

CONSULTANT WORK ORDER PROPOSAL

Date: December 7, 2023

Dear Mr. Santos:

Kimley-Horn and Associates, Inc. (Consultant or KHA) proposes to provide the services identified below for the project entitled “**Work Order No. 3, Vulnerability Assessment and Adaptation Plan**”, pursuant to its Professional Service Agreement with the Town of Miami Lakes (the Town) for **2021-43, Civil Engineering and Related Services**, dated **May 24th, 2022**.

I. General

Kimley-Horn will complete the Town of Miami Lakes Vulnerability Assessment Study and Adaptation Plan Project (Project) for the Town of Miami Lakes (Grantee) to include a comprehensive Vulnerability Assessment (VA) pursuant to Section 380.093, Florida Statutes (F.S.) as well as develop an Adaptation Plan and Local Mitigation Strategy. The study will meet the requirements of the State of Florida Department of Environmental Protection grant agreement No. 23PLN84. The Project will include stakeholder engagement.

II. Scope of Work

Task 1 – Kickoff Meeting and Project Management

Kimley-Horn will develop an overall project management plan and address initial actions prior to conducting a kickoff meeting. A kickoff meeting will be held with the Town to introduce team members, discuss scope of work, project schedule, and establish lines of communication and flow of information. Kimley-Horn will prepare a sign-in sheet, draft project schedule, and a project management plan presentation.

Project management activities under this task includes meetings, project communication, quality control and assurance of submittal documents. This task includes up to six (6) virtual project status meetings to discuss ongoing work product and project deliverables.

Deliverables:

- **Meeting agendas including location, date, and time of meeting**
- **Meeting sign-in sheets or attendance records with attendee names and affiliation**
- **A copy of the presentation(s) and any materials created for distribution at the meeting, as applicable**
- **Kick-off meeting minutes, which documents all decisions and agreed upon outcomes of the meeting**

Task 2 – Public Outreach Meeting #1

The Town will advertise, schedule, and host up to two (2) public outreach meetings. The purpose of the first public meeting is to allow the public to provide input during the initial data collection stages, to include input on data for analyzing potential sea level rise impacts and/or flooding, guiding factors to consider, and critical assets important to the community. Kimley-Horn will prepare the presentation in coordination with Town staff by providing information that summarize the project

and its progress. Kimley-Horn will prepare meeting minutes to summarize the comments provided during both public outreach meetings.

Deliverables:

- **Meeting agendas including location, date, and time of meeting**
- **Meeting sign-in sheets or attendance records with attendee names and affiliation**
- **A copy of the presentation(s) and any materials created for distribution at the meeting, as applicable**
- **A copy of the file or weblink of the video or audio recording from the meeting, if available.**
- **A memorandum to include attendee input and meeting outcomes.**

Task 3 – Acquire Background Data

Kimley-Horn will research and compile the data needed to perform the Vulnerability Assessment (VA), based on the requirements as defined in Section 380.093, Florida Statutes (F.S.). Kimley-Horn will solicit information from the Town and review said information for accuracy and use in the vulnerability assessment. Kimley-Horn will gather additional information to perform the vulnerability assessment and identify Critical assets as classified in s. 380.093(2) 1-4, F.S. Critical asset data will be compiled into an FDEP compliant GIS database. Kimley-Horn will conduct a data gap analysis to identify any additional data needed to perform the assessment and outline actions taken to rectify potential data gaps.

Kimley-Horn will collect the following data:

- The Miami-Dade County 5-ft Digital Elevation Model (DEM)
- NOAA 2017 SLR Projections (2040 and 2070, Intermediate-Low and Intermediate High)
- Tidal datums from NOAA Tides and Currents
- 100-Year/24-Hour and 500-Year/24-Hour rainfall projections
- Latest FEMA FIRM panels and Flood Insurance Studies

The Town is to provide the following (if available):

- Latest GIS file of the Town's boundary
- Town owned and/or maintained GIS Critical Asset Inventory, as defined in s. 380.093, F.S.
- Construction and As-Built Documents to support critical facilities listed in the statute (s. 380.093(2) 1-4, F.S)
- Flood Elevation Certificates
- Previous vulnerability studies, comprehensive plans, or stormwater master plans

Deliverables:

- **A technical report to outline the data compiled and findings of the gap analysis.**
- **A summary report to include recommendations to address the identified data gaps and actions taken to rectify them, if applicable.**
- **GIS files with appropriate metadata of the data compiled, to include locations of critical assets owned or maintained by the Grantee as well as regionally significant assets that are classified and as defined in paragraphs 380.093(2)(a)1-4, F.S.**

Task 4 – Critical and Regionally Significant Asset Inventory

Kimley-Horn, with input from the Grantee, will identify all critical and regionally significant assets meeting the definitions in s. 380.093, F.S., that are impacted by flooding and sea level rise, specifying for each asset the flood scenario(s) impacting the asset.

Deliverables:

- **A list or spreadsheet of critical and regionally significant assets that are impacted by flooding and sea level rise, prioritized by area or immediate need, which contains the critical assets attributes required by Exhibit I and identifies which flood scenario(s) impacts each asset**
- **GIS files with appropriate metadata of the data compiled, to include locations of critical assets owned or maintained by the Grantee as well as regionally significant assets that are classified and as defined in paragraphs 380.093(2)(a)1-4, F.S.**

Task 5 – Exposure Analysis

Kimley-Horn will perform an exposure analysis to identify the depth of water caused by each sea level rise, storm surge, and/or flood scenario. The water surface depths (i.e. flood scenarios) will include the following data: tidal flooding, sea level rise projections, current and future storm surge flooding, and rainfall-induced flooding. The scenarios and standards used for the exposure analysis shall be pursuant to s.380.093, F.S. GIS files and associated metadata will adhere to the Resilient Florida Program's GIS Data Standards, and raw data sources shall be defined within the associated metadata.

Fifteen (15) scenarios in total will be analyzed for critical asset vulnerability to flooding. Additional scenarios can be analyzed as an additional service. The following scenarios are to be analyzed:

- Present Day 100-year rainfall
- Present Day 500-year rainfall
- Present Day Storm Surge
- Sea Level Rise 2040 Intermediate-low projection
- Sea Level Rise 2040 Intermediate-high projection
- Sea Level Rise 2070 Intermediate-low projection
- Sea Level Rise 2070 Intermediate-high projection
- Sea Level Rise 2040 Intermediate-low projection with 100-year rainfall
- Sea Level Rise 2040 Intermediate-high projection with 100-year rainfall
- Sea Level Rise 2070 Intermediate-low projection with 100-year rainfall
- Sea Level Rise 2070 Intermediate-high projection with 100-year rainfall
- Sea Level Rise 2040 Intermediate-low projection with Storm Surge
- Sea Level Rise 2040 Intermediate-high projection with Storm Surge
- Sea Level Rise 2070 Intermediate-low projection with Storm Surge
- Sea Level Rise 2070 Intermediate-high projection with Storm Surge

Flood inundation maps will be developed for each scenario. The inundation maps will be overlaid with the critical asset layers developed in **Task 4** to identify critical infrastructure that is exposed to flooding.

Deliverables:

- **A draft Vulnerability Assessment report that provides details on the modeling process, type of models utilized, and resulting tables and maps illustrating flood depths for each flood scenario.**

- **GIS files with results of the exposure analysis for each flood scenario as well as the appropriate metadata that identifies the methods used to create the flood layers.**

Task 6 – Sensitivity Analysis

Following the Exposure Analysis task, Kimley-Horn will prepare a sensitivity assessment of the critical assets within the Town relative to the impacts of flooding and sea level rise identified in **Task 5**. A paired asset-threat matrix will be prepared based on the inundation modeling scenarios. The analysis will include an evaluation of the impact of flood severity on each asset class and at each flood scenario and assign a risk level based on percentages of land area inundated and number of critical assets affected.

Deliverables:

- **A revised draft Vulnerability Assessment report that provides details on the findings of the exposure analysis, the sensitivity analysis, and includes visual presentation of the data via maps and tables based on the statutorily-required scenarios and standards.**
- **An initial list of critical and regionally significant assets that are impacted by flooding. The list of critical and regionally significant assets will be ranked by Kimley-Horn and prioritized by the Town.**

Task 7 – Public Outreach Meeting #2

The Town will conduct a second public meeting in collaboration with Kimley-Horn to present the results from the exposure analysis, sensitivity analysis, and draft Vulnerability Assessment. The purpose of the second public meeting is to allow the public to provide community-specific input on the results of the analyses. Additionally, during this meeting, the Town will conduct exercises to encourage the public to provide feedback on ranking focus areas of flooding, and the critical assets in preparation for the development of adaptation strategies and project development.

Deliverables:

- **Public outreach meeting agendas and minutes.**
- **Meeting sign-in sheets with attendee names and affiliation.**
- **Presentation and materials created in preparation of or for distribution at the meeting.**
- **A summary memorandum to include attendee input and meeting outcomes.**

Task 8 – Identify Focus Areas

Kimley-Horn, in coordination with the Town, will identify focus areas following the guidelines in Chapter 2 of the Florida Adaptation Planning Guidebook. Based on the exposure and sensitivity analysis, the Town may assign focus areas to locations or assets that are vulnerable and require the development of adaptation strategies. Kimley-Horn will assign a risk level based on percentages of land area inundated and number of critical assets affected. A ranking of areas, as reasonably defined by topography or exposure limits, will be established based on flooding depths and potential disruption of services

Deliverables:

- **Report summarizing the areas identified as focus areas.**
- **Tables listing each focus area and those critical assets impacted within each focus area.**
- **Maps showing the location of each focus area compared to the location of all critical assets within the geographic extents of the study.**

- **GIS files and associated metadata of the identified focus areas.**

Task 9 – Final Vulnerability Assessment Report, Maps and Tables

Kimley-Horn will prepare a final Vulnerability Assessment (VA) report pursuant to the requirements in s. 380.093, F.S. The final VA report will include the results from the data collection, exposure and sensitivity analyses, as well as a summary of the identified risks and assigned focus areas. The final deliverable will contain a list of critical and regionally significant assets that are impacted by flooding and sea-level rise, specifying for each asset the flooding scenario(s) showing flooding impacts. GIS files and associated meta data will adhere to the Resilient Florida Program’s GIS data standards, and raw data sources shall be defined within the associated metadata.

Deliverables:

- **Final Vulnerability Assessment Report that provides details on the results and conclusions, including illustrations via maps and tables, based on the statutory-required scenarios and standards in s. 380.093, F.S.**
- **A final list of critical and regionally significant assets that are impacted by flooding. The list of critical and regionally significant assets will be ranked and identify which flood scenario(s) impacts each asset.**
- **All electronic mapping data used to illustrate flooding and sea level rise impacts identified in the VA, to include the geospatial data in an electronic file format and GIS metadata.**
- **A signed Vulnerability Assessment Compliance Checklist Certification.**

Task 10 – Public Presentation

Kimley-Horn, in participation with the Town, will present the final VA results to the Town council. The purpose of the presentation is to share the findings from the final VA and provide recommendations of actions for adaptation strategies and future project planning. The presentation will also inform the public of the results and the future risk of sea level rise and increased flooding and encourage community participation when identifying mitigation strategies to address the flooding vulnerabilities. The Town will prepare all social media notifications, meeting invitations. Kimley-Horn will provide meeting materials, presentation, and graphics utilized during the meeting, as applicable.

Deliverables:

- **Public presentation meeting agenda and minutes.**
- **Meeting sign-in sheets with attendee names and affiliation.**
- **Presentation and materials created in preparation of or for distribution at the meeting.**
- **A memorandum to include attendee input and meeting outcomes**

Task 11 – Local Mitigation Strategy

Kimley-Horn will coordinate with the Local Mitigation Strategy Working Group (LMSWG) to ensure the Vulnerability Assessment Report is in alignment with the existing county LMS Plan and will be utilized during the planning process of future county LMS Plan updates. Kimley-Horn will prepare one letter, to be signed by the LMSWG chair, indicating the VA will be incorporated by reference in the next LMS update. The letter will also indicate the VA will be included as an appendix to the next iteration of the LMS plan.

Deliverables:

- **A letter to the Department and FDEM Mitigation Bureau Planning Unit, signed by the LMSWG Chair, or Designee.**

Task 12 – Adaptation Plan

Kimley-Horn with assistance from the Town will develop an Adaptation Plan (AP) consistent with the Florida Adaptation Guidebook and includes the following: assessment of adaptive capacities, ranking of adaptation needs, and identification of adaptation strategies. Kimley-Horn will categorize the identified adaptation strategies and evaluate them for efficacy in implementation within the focus areas identified in **Task 8**. The AP will be presented in a case-study format with supporting maps and table, which will be included in the final vulnerability assessment report. The AP will also include a list of prioritized projects by the Town, for each asset class as defined in subsection 380.093(2), F.S., for consideration and implementation.

Deliverables:

- **Vulnerability Assessment Report to include final Adaptation Plan.**
- **Maps and tabulation of hot-spot flooding areas and associated adaptation strategies.**

III. Subconsultants

The use of subconsultants is not anticipated in the completion of this Scope of Work.

IV. Schedule of Work – Time of Performance

Consultant shall submit the deliverables and perform the Work as depicted in the tables below for each phase.

SCHEDULE OF DELIVERABLES**			
Task	Major Task, Sub-Task, Activity, or Deliverable	Duration (specify weeks or calendar days)	Delivery Date* (cumulative weeks, or calendar days)
1	Kick Off Meeting	4 weeks	1/11/2024
2	Public Outreach Meeting #1	4 weeks	2/8/2024
3	Acquire Background Data	5 weeks	3/14/2024
4	Critical and Regionally Significant Asset Inventory	5 weeks	4/18/2024
5	Exposure Analysis	8 weeks	6/13/2024
6	Sensitivity Analysis	8 weeks	8/8/2024
7	Public Outreach Meeting #2	1 week	8/15/2024
8	Identify Focus Areas	4 weeks	9/12/2024
9	Final Vulnerability Assessment Report, Maps, and Tables	10 weeks	11/21/2024
10	Public Presentation	3 weeks	12/12/2024
11	Local Mitigation Strategy	3 weeks	1/2/2025

12	Adaptation Plan	5 weeks	2/6/2025
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** An updated schedule, indicating actual delivery dates, based on the above durations, will be provided to the Town upon receipt of the NTP.*

****This schedule assumes an NTP date of 12/11/23**

Deliverables: At the completion of each task, Kimley-Horn will provide to the Town all files associated with each deliverable, as outlined in the Scope of Services.

V. Compensation

Consultant shall perform the Work detailed in this Proposal for a Total fee of Two Hundred Nineteen Thousand Nine Hundred Twenty-One Dollars and Forty-Four Cents (\$219,921.44). The Town shall not be liable for any fee, cost, expense or reimbursable expense or other compensation beyond this amount unless approved in a supplemental Work Order. Said fee includes an allowance for Reimbursable Expenses required in connection with the Work, which shall not exceed \$0.00. Said Reimbursable Expenses shall be used in accordance with the Agreement Provisions and shall conform to the limitations of Florida Statutes § 112.061.

The following is a cost breakdown:

SUMMARY OF COMPENSATION*			
<i>Task, Sub-task, or Activity ID #</i>	<i>Major Task Name and/or Activity Description</i>	<i>Fee Amount</i>	<i>Fee Basis</i>
1	Kick Off Meeting	\$5,048.49	Lump Sum
2	Public Outreach Meeting #1	\$5,048.49	Lump Sum
3	Acquire Background Data	\$18,117.63	Lump Sum
4	Critical and Regionally Significant Asset Inventory	\$18,117.63	Lump Sum
5	Exposure Analysis	\$39,683.19	Lump Sum
6	Sensitivity Analysis	\$29,925.16	Lump Sum
7	Public Outreach Meeting #2	\$5,048.49	Lump Sum
8	Identify Focus Areas	\$14,114.94	Lump Sum
9	Final Vulnerability Assessment Report, Maps, and Tables	\$49,700.87	Lump Sum
10	Public Presentation	\$5,048.49	Lump Sum
11	Local Mitigation Strategy	\$11,950.41	Lump Sum
12	Adaptation Plan	\$18,117.63	Lump Sum
	<i>Subtotal – Professional Fees</i>	\$219,921.44	Lump Sum
	<i>Allowance for Reimbursable Expenses</i>	\$0.00	
	TOTAL	\$219,921.44	Lump Sum

**Note: Compensation should match the Task, Activities, and/or Deliverables identified.*

VI. Additional Services


The Town may establish an allowance for additional services requested by the Town and for unforeseen circumstances, which shall be utilized at the sole discretion of the Town.

VII. DATA PROVIDED BY THE TOWN

Items necessary to complete Task 3 – Acquire Background Data as described in the Scope of Services.

VIII. PROJECT MANAGER

Consultant's Project Manager for this Work Order assignment will be Matt Brosman, P.E., CFM.

Submitted by: 

Stefano F. Viola, P.E.
Kimley-Horn and Associates, Inc.

Reviewed and approval by:

Department Director

Edward Pidermann
Town Manager

Procurement Manager