

KEITH
Engineering Inspired Design.

CONTRACT ADDENDUM

May 5, 2022 **Revised**

Marwan Mufleh, PE, Principal
Kimley-Horn
1920 Wekiva Way, Suite 200
West Palm Beach, FL 33411
Phone: 561-840-0850
Cell: 954-815-6898
E-mail: Marwan.Mufleh@kimley-horn.com

Project Name: Tropic Isle Roadways
Project Location: Delray Beach, FL
KEITH Project Number 11201.00
Contract Addendum: CA 1
Project Manager: Donald Spicer

DESCRIPTION OF ADDITIONAL SERVICES

Task 102 As-Built Storm Sewer Structures (up to 180 Structures)
KEITH shall provide Storm Drainage Structure details on the Topographic Survey prepared by KEITH that includes pipe size, inverts, pipe material, and bottom of structure elevation of all structures on previously surveyed streets and to include additional structures (2) located at 2018 Spanish Trail. Approximately 180 structures. This fee includes minimal time for coordinating with City staff to obtain access to drainage structures, if substantial time in required for this coordination, KEITH shall negotiate an additional fee.

Task 103 Roadway Spot Elevations
KEITH shall provide spot elevations along roadways from Florida Blvd. to US-1 to establish analysis of street profiles. Roadways to be measured are Tropic Isle Drive, Avenue L, Lamat Avenue, and Tropic Blvd.

Task 104 Optional: Miscellaneous Survey Services
KEITH shall provide additional survey services to include miscellaneous field work and office support for approximately one week (40 hours), to be performed on a per request basis. If additional time is required, KEITH shall negotiate an additional fee.

Task 105 As-Built Sanitary Sewer Structures (up to 40 Structures)
KEITH shall provide Sanitary Sewer Structure details the Topographic Survey prepared by KEITH that includes pipe size, inverts, pipe material, and bottom of structure elevation of up to forty (40) structures (locations to be determined). This fee includes minimal time for coordinating with City staff to obtain access to sanitary sewer structures, if substantial time in required for this coordination, KEITH shall negotiate an additional fee.

Task 106 As-Built Storm Sewer Outfalls (up to 39 Structures)
KEITH shall provide Storm Drainage Outfall details on the Topographic Survey prepared by KEITH that includes pipe size, invert, top of seawall elevation, ground elevation at back of seawall, and bottom elevation at base of seawall of 39 structures. This fee is based on the City staff informing property owners of the need for and receiving access to the outfalls, either from the front of the property or from the adjacent waterways. This fee includes minimal time for coordinating with City staff to obtain access to drainage outfalls, if substantial time in required for this coordination, KEITH shall negotiate an additional fee.

SCHEDULE

Task 102	As-Built Storm Sewer Structures	6-8 weeks
Task 103	Roadway Spot Elevations	3 weeks
Task 104	Optional Miscellaneous Survey Services	As Requested
Task 105	As-Built Sanitary Sewer Structures	4 weeks
Task 106	As-Built Storm Sewer Outfalls	6-8 weeks

Schedule Disclaimer:
Considering the ongoing outbreak of the Coronavirus 2019 (COVID-19), KEITH remains fully committed to pursuing the completion of our work in a safe, diligent, and reasonable manner under the current circumstances based on the schedule provided. It is possible that we will encounter certain delays because of this pandemic. Potential impacts may include, but are not limited to, labor shortages due to mandated quarantine regulations, material shortages and significant delays in lead times because of factory closings across the globe. We will continue to monitor the situation and advise of any delays resulting from the impacts of the current worldwide health scenario.

COMPENSATION

Task 102	As-Built Storm Sewer Structures	($100.00 per structure) $18,000.00 Hourly/NTE
Task 103	Roadway Spot Elevations	($195.00 per hour) $4,680.00 Hourly/NTE
Task 104	Optional Miscellaneous Survey Services	($195.00 per hour) $7,800.00 Hourly/NTE
Task 105	As-Built Sanitary Sewer Structures	($100.00 per structure) $4,000.00 Hourly/NTE
Task 106	As-Built Storm Sewer Outfalls	($550.00 per structure) $21,450.00 Hourly/NTE

Total Fee **$55,930 Hourly/NTE**

Note: Fees above are based on $195.00 per hour for 2-person survey crew (with associated office support). Fee for Task 106 is based on $215.00 per hour for 3-person survey crew (with associated office support and boat rental fees).

The CLIENT is required to execute this Addendum and return it to the CONSULTANT prior to commencement of the additional services described herein. All items, terms, and conditions of the original Agreement (as amended to include the scope defined herein) remain unchanged and in full force and effect.

IN WITNESS WHEREOF, CONSULTANT and CLIENT have executed this agreement the day and year indicated below.

As to CONSULTANT
KEITH

_____

Alex Lazowick

President

DATED:_____

As to CLIENT
Kimley-Horn

Signature:_____

Print Name:_____

Title:_____

DATED:_____

SHENANDOAH
Pipe Inspection & Restoration Specialist
1888 NW 22nd Street
(954) 975-0098
Pompano Beach, FL, 33069
shenandoahus.com

DATE: August 10, 2021 PROPOSAL #P22722
SUBMITTED TO: Kimley-Horn & Associates, Inc. - WPB
STREET: 1920 Wekiva WaySuite 200
CITY, STATE & ZIP: WPB, FL 33411
PHONE: (561) 845-0665
FAX: (561) 863-8175
EMAIL: Tom.Jensen@kimley-horn.com
JOB NAME: Tropic Isles - Drainage Cleaning
ATTENTION: Thomas Jensen

We propose to furnish a crew and all necessary equipment to bag pump down clean and televise drainage as highlighted on plans. We will need access to back yards. Cleaning and televising to consist of 37 Lf of 10" , 3097 Lf of 12" , 4736 Lf of 15" , 1677 Lf of 18" , 1554 Lf of 24" , 72 Lf of 30" , 238 Lf of 36" , 435 Lf of 42" , 208 Lf of 48" , 182 Lf of 12" X 24" and 145 Lf of 14" X 23" Total 12,381 Lf at the above mentioned job location. This work will be performed at our following hourly and/or unit prices:

TV Vac Combo includes bags, pump and pickup	(at $4,400.00 Per Day)	10 day(s)	$44,000.00
Disposal	(at $360.00 Each)	10 Each	$3,600.00
Estimated Total:			**$47,600.00**

NOTE: This proposal includes removal of all loose debris from the structures and pipes (excluding hazardous waste), if non-hazardous contaminated liquids or soils are encountered, such as oil, gas, fuel, hydraulic oil, etc., the customer will be required to have the material analyzed, by an approved lab, then approved by a disposal facility, prior to Shenandoah transporting and disposing of the material, additional cost for specialty hauling and disposal will be applied to the invoice, along with documented receipt. However, we are not responsible for problems occurring during or after cleaning due to pre-existing condition, original installation or design.

This proposal may be withdrawn if not accepted within 30 days. Payment terms net 30 days.
(If we encounter an Insurance compliance fee requirement, this fee will be invoiced in addition to the above rates.)

All material is guaranteed to be as specified. All work to be completed in a workmanlike manner according to standard practices. Price above is only an estimate of foreseen conditions. Unforeseen conditions can affect the amount of time to complete the work, therefore increasing or decreasing estimate. All agreements are contingent upon strikes, accidents or delays beyond our control. Unless noted above engineering, permits, testing and bonds are not included in the pricing. Owner is to carry fire, tornado and other necessary insurance. Our workers are fully covered by Workman's Compensation Insurance. Parties to this proposal/contract expressly waive all tort claims against each other and limit their remedies to breach of contract.

SIGNATURE:

SHENANDOAH GENERAL CONSTRUCTION CO.	TITLE	DATE
Jose Vera	Estimator	08/10/2021

ACCEPTANCE OF PROPOSAL / SIGN & RETURN

The above prices, specification and conditions are satisfactory and are hereby accepted. You are authorized to do the work as specified.

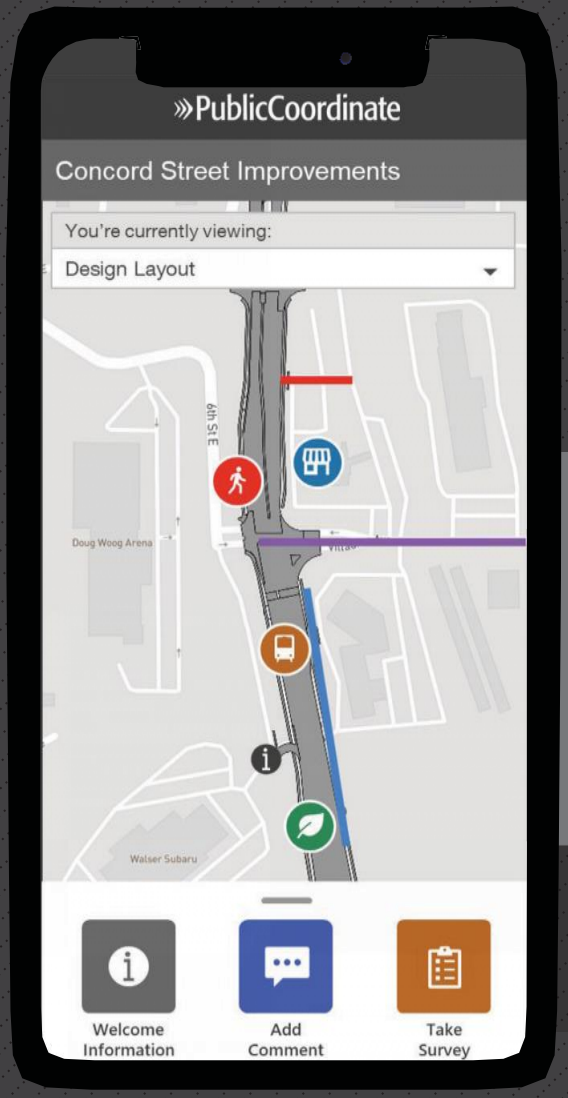
SIGNATURE: _____

COMPANY NAME: DATE:
REPRESENTATIVE: TITLE:

»PublicCoordinate

Leverage diverse perspectives to guide your project to success.

PublicCoordinate shares project information with the public and gathers comments/feedback online and interactively in a user-friendly map-based platform.



PUBLIC-FRIENDLY

- Map text can be translated to multiple languages
- Customizable welcome text box provides instructions to map users
- Mobile-, tablet-, and desktop-friendly interface
- Meets web accessibility guidelines that state and federal agencies are required to adhere to, unlike most other platforms

SECURE

- Increased security with reCAPTCHA box and optional email address requirement in order to post a comment to prevent spam comments
- Built-in prohibited words list restricts the usage of inappropriate words in the comments

CUSTOMIZABLE

- Offers multiple comment types, including point-specific comments and drawing a route
- Integrates seamlessly with SurveyMonkey to display custom surveys within the map sidebar
- Provides the ability to toggle between multiple underlying base maps including aerial, street, and custom base maps
- Custom branding to show project/client logos and display the project name

EFFICIENT

- Provides the ability to toggle between multiple project alternatives/phases in one map and automatically assigns comments to specific project alternative/phase
- Exports formatted reports on activity and comments with summary analytics on comments and types

Kimley»Horn

WHY PublicCoordinate

ACCESSIBILITY

It provides more features than most interactive mapping platforms, such as meeting ADA web accessibility and language translation

STREAMLINED PROCESS

Thanks to integrated survey and comment exporting features, the process for soliciting and summarizing public feedback is easy and streamlined

FULLY CUSTOMIZABLE

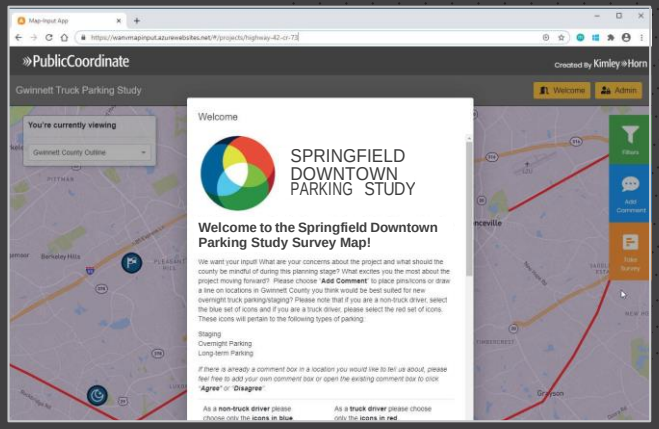
If there is a feature the map doesn't provide, it can be customized to meet client requests

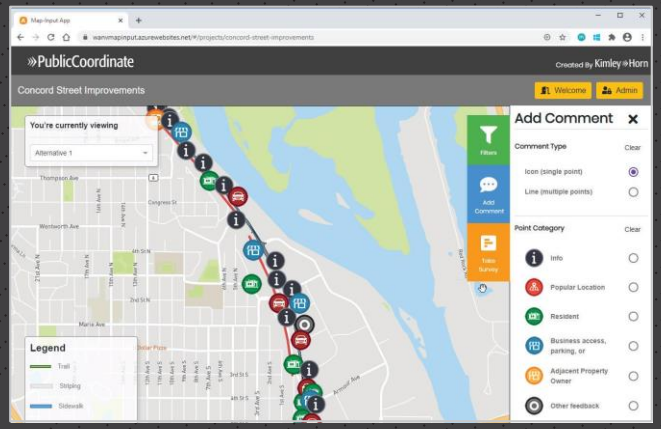
IN-HOUSE SUPPORT

Since Kimley-Horn develops and maintains the mapping software, it is reliable and any issues that arise can be resolved quickly

AFFORDABLE

PublicCoordinate is more affordable and efficient than many other mapping tools





WHEN SHOULD I USE PublicCoordinate?

This map can be used for a wide variety projects and is a great tool whether you seek to solicit input on a municipal project with multiple alternatives or share development information on a private project.

Common uses include seeking input on:

- Existing conditions for a project area
- Project goals and site constraints before a design has been determined
- Preliminary design phase with one or multiple alternatives
- Construction plans/ phasing
- Final design
- Transit corridor project
- Long-range, regional, or statewide plans
- Project planning

EMAIL
admin@publiccoordinate.com
for more information!
WWW.PUBLICCOORDINATE.COM

»PublicCoordinate Kimley»Horn

August 20, 2021

Kimley-Horn and Associates, Inc.
1920 Wekiva Way, Suite 200
West Palm Beach, FL 33411

Attn: Mr. Marwan Mufleh, P.E.
P: (561) 840-0850
E: Marwan.Mufleh@kimley-horn.com

Re: Proposal for Supplemental Geotechnical Engineer Services
Tropic Isles Neighborhood Improvements, Final Design
Delray Beach
Palm Beach County, Florida
Terracon Project No. HD195088

Dear Mr. Mufleh:

Terracon Consultants, Inc. (Terracon) is pleased to submit this proposal to provide Geotechnic al Engineer services for the above-referenced project. The scope of work described in this work assignment is based on a request by Kimley Horn and Associates, Inc.

A. PROJECT INFORMATION

The project will consist of construction of improvements to the Tropic Isle neighborhood including pavement rehabilitation, raising of roadway grades to reduce flooding potential and installing different underground utilities including water, drainage, sanitary, cable, phone, electric and/or irrigation lines. Drainage pipes could bottom as deep as about 8 feet below grade with associated manhole structures potentially bearing at about 10 feet deep. Approximately 6 miles of roadway and underground utilities are under consideration for improvement.

Terracon has performed subsurface exploration at the site and issued Geotechnical Engineering Reports for the planned improvements (reports dated May 2, 2019 and June 18, 2021). The subsurface exploration disclosed buried muck/peat, which will compress and lead to potentially unacceptable settlements if new grades are higher than existing grades, unless lightweight fill is used to replace some of the near surface soils. As a result, final design of the planned improvements by Kimley Horn and Associates, Inc. will need to include lightweight fill where grades will be raised.

B. SCOPE OF SERVICES

Based on our discussions with Kimley-Horn and Associates, Inc. and our understanding of projec t requirements, we propose to provide the following services for final design of the site improvements:

Additional Standard Penetration Test Borings: To better approximate the lateral limits of the buried muck/peat onsite along the roads that will have their grades raised, we will drill eight additional Standard Penetration Test Borings at the locations shown on the attached plan. The borings will be drilled with continuous sampling to depths of 10 to 14 feet below grade in accordance with the table below.

Boring	Planned Boring Depth (feet) [1]	Planned Location
TB-59	14	Eve Street
TB-60	10	Bolender Drive
TB-61	10	Allamanda Drive
TB-62	10	Cypress Drive
TB-63	10	Dogwood Drive
TB-64	14	Gardenia Drive
TB-65	14	Hyacinth Drive
TB-66	10	Spanish Trail

1. Below ground surface

We will field mark the boring locations, and contact the Sunshine State One Call of Florida (SSOCOF) for the clearance of public utilities. Since the work will be within existing residential roadways, a maintenance of traffic plan will be developed and implemented in order to limit impacts to local traffic, and to provide a safe working zone. Once underground utility clearanc e is obtained we will mobilize a truck-mounted drilling rig and drill the eight borings.

The borings will be advanced using mud rotary methods and samples of the subsurface materials will be obtained at frequent vertical intervals in accordance with procedures outlined in ASTM D 1586 (the Standard Penetration Test). We will observe and record groundwater levels during drilling. Once the samples have been collected and classified in the field, they will be placed in appropriate sample containers for transport to our laboratory. The boreholes will be backfilled with gravel or bentonite chips, followed by dry Sakrete and then surfaced with cold-patch asphalt mix.

We have assumed that we are not responsible for location of underground utilities beyond contacting SSOCOF locate service. Location of private lines is not part of the SSOCOF and is NOT included in the Terracon scope.

Engineering Evaluation: We will prepare a Geotechnical Engineering Report that includes the results of the subsurface exploration and a table of values for the depths and/or elevations for the top and bottom of the lightweight fill for different cases of raised grade for Kimley Horn and Associates, Inc. to finalize their design plans. The tables will be developed for pavement areas and for green landscaping areas. In order to develop the tables we will need Kimley Horn and Associates, Inc. to provide the final design pavement section and the maximum height of grade raising that will be required.

For areas that will not have grades raised we will provide information for Kimley Horn and Associates, Inc. to design the Full Depth Reclamation pavement section including the anticipated structural number coefficient for the reclaimed base and the anticipated subgrade modulus.

Review of Plans and Specifications: We will review project plans and specifications for consistency with our geotechnical engineering recommendations in the June 2021 Geotechnic al Engineering Report and the table of lightweight fill levels. For the Full Depth Asphalt Reclamation we will prepare draft specifications for review by Kimley Horn and Associates, Inc.

C. COMPENSATION & PROJECT SCHEDULE

Compensation

We will complete the scope of geotechnical services for a lump sum fee of $10,500.

Project Schedule

We developed a schedule to complete the Scope of Services based upon our existing availabilit y and understanding of your project schedule. However, this does not account for delays in field exploration beyond our control, such as weather conditions, permit delays, or lack of permission to access the boring locations. In the event the schedule provided is inconsistent with your needs , please contact us so we may consider alternatives.

Delivery	Posting Date from Notice to Proceed
Project Planning	1 week
Subsurface Exploration Results	4 weeks
Geotechnical Engineering Report	6 weeks

D. AUTHORIZATION

Your authorization for Terracon to proceed in accordance with this change order proposal can be issued by sending us your authorization including this proposal as an attachment.

We appreciate the opportunity to be part of your team on this project. Please contact us if you have questions or comments regarding this change order proposal.

Sincerely,
Terracon Consultants, Inc.

Jaime Velez, P.E.
Senior Geotechnical Engineer

Douglas S. Dunkelberger, P.E.
Principal

Attachments:

Site Location Plan
Exploration Plan (North Half)
Exploration Plan (South Half)

SITE LOCATION

Tropic Isle Neighborhood Improvements ■ Delray Beach, FL
August 17, 2021 ■ Terracon Project No. HD195088

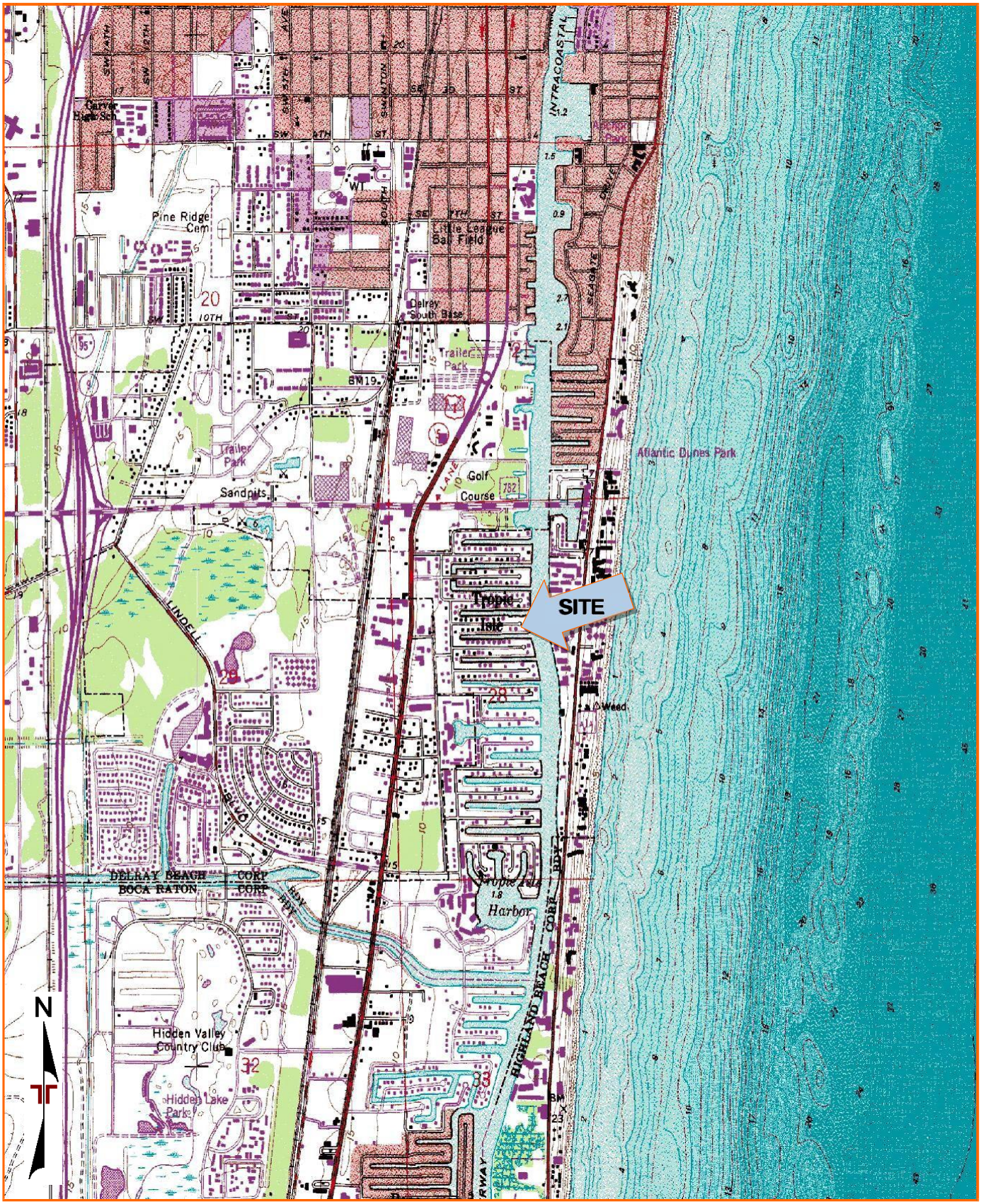


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY
QUADRANGLES INCLUDE: DELRAY BEACH, FL (1/1/1983).

EXPLORATION PLAN (NORTH HALF)

Tropic Isle Neighborhood Improvements ■ Delray Beach, FL
August 17, 2021 ■ Terracon Project No. HD195088

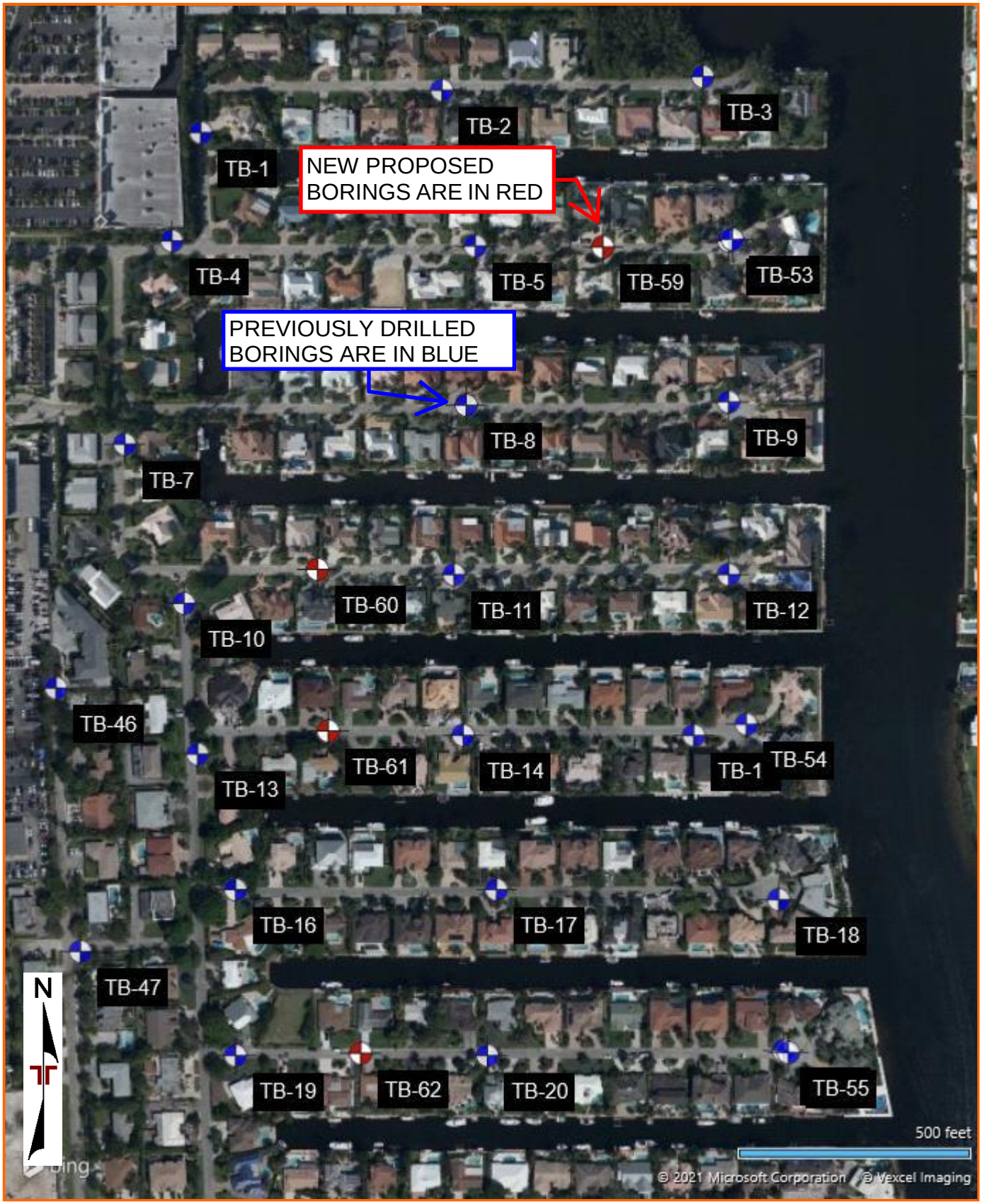
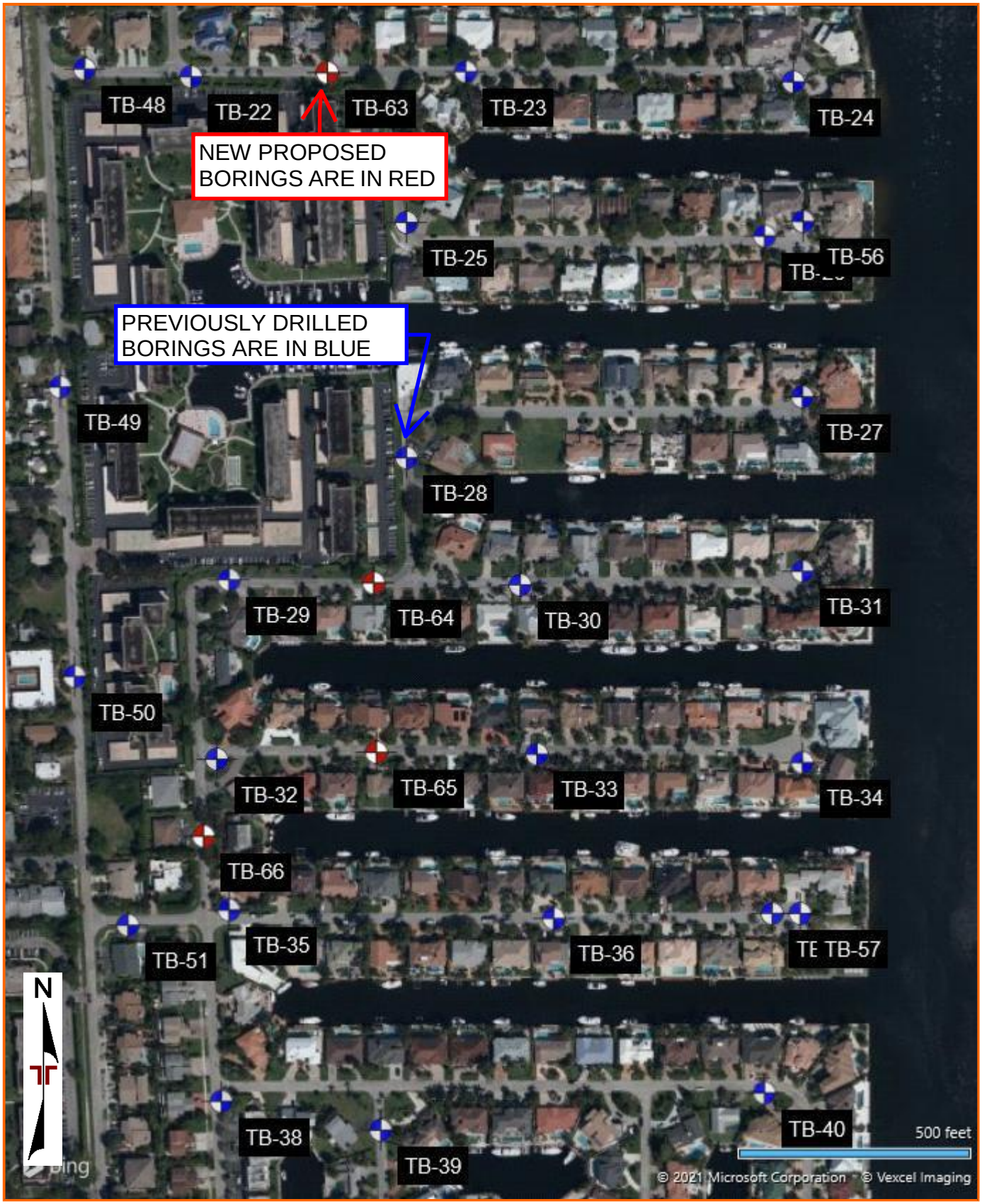


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

AERIAL PHOTOGRAPHY PROVIDED BY MICROSOFT BING MAPS

EXPLORATION PLAN (SOUTH HALF)

Tropic Isle Neighborhood Improvements ■ Delray Beach, FL
August 17, 2021 ■ Terracon Project No. HD195088



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