

State of Florida Department of Environmental Protection Resilient Florida Grant Program

In 2021 and in 2022, Keshavarz & Associates, Inc. applied for State funding on behalf of the Town through the Resilient Florida Grant program for a town-wide Vulnerability Assessment (380.093 F.S.) to inventory, evaluate and assess the Town's surface water management system facilities, identify critical concerns, and provide recommendations for improvements. In 2023, the Florida Department of Environmental Protection (FDEP) awarded grant funding to the Town for the Vulnerability Assessment, including survey acquisition of components and facility locations and visual assessment of operational conditions.

Upon completion of this effort, the Town will be positioned to transition management of its stormwater infrastructure to a more cost-efficient and technology-based approach. The Vulnerability Assessment will document the locations of key stormwater components and elements of critical infrastructure including culverts, bridges, canals, roads, and other operational assets. Stormwater modeling and analysis of the acquired survey data will strategically pinpoint areas of greater vulnerability, identify projects for improvements, repairs and enhancements, and assist the Town's administration with prioritization of future expenditures.

The completed survey will allow the Town to coordinate more efficiently with consultants and agencies regarding planned projects, component locations, and operational conditions. The information will also support mapping and public outreach opportunities via presentation of the collected data and proposed action plans. This information is also valuable for the pursuit of funding assistance from agencies tasked with supporting infrastructure development, stormwater management, flood control, and resiliency in response to natural events, as well as qualifying for specific funding programs conducted by those agencies.

Available topographic information and methods for acquisition have improved significantly in the two-decade interim since the last study in 2000. A more accurate analysis can be completed in less time than was previously possible by applying current processing and visual imaging capabilities to available topographic data and supplementing it with site-specific data collection. In addition to improving stormwater management capabilities within the context of the Town's internal operations, the digital mapping and modeling framework also provides a foundation for compliance with the future NPDES requirements for maintenance, monitoring, and reporting. An updated analysis can be used to reevaluate the FEMA SFHA boundary, and conditions under the SFWMD permit which may affect future planning, expansion, and improvements in the system.

Upon completion of this assessment the Town will have the following tools essential for operating and maintaining stormwater management systems and facilities:

1. Surface Water Management System Model
2. Digital Asset Inventory
3. Assessment of existing facilities (canals & culverts)
4. Risk analysis for critical assets
5. Recommendations for stormwater management system improvements

The Town could utilize these tools for various aspects, including but not limited to:

1. Drainage Asset Inventory
 - a. Capital Planning
 - b. Operation and Maintenance
 - c. Reporting
 - d. Establish Ownership / Responsibility of Assets
2. Grant Opportunities
 - a. Basis required for Majority of Grants
 - b. Justification for Benefit Cost Analysis
3. Capital Improvement Planning
 - a. Repair and Replacement
 - b. Budgeting
 - c. Appropriations for repairs, improvements and replacements
4. NPDES
 - a. Monitoring
 - b. Reporting
 - c. Basis for permitting.
5. Floodplain Management
 - a. Establish development conditions with SFWMD
 - b. Indian Trails Improvement District, Village of Wellington

The Town is in the process of finalizing the agreement and work plan with FDEP, please see the status of the following exhibits enclosed:

- A. Resilient Florida Grant Application Information (6 pages)
- B. Resilient Florida Planning Grant Work Plan Checklist (1 page)
- C. FDEP Federal Finding Accountability and Transparency Act Form (4 pages)
- D. Grant Work Plan (6 pages)
- E. Keshavarz & Associates, Inc. Professional Services Proposal (9 pages)
- F. Engenuity Group, Inc. Professional Services Proposal (forthcoming)



- [Close Window](#)
- [Print This Page](#)
- [Expand All](#) | [Collapse All](#)

RAN-00152

State Agency	Florida Department of Environmental Protection	Peril of Flood Listed	<input type="checkbox"/>
State Program	Resilient Florida	Letters of Support Authors	
Disaster Number/Year	FY 22-23	Letters of Support Number	
Critical Infrastructure	No		
Project located in a Coastal Zone?	No		
SLIP Study Required?	No		
Local Project Phase	Planning		
Source of Match			
Funding Mechanism	n/a		
Estimated Project Duration	12 Months		

Applicant Information

Grant Funding Type	Funding for Resilient Florida – Planning Projects	Status	Eligible
Applicant Account	Town of Loxahatchee Groves	Applicant Contact	
Applicant Authorized Signee	Francine Ramaglia	Applicant Fiscal Agent	Francine Ramaglia
Regional Resilience Entity Account	Town of Loxahatchee Groves	Applicant Grant Manager	Randy Wertepny

Project Information

RPG Project Type		Project Title	Town of Loxahatchee Groves Resiliency Vulnerability Assessment
Entity Category		Project Location	
Resilient Florida Grant Program Types	Comprehensive Vulnerability Assessment	Project Geo Location Narrative	
List the City(ies)/Town(s)/Village(s)	Town of Loxahatchee Groves	State Lands Lease Agreement No.	
State Lands or State Parks Utilized		Project Geo Location	
Area Served	Palm Beach	Project Geo Location Metadata	
Sponsor City/County		Percent of Population	100
Total Population	3,355	Total Grant Match Amount	\$70,000.00
Prior Vulnerability	No	Total Grant Funding Amount Requested	\$350,000.00
Prior Vulnerability Share		Prior Vulnerability Entities	

Project Critical Assets	The results of the modeling component will be used to assess potential surface water and groundwater threats to critical assets identified during the field data collection and data input phases, identify design modifications and improvements that may alleviate potentially harmful conditions at those locations, and may be used to alter Comprehensive Plan and Ordinances with the intent of improving flood protection and response throughout the study area.	Funding for Regional Resilience
-------------------------	--	---------------------------------

General Information

Project Need	<p>42.5% of the Town's surface area is within a FEMA flood hazard area. The drainage system serving this area was installed over one hundred years ago and has not been formally surveyed or evaluated since its adoption by the Town in 2017. Discharge from the Town's system is received by the SFWMD C-51 Canal, a major regional drainage feature connected to tidal waters at the downstream end, which is subject to tidal/ storm surge and capacity limitations that have been documented following major storm events.</p> <p>Town constructed as agricultural farming community and has evolved into an agricultural equestrian and residential community and the level of protection; standards of care and safety need to evolve with it. The assessment is an instrumental step in identifying current and future needs to protect the critical infrastructure elements within the Town.</p>
Project Fit	<p>This project includes field observation of component conditions to identify existing threats to system operation which could lead to issues during high water events, and identification of critical assets. It also provides the baseline data for scientific analysis of pipe capacities and discharge components, evaluation of water levels in the system, and potential impacts originating from groundwater and surface water interactions with critical assets. Analysis of vulnerability will be conducted in accordance with requirements of 380.093 FS.</p> <p>Through the hydraulic and hydrologic modeling, we will be able to identify areas that will be vulnerable to flooding during design storm events and will be able to evaluate and model more severe storm events and the potential impacts of sea level rise.</p>

GI Critical Asset VAAP	GI Critical Asset VAAP Explanation
GI Flood Erosion Reducing	GI Flood Erosion Reducing Explanation
GI Regionally Significant	GI Regionally Significant

	Explanation
GI Percent CA Vulnerable	GI Percent CA Vulnerable Explanation
GI Existing Flood Mitigation	GI Existing Flood Mitigation Explanation
GI Site Currently Flood	GI Site Currently Flood Explanation
GI Current Flood Zone	GI Current Flood Zone Explanation
GI Project Design Stage	GI Project Permitting Stage Explanation
GI Project Permitting Stage	GI Cost Share Explanation
GI Cost Share	GI Habitat Enhancement Explanation
GI Habitat Enhancement	GI Critical Habitat Explanation
GI Critical Habitat	GI Project Cost Effective Explanation
GI Project Cost Effective	GI Funding Secured Project Explanation
GI Funding Secured For Project	GI Previous State Involvement Explanation
GI Previous State Involvement	GI Will Exceed FL Bldng Code Explanation
GI Will Exceed Florida Building Code	GI Innovative Tech Reduce Cost Explanation
GI Innovative Tech Reduce Cost	GI Community Financially Disadvantaged E
GI Community Financially Disadvantaged	GI Benefit Spring Explanation
GI Benefit Spring	GI Protect Water Sources Explanation
GI Protect Water Sources	GI Facilities Waste Treatment Explanation
GI Facilities Waste Treatment	GI Convert Septic To Sewer Explanation
GI Convert Septic To Sewer	GI Green Stormwater Infrastructure Expl
GI Green Stormwater Infrastructure	GI Applied Other Programs Explanation
GI Applied Other Programs	
GI Community Population	

Project Work Plan

Project Summary	This project will assess the vulnerability of critical assets served by the Town’s drainage system, and includes data collection and condition assessment by a professional surveyor to obtain location and cross-section data for drainage	Project Description	1. Field survey will be conducted by a professional surveyor and conditions of existing infrastructure will be assessed in the field for all major culverts and conveyance canals. Field data will be digitally imported into CAD from the field
-----------------	---	---------------------	--

culverts and canals within the system, data entry and creation of GIS framework, modeling analysis and report of findings for vulnerability scenarios described in 380.093 FS. The analysis will be used to justify improvements to infrastructure for resiliency and flood protection.

data recorder.

2. Critical assets within the Town which are served by the drainage system will be identified and associated with drainage system components to identify the downstream route of discharge and evaluate capacity. Drainage area boundaries related to each critical asset will be determined using the collected digital data for system components and topographic information from publicly available LIDAR data.

3. The field-collected system component data will be imported into a GIS framework from CAD files. Canals and culverts will be represented as lines, structures and outfalls as points, and drainage areas served by each component will be delineated as polygons.

4. Component information will be entered into stormwater modeling software to conduct a modeling analysis of system operation during flood scenarios and evaluate vulnerability to both groundwater and surface water impacts for vulnerability scenarios and planning horizons as described in 380.093 F.S.

5. A final report of findings will be prepared to include the critical asset inventory, high water stages at each critical asset location, pipe/channel analysis identifying potential capacity limitations within the system, and a prioritized summary of maintenance, repair, and replacement activities intended to reduce the vulnerability of critical assets to flooding. Recommended updates or revisions to the existing Unified Land Development Code, Code of Ordinances, and/or Comprehensive Plan will also be included if applicable.

Project Need and Benefit

Project Feasability	<p>The project will be completed prior to the 10 month grant period deadline. The rough schedule is outlined as follows:</p> <p>1. Field Acquisition and Assessments (4 months): A large portion of the upfront work associated with this project consists of data acquisition and field assessments. Town continuing consultants in addition to Town staff will be utilized to conduct the field work associated with the project .</p> <p>2. GIS Management (1 month): Field assessments into a GIS database which will be utilized for the modeling/ analysis and recommended improvement phases. This process will be begin concurrently with the field acquisition phase.</p>	Project Vulnerability	<p>The community is not coastal and is not required to meet Peril of Flood compliance, but this project will include identification of critical assets for assessment of vulnerability and conversion of field survey data for system components into a GIS framework for the Department's use. Assessment will be conducted to reflect NOAA tidal surge and tailwater fluctuation in the receiving C-51 Canal under current and future land use conditions and will include hydrologic and hydraulic modeling of system response during rainfall events for 2040 and 2070 planning horizons.</p>
----------------------------	--	------------------------------	---

3. Modeling and Analysis (2 months):
This phase will begin upon completion of the Field acquisition phase to generate the existing conditions model (1) month. After the existing conditions model is calibrated, various analysis and modeling scenarios will occur over the next month.
4. Draft Report of Finding and Recommended Improvements (1 month):
The results of conducted analyses, current and potential levels of protection, critical infrastructure concerns and summary of recommended improvements will be compiled into a draft report for review and approval.
5. Finalize Report (1 - 2 months)

Vulnerability
Assessment include
State

No

Budget

Budget Narrative

Work Performed by

Indirect Percent

Signature

Authorized Signers
Signature

Francine Ramaglia

Certification
Agreement



System Information

Created ByRandy Wertepny, 6/22/2022 8:40 AMPreparer TypeApplicant

Last Modified ByGabriela Benitez, 10/14/2022 10:47 AMPreparer AccountTown of Loxahatchee Groves

OwnerRandy WertepnyPreparer ContactRandy Wertepny

EGR Application NameRAN-00152Preparer UserRandy Wertepny

Files

Grant Reso

Last Modified6/22/2022 2:52 PM

Created ByRandy Wertepny

Aerial Map

Last Modified6/22/2022 11:37 AM

Created ByRandy Wertepny

EGR Application Tasks

RTN-00941

Task Number1

Task DescriptionSurvey acquisition of existing infrastructure including canals, culverts, bridges, and related stormwater management and conveyance infrastructure throughout the Town. All related assets will be documented and assessed.

Total Task Amount Requested\$200,000.00

RTN-00942

Task Number 2

12/7/22, 10:49 AM

RAN-00152 ~ Salesforce - Enterprise Edition

EXHIBIT A

Task Description	<p>Hydraulic / Hydrological system analysis to generate existing conditions model, calibration and set up various analyses to evaluate impacts to design storm flooding, sea level rise, flood protection to critical infrastructure and modeling proposed improvements to enhance flood protection and resiliency.</p> <p>The main points of interest that we would like to review/analysis are as follows:</p> <ul style="list-style-type: none">a. Existing Conditions Modelb. Future Build out Modelc. Calibration of Discharge Structures with Recent Tailwater Analysis of C-51 Canald. Maintenance Activitiese. Maintenance Accessf. NPDES Concernsg. Floodplain Managementi. System-wide Stormwater Attenuationii. Filling Activitiesh. Sea-level risei. Critical Asset level of protectionj. Water Quality Concernsk. Town Regulations for Residential, Equestrian and Agriculturall. System-wide stormwater attenuation
Total Task Amount Requested	\$150,000.00

DEP Resilient Florida Program

22/23 Planning Grant Work Plan Task Checklist - Municipalities

Below is a list of tasks that can be included in the 22/23 planning grant work plans consistent with the [Standardized Vulnerability Assessment: Scope of Work Guidance](#). While some tasks are required (and have already been “selected” below), others are recommended or optional. Additional information on the individual tasks and associated deliverables can be found in the attached template.

*Please select each task that should be included in the grant agreement, 23PLN 101 ,
Town of Loxahatchee Groves Resiliency Vulnerability Assessment , grant work plan.*

Required Tasks: *Automatically included for Vulnerability Assessments (VA) pursuant to Section 380.093, Florida Statutes.*

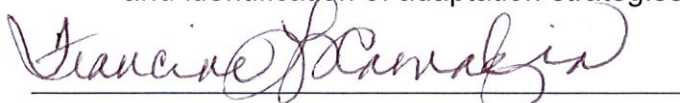
- ☒ Acquire background data
- ☒ Exposure analysis
- ☒ Sensitivity analysis
- ☒ Final Vulnerability Assessment report, maps, and tables
- ☒ *Peril of Flood compliance (for communities not already in compliance, if applicable)

Recommended Tasks: *Recommended as part of a thorough approach to completing a statutorily compliant VA.*

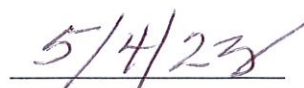
- ☒ Kick off meeting: Review project scope, project goals, schedule, milestones, and necessary deliverables. Identify potential steering committee participants.
- ☒ Assemble steering committee: Invite identified persons to participate in the steering committee.
 - ☒ Conduct steering committee meetings (only applicable if “Assemble steering committee” task included).
- ☒ Public outreach meeting #1: Gather public input prior to work commencing.
- ☒ Public outreach meeting #2: Distribute analysis outcomes before finalizing the VA.
- ☒ Identify focus areas: Assign focus areas to locations or assets that are particularly vulnerable and require the development of adaptation strategies.
- ☒ Public Presentation: Share findings of the final VA and recommendations with local governing boards, technical committees, etc.

Optional Tasks: *Additional planning efforts after completion of a VA.*

- ☐ Local Mitigation Strategy: Use the results of the VA to inform a Local Mitigation Strategy (usually developed at the county level) as required by the Florida Division of Emergency Management.
- ☐ Adaptation Plan: Consistent with the Florida Adaptation Planning Guidebook and includes an assessment of adaptive capacities, prioritization of adaptation needs, and identification of adaptation strategies.



Grantee Grant Manager



Date



Florida Department of Environmental Protection

Federal Funding Accountability and Transparency Act Form – Subaward to a Recipient

Submit completed form to: Contracts_Adm@FloridaDEP.gov

Purpose: The Federal Funding Accountability and Transparency Act (FFATA) was signed on September 26, 2006. The intent of this legislation is to empower every American with the ability to hold the government accountable for each spending decision. The FFATA legislation requires information on federal awards (federal assistance and expenditures) be made available to the public via a single, searchable website, which is <http://www.usaspending.gov/>.

The FFATA Subaward Reporting System (FSRS) is the reporting tool the Florida Department of Environmental Protection ("DEP") must use to capture and report subaward and executive compensation data regarding first-tier subawards that obligate \$30,000 or more in Federal funds (excluding Recovery funds as defined in section 1512(a)(2) of the American Recovery and Reinvestment Act of 2009, Pub. L. 111-5).

[Note: This reporting requirement is not applicable for the procurement of property and services obtained by the DEP through a Vendor relationship. Refer to 2 CFR Ch. 1 Part 170 Appendix A, Section I.c.3 for the definition of "subaward".]

Organization and Project Information: As of October 1, 2015, the following information must be provided to the DEP prior to the DEP's issuance of a subaward (Agreement) that obligates \$30,000 or more in federal funds as described above. Please provide the following information and return the signed form to DEP as requested. If you have any questions, please contact the DEP's Bureau of General Services, Contracts Team at Contracts_Adm@FloridaDEP.gov or at telephone number 850/245-2361 for assistance.

UEI: 099US3JN00

(UEI must be twelve (12) characters not including dashes)*

Federal Award ID Number (FAIN#): SLFRP0125

Catalog of Federal Domestic Assistance (CFDA)#: 21.027

DEP Assigned Grant Agreement#: _____

Dollar Amount of Grant Disbursement: \$ 350,000.00

* If your company or organization does not have a UEI number, you will need to refer to the Sam.gov website at <https://sam.gov/content/home> to register your entity to request a Unique Entity ID.

Business Name: Town of Loxahatchee Groves

DBA Name (If applicable): _____

Principal Place of Business Address:

Address Line 1: 155 F Road

Address Line 2: _____

Address Line 3: _____

City: Loxahatchee Groves

State: FL

Zip+4: 33470



Florida Department of Environmental Protection
Federal Funding Accountability and Transparency Act Form – Subaward to a Recipient

Description of Project (up to 4000 characters):

The project will include field survey acquisition and field condition assessment of stormwater management system components, with corresponding oversight and preliminary research of available records. The survey is intended to include drainage assets and infrastructure including bridges and culverts, direct inflows, drainage connections, and discharge structures. In addition, topographic cross-sections of canals at set intervals and assessment of the functional condition of each located asset are to be included.

Collected data will be imported into CAD and GIS formats for future use. CAD data will be used to generate cross-sections of the existing canals to determine areas where maintenance is needed. GIS data can be used for generation of maps and exhibits, as well as for coordination with agencies, consultants, and the general public. Additionally, collected data will be used to generate a stormwater management system model for rainfall routing analysis to evaluate possible restrictions and high water conditions throughout the service area.

Lastly, a Vulnerability Analysis meeting the requirements of 380.093 F.S. will be conducted using the modeling software to evaluate potential storm-related threats to critical infrastructure under various rainfall scenarios and time horizons. A final report summarizing the results of the Vulnerability Analysis will be prepared for submittal to the Florida Department of Environmental Protection (FDEP).

Town staff will coordinate with consultants and FDEP throughout the process, as well as conduct field condition assessments of located assets. Survey data acquisition, data migration, stormwater management system modeling, and preparation of technical reports and exhibits will be performed by subconsultants under this project.



Florida Department of Environmental Protection
Federal Funding Accountability and Transparency Act Form – Subaward to a Recipient

Principal Place of Project Performance (If different than principal place of business)

Address Line 1: _____
 Address Line 2: _____
 Address Line 3: _____
 City: _____ State: _____ Zip+4: _____

Congressional District for Principal Place of Project Performance: _____

(Providing the Zip+4 ensures that the correct Congressional District is reported.)

Executive Compensation Information:

YES <input type="radio"/>	NO <input checked="" type="radio"/>	1. In your business or organization's previous fiscal year, did your business or organization (including parent organization, all branches, and all affiliates worldwide) receive (a) 80 percent or more of your annual gross revenues from Federal procurement contracts (and subcontracts) and Federal financial assistance (e.g. loans, grants, subgrants, and/or cooperative agreements, etc.) subject to the Transparency Act, as defined at 2 CFR 170.320; and, (b) \$30,000,000 or more in annual gross revenues from U.S. Federal procurement contracts (and subcontracts) and Federal financial assistance (e.g. loans, grants, subgrants, and/or cooperative agreements, etc.) subject to the Transparency Act?
------------------------------	--	---

If the answer to Question 1 is "Yes," continue to Question 2.

If the answer to Question 1 is "No", move to the signature block below to complete the certification and submittal process.

YES <input type="radio"/>	NO <input checked="" type="radio"/>	2. Does the public have access to information about the compensation of the executives in your business or organization (including parent organization, all branches, and all affiliates worldwide) through periodic reports filed under section 13(a) or 15 (d) of the Securities Exchange Act of 1934 (15 U.S.C. 78 m (a), 78 o(d)), or Section 6104 of the Internal Revenue Code of 1986?
------------------------------	--	--

If the answer to Question 2 is "Yes," move to the signature block below to complete the certification and submittal process. [Note: Securities Exchange Commission information should be accessible at

<http://www.sec.gov/answers/excomp.htm>. Requests for Internal Revenue Service (IRS) information should be directed to the local IRS for further assistance.]

If the answer to Question 2 is "NO" FFATA reporting is required. Provide the information required in the "TOTAL COMPENSATION CHART FOR MOST RECENTLY COMPLETED FISCAL YEAR" appearing below to report the "Total Compensation" for the five (5) most highly compensated "Executives", in rank order, in your organization.

For purposes of this request, the following terms apply as defined in 2 CFR Ch. 1 Part 170 Appendix A:

"Executive" is defined as "officers, managing partners, or other employees in management positions".

"Total Compensation" is defined as the cash and noncash dollar value earned by the executive during the most recently completed fiscal year and includes the following:

- Salary and bonus.
- Awards of stock, stock options, and stock appreciation rights. Use the dollar amount recognized for financial statement reporting purposes with respect to the fiscal year in accordance with the Statement of Financial Accounting Standards No. 123 (Revised 2004) (FAS 123R), Shared Based Payments.
- Earnings for services under non-equity incentive plans. This does not include group life, health, hospitalization or medical reimbursement plans that do not discriminate in favor of executives and are available generally to all salaried employees.



Florida Department of Environmental Protection
Federal Funding Accountability and Transparency Act Form – Subaward to a Recipient

- Change in pension value. This is the change in present value of defined benefit and actuarial pension plans.
- Above-market earnings on deferred compensation which is not tax-qualified.
- Other compensation, if the aggregate value of all such other compensation (e.g. severance, termination payments, value of life insurance paid on behalf of the employee, perquisites or property) for the executive exceeds \$10,000.

Total Compensation Chart for Most Recently Completed Fiscal Year

Date of Fiscal Year Completion (mm/dd/yyyy) 9/30/23

The undersigned as (enter position title) Town Manager

of (enter Business Name) Town of Loxahatchee Groves

Certifies that on the date written below, the information provided herein is accurate.

Type or Print Name: Francine L. Ramaglia Title: Town Manager

Signature: *Francine L. Ramaglia* Date: 3/21/23

Rank (Highest to Lowest)	Last Name	First Name	MI	Title	Total Compensation for Most Recently Completed Fiscal Year
	Ramaglia	Francine	L	Town Manager	
	Peters	Larry		PW Director	
	Burch	Lakisha		Town Clerk	
	Matos	Mario		Asst. PW Director	

The undersigned as (enter position title) Town Manager

Of (enter Business Name) Town Of Loxahatchee Groves

Certifies that on the date written below, the information provided herein is accurate.

Francine L. Ramaglia

Print Name

Town Manager

Title

Signature: *Francine L. Ramaglia*

3/21/23

Date

**STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
GRANT WORK PLAN
AGREEMENT NO. 23PLN101**

ATTACHMENT 3

PROJECT TITLE: Town of Loxahatchee Groves Resiliency Vulnerability Assessment

PROJECT LOCATION: The Project is located in Town of Loxahatchee within Palm Beach County, Florida.

PROJECT DESCRIPTION:

The Town of Loxahatchee (Grantee) will complete the Town of Loxahatchee Groves Resiliency Vulnerability Assessment Project (Project) to include a comprehensive Vulnerability Assessment (VA) pursuant to Section 380.093, Florida Statutes (F.S.) as well as develop an inventory of all critical and regionally significant assets in the area.

TASKS AND DELIVERABLES:

Task 1: Kick Off Meeting

Description: The Grantee will develop an overall project management plan and address initial actions and then conduct a kick-off meeting for the project. Meeting attendees should discuss the project scope, project goals, schedule, key milestones, and deliverables in order to develop a consistent project approach. The kick-off meeting will be hosted by the Grantee and should identify potential representatives to serve on the project steering committee. Prior to the meeting, the Grantee will prepare the sign-in sheet, draft project schedule, and other meeting materials as necessary. The Grantee will prepare a draft list of representatives to serve on the project steering committee based on discussions with the Grantee.

Deliverables: The Grantee will provide the following: 1) meeting agenda to include location, date, and time of meeting; 2) meeting sign-in sheets or attendance records with attendee names and affiliation; 3) a copy of the materials created for distribution at the meeting, as applicable; 4) kick-off meeting summary, which documents all decisions and agreed upon outcomes of the meeting; 5) a draft list of steering committee members; and 6) a draft email to potential steering committee members to request their participation on the committee. The email shall include the project purpose, goals, schedule, project meeting dates and locations, and overall desired outcomes.

Task 2: Assemble Steering Committee

Description: The Grantee will review and approve the steering committee list and then distribute the draft email prepared in Task 1 to the steering committee members. The email requests steering committee member participation and to provide confirmation of acceptance or denial.

Deliverables: The Grantee will provide the list of local representatives that have confirmed participation on the steering committee. The list shall include the name, organization/affiliation, position title, and contact information.

Task 3: Conduct Steering Committee Meetings

Description: The Grantee will coordinate and schedule the quantity, dates, times, and locations for the steering committee meetings, based on critical decision points in the project process. The purpose of the steering committee meetings is to assist in reviewing the goals of the project, review draft materials, provide input for study direction, assist in identifying geographic context, appropriate modeling methodologies, assist in identifying available data and resources, identify relevant assets, and review project findings and recommendations. Steering committee meetings will be held on a bi-annual basis.

Deliverables: The Grantee will provide the following: 1) meeting agendas to include location, date, and time of meeting; 2) meeting sign-in sheets with attendee names and affiliation; 3) a copy of the presentation(s) and any materials created for distribution at the meeting, as applicable; and 4) a summary report of committee recommendations and guidance, to include attendee input, meeting outcomes, methodologies selected, appropriate resources and data, relevant assets and review of study deliverables for accuracy and applicability.

Task 4: Public Outreach Meeting #1

Description: The Grantee will conduct at least two public outreach meetings during the project. The purpose of the first meeting is to allow the public to provide input during the initial data collection stages, to include input on preferred methodologies, data for analyzing potential sea level rise impacts and/or flooding, guiding factors to consider, and critical assets important to the community. The Grantee will prepare all social media notifications, meeting invitations, meeting materials, presentations, and graphics utilized during the meeting, as applicable.

Deliverables: The Grantee will provide the following: 1) meeting agendas to include location, date, and time of meeting; 2) meeting sign-in sheets with attendee names and affiliation (i.e. local stakeholder, resident, steering committee member, local government staff); 3) a copy of the presentation(s) and any materials created in preparation of or for distribution at the meeting (i.e. social media posts, public announcements, graphics), as applicable; 4) a summary report including attendee input and meeting outcomes.

Task 5: Acquire Background Data

Description: The Grantee will research and compile the data needed to perform the VA based on the requirements as defined in Section 380.093, F.S. Three main categories of data are required to perform a VA: 1) critical and regionally significant asset inventory, 2) topographic data including field acquisition of channel cross-sections and drainage assests, and 3) flood scenario-related data. GIS metadata should incorporate a layer for each of the four asset classes as defined in paragraphs 380.093(2)(a)1-4, F.S. GIS files and associated metadata must adhere to the Resilient Florida Program's GIS Data Standards (Exhibit I), and raw data sources shall be defined within the associated metadata. Sea level rise projection data shall include the 2017 National Oceanic and Atmospheric Administration (NOAA) intermediate-high and intermediate-low projections for 2040 and 2070, at a minimum. Other projections can be used at the Grantees discretion. Storm surge data used must be equal to or exceed the 100-year return period (1% annual chance) flood event. In the process of researching background data, the Grantee shall identify data gaps, where missing data or low-quality information may limit the VA's extent or reduce the accuracy of the results. The Grantee shall rectify any gaps of necessary data.

Deliverables: The Grantee will provide the following: 1) a technical report to outline the data compiled and findings of the gap analysis; 2) a summary report to include recommendations to address the identified

data gaps and actions taken to rectify them, if applicable; and 3) 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 6: Exposure Analysis

Description: The Grantee 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) used to evaluate assets shall include the following data: tidal flooding, current and future storm surge flooding, rainfall-induced flooding, and compound flooding, all as applicable, as well as the scenarios and standards used for the exposure analysis shall be pursuant to s. 380.093, F.S. GIS files and associated metadata must adhere to the Resilient Florida Program's GIS Data Standards (Exhibit I), and raw data sources shall be defined within the associated metadata.

Deliverables: The Grantee will provide the following: 1) 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; and 2) 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 7: Sensitivity Analysis

Description: The Grantee will perform the sensitivity analysis to measure the impact of flooding on assets and to apply the data from the exposure analysis to the inventory of critical assets created in the Acquire Background Data Task. The sensitivity analysis should 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: The Grantee will provide the following: 1) an updated draft Vulnerability Assessment report that provides details on the findings of the exposure analysis and the sensitivity analysis and includes visual presentation of the data via maps and tables, based on the statutorily-required scenarios and standards; and 2) an initial list of critical and regionally significant assets that are impacted by flooding. The list of critical and regionally significant assets must be prioritized by area or immediate need and must identify which flood scenario(s) impacts each asset.

Task 8: Public Outreach Meeting #2

Description: The Grantee will conduct a second public meeting to present the results from the exposure analysis, sensitivity analysis, and draft Vulnerability Assessment. The purpose of the second meeting is to allow the public to provide community-specific input on the results of the analyses and to reconsider methodologies and assumptions used in the analysis. Additionally, during this meeting, the Grantee will encourage the public to prioritize focus areas of flooding, and the critical assets in preparation for the development of adaptation strategies and project development. The Grantee will prepare all social media notifications, meeting invitations, meeting materials, presentations, and graphics utilized during the meeting, as applicable.

Deliverables: The Grantee will provide the following: 1) meeting agendas to include location, date, and time of meeting; 2) meeting sign-in sheets with attendee names and affiliation (i.e. local stakeholder, resident, steering committee member, local government staff); 3) a copy of the presentation(s) and any materials created in preparation of or for distribution at the meeting (i.e. social media posts, public

announcements, graphics), as applicable; 4) a summary report including attendee input and meeting outcomes, to include defining focus areas recommended by the community.

Task 9: Identify Focus Areas

Description: The Grantee will identify focus areas based on the results of the second public outreach meeting and input from the steering committee, following the guidelines in Chapter 2 of the Florida Adaptation Planning Guidebook. Based on the exposure and sensitivity analyses, the Grantee may assign focus areas to locations or assets that are particularly vulnerable and require the development of adaptation strategies. GIS files and associated metadata must adhere to the Resilient Florida Program's GIS Data Standards (Exhibit I), and raw data sources shall be defined within the associated metadata.

Deliverables: The Grantee will provide a report summarizing the areas identified as focus areas, with justification for choosing each area
.
.
.

Task 10: Final Vulnerability Assessment Report, Maps, and Tables

Description: The Grantee will finalize the Vulnerability Assessment (VA) report pursuant to the requirements in s. 380.093, F.S., and based upon the steering committee and public outreach efforts. The final VA must include all results from the exposure and sensitivity analyses, as well as a summary of identified risks and assigned focus areas. It should contain a list of critical and regionally significant assets that are impacted by flooding and sea-level rise, specifying for each asset the flood scenario(s) impacting the asset. GIS files and associated metadata must adhere to the Resilient Florida Program's GIS Data Standards (Exhibit I), and raw data sources shall be defined within the associated metadata.

Deliverables: The Grantee will provide the following: 1) Final Vulnerability Assessment Report that provides details on the results and conclusions, including illustrations via maps and tables, based on the statutorily-required scenarios and standards in s. 380.093, F.S.; 2) a final list of critical and regionally significant assets that are impacted by flooding. The list of critical and regionally significant assets must be prioritized by area or immediate need and must identify which flood scenario(s) impacts each asset.; 3) 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; and 4) a signed Vulnerability Assessment Compliance Checklist Certification.

Task 11: Public Presentation

Description: The Grantee will present the final VA results to the Town of Loxahatchee Groves Town Council Meeting. 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 funding. 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 Grantee will prepare all social media notifications, meeting invitations, meeting materials, presentations, and graphics utilized during the meeting, as applicable.

Deliverables: The Grantee will provide the following: 1) meeting agendas to include location, date, and time of meeting; 2) meeting sign-in sheets with attendee names and affiliation (i.e. local stakeholder, resident, steering committee member, local government staff); 3) a copy of the presentation(s) and any materials created in preparation of or for distribution at the meeting (i.e. social media posts, public announcements, graphics), as applicable; 4) a summary report including attendee input and meeting outcomes.

PERFORMANCE MEASURES: The Grantee will submit all deliverables for each task to the Department's Grant Manager on or before the Task Due Date listed in the Project Timeline. The Grantee must also submit Exhibit A, Progress Report Form, to the Department's Grant Manager, with every deliverable and payment request. For interim payment requests, Exhibit A may serve as the deliverable for a task. The Department's Grant Manager will review the deliverable(s) to verify that they meet the specifications in the Grant Work Plan and the task description, to include any work being performed by any subcontractor(s). Upon review and written acceptance by the Department's Grant Manager of deliverables under the task, the Grantee may proceed with payment request submittal.

CONSEQUENCES FOR NON-PERFORMANCE: For each task deliverable not received by the Department at one hundred percent (100%) completion and by the specified due date listed in the Agreement's most recent Project Timeline, the Department will reduce the relevant Task Funding Amount(s) paid to Grantee in proportion to the percentage of the deliverable(s) not fully completed and/or submitted to the Department in a timely manner.

PAYMENT REQUEST SCHEDULE: Following the Grantee's full completion of a task, the Grantee may submit a payment request for cost reimbursement using both Exhibit A, Progress Report Form, and Exhibit C, Payment Request Summary Form. Interim payment requests cannot be made more frequently than quarterly and must be made using Exhibit A, detailing all work progress made during that payment request period, and Exhibit C. Upon the Department's receipt of Exhibit A and C, along with all supporting fiscal documentation and deliverables, the Department's Grant Manager will have ten (10) working days to review and approve or deny the payment request.

PROJECT TIMELINE AND BUDGET DETAIL: The tasks must be completed by, and all deliverables received by, the corresponding task due date listed in the table below. Cost-reimbursable grant funding must not exceed the budget amounts indicated below. Requests for any change(s) must be submitted prior to the current task due date listed in the Project Timeline. Requests are to be sent via email to the Department's Grant Manager, with the details of the request and the reason for the request made clear.

Task No.	Task Title	Budget Category	DEP Amount	Match Amount	Total Amount	Task Start Date	Task Due Date
1	Kick Off Meeting	Contractual Services	\$5,400.00	\$416.00	\$5,816.00	8/1/2022	9/30/2023
2	Assemble Steering Committee	Contractual Services	\$0.00	\$448.00	\$488.00	8/1/2022	10/31/2023
3	Conduct Steering Committee Meetings	Contractual Services	\$18,150.00	\$15,200.00	\$33,350.00	8/1/2022	9/30/2025
4	Public Outreach Meeting #1	Contractual Services	\$4,800.00	\$6,088.00	\$10,888.00	8/1/2022	12/31/2023
5	Acquire Background Data	Contractual Services	\$129,380.00	\$95,850.00	\$225,230.00	8/1/2022	6/30/2024
6	Exposure Analysis	Contractual Services	\$111,300.00	\$0	\$111,300.00	8/1/2022	10/31/2024
7	Sensitivity Analysis	Contractual Services	\$35,700.00	\$3,200.00	\$38,900.00	8/1/2022	12/31/2024
8	Public Outreach Meeting #2	Contractual Services	\$4,800.00	\$6,088.00	\$10,888.00	7/1/2024	3/31/2025
9	Identify Focus Areas	Contractual Services	\$6,550.00	\$662.00	\$7,212.00	7/1/2024	6/30/2025
10	Final Vulnerability Assessment Report, Maps, and Tables	Contractual Services	\$30,220.00	\$0	\$30,220.00	8/1/2022	7/31/2025
11	Public Presentation	Contractual Services	\$3,700.00	\$0	\$3,700.00	7/1/2024	9/30/2025
Total:			\$350,000.00	\$127,952.00	\$477,952.00		



Town of Loxahatchee Groves (Town)
155 F Road
Loxahatchee Groves, FL 33470

March 16th, 2023
revised June 12th, 2023
Project No. 23-1436

Attention: Ms. Francine Ramaglia, Town Manager

Reference: **Town of Loxahatchee Groves Resiliency Vulnerability Assessment**

Dear Ms. Ramaglia,

Based upon your request and with utmost pleasure, Keshavarz & Associates, Inc. (Consultant) is presenting you with this proposal to perform professional services to assess the vulnerability of critical assets served by the Town of Loxahatchee Groves' (Town) drainage system.

Background

Loxahatchee Farms was established in 1917, with 6,500 acres as an agricultural community. Approximately 30 miles of canals were installed to provide drainage conveyance and irrigation demand for this community. In as much as the Town has maintained its rural character throughout the years as it has evolved from a farming community to an agricultural residential community, the drainage system has not yet been formally surveyed, assessed or evaluated by the Town for its current purposes and function. The last known drainage study was conducted by the Loxahatchee Groves Water Control District in 2000 with the purpose of identifying improvements to enhance flood protection for targeted areas and ensure compliance with South Florida Water Management District (SFWMD) Surface Water Management System Permit No. 50-01682-S, issued in 1988. Topographic information for this study was based on the limited sources available at the time, but no Town-wide survey (aerial or LiDAR) was conducted or used in the analysis.

In 2014, the Florida Department of Environmental Protection (FDEP) requested that the Town obtain permit coverage under the National Pollution Discharge Elimination System (NPDES) for the municipal separate storm sewer system (MS4) within the limits of the Town of Loxahatchee Groves. Keshavarz & Associates, Inc. successfully advocated on behalf of the Town to postpone implementation of the NPDES permitting requirements. However, preparations for meeting the requirements should continue as this requirement is on the horizon. Issuance of a mandate for compliance with the NPDES requirements could result in a costly acceleration of necessary measures.

In 2017, the Federal Emergency Management Agency (FEMA) updated their flood insurance rate maps (FIRM) based on the C-51 Basin Rule Re-Evaluation undertaken by the SFWMD in 2015. FEMA established a special flood hazard area (SFHA) with a base flood elevation of 17.6' NAVD (North American Vertical Datum of 1988). An estimated 42.5% of the Town's surface area is located within the SFHA. Keshavarz & Associates, Inc. was able to work with FEMA to redefine the flood hazard area and exclude over 200 structures from requiring additional flood insurance.



Since then, Palm Beach County (PBC) has acquired county-wide LiDAR information that may help further justify a reduction in a portion of the Town area classified as being located within the SFHA.

In 2021 and in 2022, Keshavarz & Associates, Inc. applied for State funding on behalf of the Town through the Resilient Florida Grant program for a town-wide Vulnerability Assessment (380.093 F.S.) to inventory, evaluate and assess the Town's surface water management system facilities, identify critical concerns, and provide recommendations for improvements. In 2023, the Florida Department of Environmental Protection (FDEP) awarded grant funding to the Town for the Vulnerability Assessment, including survey acquisition of components and facility locations and visual assessment of operational conditions.

Upon completion of this effort, the Town will be positioned to transition management of its stormwater infrastructure to a more cost-efficient and technology-based approach. The Vulnerability Assessment will document the locations of key stormwater components and elements of critical infrastructure including culverts, bridges, canals, roads, and other operational assets. Stormwater modeling and analysis of the acquired survey data will strategically pinpoint areas of greater vulnerability, identify projects for improvements, repairs and enhancements, and assist the Town's administration with prioritization of future expenditures.

The completed survey will allow the Town to coordinate more efficiently with consultants and agencies regarding planned projects, component locations, and operational conditions. The information will also support mapping and public outreach opportunities via presentation of the collected data and proposed action plans. This information is also valuable for the pursuit of funding assistance from agencies tasked with supporting infrastructure development, stormwater management, flood control, and resiliency in response to natural events, as well as qualifying for specific funding programs conducted by those agencies.

Available topographic information and methods for acquisition have improved significantly in the two-decade interim since the last study in 2000. A more accurate analysis can be completed in less time than was previously possible by applying current processing and visual imaging capabilities to available topographic data and supplementing it with site-specific data collection. In addition to improving stormwater management capabilities within the context of the Town's internal operations, the digital mapping and modeling framework also provides a foundation for compliance with the future NPDES requirements for maintenance, monitoring, and reporting. An updated analysis can be used to reevaluate the FEMA SFHA boundary, and conditions under the SFWMD permit which may affect future planning, expansion, and improvements in the system.

**Scope of Work****Task 1. Project Management, Orientation, Research, Meetings and General Coordination****1.1 Project Management and Correspondence:**

Consultant's project management responsibilities range from internal to external methods and approaches affecting the general advancement of the project. Included in this task is the Consultant's continual quality assurance and control efforts as the work proceeds. This task includes general correspondence, coordination and data exchange with the Town and others as necessary and as needed throughout the project.

1.2 Project Orientation, Research:

The Consultant shall research, review and study record drawings, geographic information system (GIS) database information, and other pertinent information of the existing facilities within the Town rights-of-ways / drainage system corridors.

1.3 Kick-off Meeting:

The Consultant will develop an overall project management plan and address initial actions and then conduct a kick-off meeting for the project to discuss the project scope, project goals, schedule, key milestones, and deliverables in order to develop a consistent project approach. The Consultant will prepare the agenda for the meetings and will issue meeting summaries following the meeting.

1.4 Grant Reporting and Assistance:

The Consultant shall work with the Town's Grant Manager, a member of Town staff assigned by the Town to comply with the grant requirements. The Consultants shall provide quarterly progress reports and payment request forms to the Town in conformance with the grant requirements.

1.5 Conduct Steering Committee Meetings:

The Consultant shall facilitate bi-annual steering committee meetings throughout the duration of the project. The Consultant shall prepare agendas, conduct the meetings and shall issue meeting summaries following each meeting. The purpose of the steering committee meetings is to assist in reviewing the goals of the project, review draft materials, provide input for study direction, assist in identifying geographic context, appropriate modeling methodologies, assist in identifying available data and resources, identify relevant assets, and review project findings and recommendations as recommended by FDEP for successful implementation of this assessment. Up to five (5) steering committee meetings are included with this proposal.



1.6 Public Outreach Meetings:

Based on the recommendations of FDEP, two public outreach meetings will be conducted for the implementation of this assessment. The purpose of the first meeting is to allow the public to provide input during the initial data collection stages, to include input on preferred methodologies, data for analyzing potential flooding and/or sea level rise impacts, guiding factors to consider, and critical assets important to the community. The purpose of the second meeting is to allow the public to provide community-specific input on the results of the analyses and to reconsider methodologies and assumptions used in the analysis. Additionally, during this meeting, the Grantee will encourage the public to prioritize focus areas of flooding, and the critical assets in preparation for the development of adaptation strategies and project development.

The Consultant shall attend and participate in these meetings and shall prepare a presentation and exhibits in support of the meetings. However, notifications, agenda, summaries, and conducting the meeting shall be performed by others.

Task 2. Asset Inventory & Condition Assessment

2.1. Drainage Culverts:

The Consultant shall locate all known and visible drainage culverts and bridges within and discharging into the Town canal system utilizing survey grade GPS equipment to locate the upstream and downstream limits of these drainage assets. Pipe size, material as well as the top of pipe and/or invert elevation for the drainage culverts will be acquired in the field. It should be noted that it is expected that a percentage of the acquired drainage pipes will be in a deteriorated state due to rust, age, maintenance, etc. and therefore, the pipe size may need to be estimated. For bridges, the road elevation, material, span and low member elevation will be acquired.

The Consultant shall upload the data obtained in the field into a GIS database that will be used for inventory, modeling, assessment, and future maintenance and reporting purposes. An assessment form and location map for each found facility will be generated and provided to the Town for field verification, additional inventory and assessment purposes. As a part of the Town's in-kind services, the Town will assess the found condition of the existing facilities as good, fair or poor and will include the date of installation, if known, document the owner of the facility and associated Town permit, if applicable, as well as collect one or more photograph(s) of the asset to depict the location, immediate surroundings, and condition of the asset.

Based on the data provided by the Town as indicated above, the Consultant shall update the GIS database to include the date of last inspection, condition, recommended action (if any), and date of next scheduled inspection if no additional action is recommended.



2.2. Canal Sections:

Acquire topographic cross-sectional information of the Town maintained canals adjacent to the main roadways as listed below:

Road	Mileage	Description
A Road	2.0	Okeechobee Boulevard to North Road
B Road	2.0	Okeechobee Boulevard to North Road
C Road	2.0	Okeechobee Boulevard to North Road
D Road	2.0	Okeechobee Boulevard to North Road
E Road	2.0	Okeechobee Boulevard to North Road
F Road	1.0	Okeechobee Boulevard to North Road
G Road West	0.5	25th Street North to North Road
Folsom Road	0.5	Okeechobee Boulevard to 25th Street North
G Road East	0.5	25th Street North to North Road
North Road	2.0	A Road to E Road
South North Road	1.50	E Road to G Road East
25th Street North	0.5	G Road West to G Road East
Total	16.50	

Cross sections of the canals will be obtained at approximately 500' intervals. The cross sections will include the limits of roadway and/or apparent maintenance access within 30' from the canal top of bank on either side of the canal. The edge of pavement/rock road, top of bank, edge of water elevation, grade breaks and bottom of the canal will be acquired as well as the depth of any muck or silt material encountered within the canal. The results of the field acquisition will be uploaded to AutoCAD and cross-sections of the existing canals will be drafted for each location at a scale of 1"=20'.

Consultant shall coordinate with other Town consultants for the acquisition of the canal cross sections south of Okeechobee Boulevard.



Task 3. Existing Conditions Hydraulic and Hydrological Model

The Consultant shall develop an existing conditions hydraulic and hydrological model of the Town's existing surface water management system utilizing ICPR, interconnected channel and pond routing model. The most recent publicly available digital elevation model, PBC LiDAR flown in 2018, will be utilized as the basis for the model to establish existing drainage basin boundaries, stage-storage tabulations, boundary conditions, etc. The information obtained within Task 2 will be added to the model to represent the current conditions of the Town's canal system and hydraulic links (culverts) within the drainage system. Boundary / tailwater conditions will be calibrated based on the tailwater analysis conducted by the SFWMD for C-51 Basin Rule Re-Evaluation. The existing conditions model will be routed using various design storm events to identify potential risks to Town's existing assets for the 10 year, 25 year and 100 year storm events.

Task 4. Proposed Conditions Hydraulic and Hydrological Modeling

The Consultant shall evaluate and model various improvements within the Town's surface water management system to:

1. Evaluate depth of flooding for the following scenarios as required by the grant:
 - a. Tidal flooding, including future high tide flooding
 - b. Current and future storm surge flooding utilizing available National Oceanic and Atmospheric Administration or Federal Emergency Management Agency storm surge data.
 - c. Rainfall induced flooding (10 year, 25 year and 100 year storm events)
 - d. Compound flooding (combination of storm surge and rainfall induced flooding)
 - e. A minimum of two sea level rise scenarios
 - f. A minimum of two planning horizons for years 2040 and 2070

Task 5. Vulnerability Assessment Report

Consultant shall prepare a Technical Memorandum detailing the assessment and analysis summarizing the data collection, existing conditions model development, methodologies of the vulnerability scenarios, interpretations of results, recommendations for surface water management system improvements and potential regulatory or ordinance improvements.

Task 6. Final Report

Consultant shall prepare a final report in accordance with FDEP Grant requirements summarizing the Vulnerability Assessment in no more than five (5) pages including the following sections: Executive Summary, Methodology, Outcome and Further Recommendations.



Reimbursable Expenses

Reproduction of documents, mileage for site visits, prints, modeling software, etc.

Assumptions:

1. The Town will be the Grant Applicant with Consultant in the role of support. A member of Town staff will be assigned as the Grant Manager. The Grant Manager will be responsible for coordination and correspondence with the Grantee and will provide all necessary documentation, reporting, exhibits, etc. as required by the Grantee. The Consultant will assist the Grant Manager by providing pertinent information, invoices, reports, exhibits etc. as outlined in the scope of services to the Grant Manager for their communication and reporting efforts with the Grantee.
2. The Town will be responsible for documentation and reporting of Town staff and resources as in-kind services and or matching funds as required by the grant.

Schedule:

The following schedule is based on the grant work plan provided to FDEP by the Town. The completion date listed for each task is the date of approval by FDEP, all required deliverables, reports, exhibits, studies, etc. must be presented, reviewed and approved by FDEP in order to be deemed complete.

Task	Duration (Calendar Days)
Kick Off Meeting	9/30/2023
Assemble Steering Committee	10/31/2023
Conduct Steering Committee Meetings	9/30/2025
Public Outreach Meeting #1	12/31/2023
Acquire Background Data	6/30/2024
Exposure Analysis	10/31/2024
Sensitivity Analysis	12/31/2024
Public Outreach Meeting #2	3/31/2025
Identify Focus Areas	6/30/2025
Final Vulnerability Assessment Report, Maps, and Tables	7/31/2025



Our fees for the services outlined above shall be as follows:

Task 1 – Preliminary Design and Consulting Services	\$	47,590.00
Task 2 – Asset Inventory & Condition Assessment	\$	129,020.00
Task 3 – Existing Conditions Hydraulic and Hydrological Model	\$	78,320.00
Task 4 – Proposed Conditions Hydraulic and Hydrological Modeling	\$	60,540.00
Task 5 – Vulnerability Assessment Report	\$	25,480.00
Task 6 – Final Report	\$	7,200.00
Task 8 - Reimbursable Expenses	\$	<u>3,200.00</u>
BASE TOTAL	\$	351,350.00

Please refer to the attached “Manhour Summary” for detail of the lump sum fees referenced above.

FEES: Lump Sum fees are fixed amounts to be paid for the services indicated in the Schedule of Compensation. Lump Sum fees do not include Direct Expenses. Direct Expenses shall be paid for in accordance with the approved Time & Expense Rates within the “Agreement for Professional Services” executed on January 10th, 2023.

ADDITIONAL SERVICES: Services authorized by CLIENT, other than those specifically set forth in the "Scope of Services", shall be considered additional services for which CLIENT shall compensate CONSULTANT on a "Time and Expenses" basis or as otherwise agreed by the parties. Additional services include revisions to work previously performed that are required because of a change in the data, criteria, or information furnished to CONSULTANT, a change in the scope or concept of the project initiated by CLIENT, and/or services that are required due to changes in the requirements of public agencies, after work under this Agreement has commenced. CONSULTANT shall request and CLIENT will execute a “Change of Scope Memorandum” before such work is started.

As a notice to proceed, kindly provide our office with the appropriate Purchase Order. We certainly appreciate the opportunity to present you with this proposal. Upon authorization, we will do our utmost to be an effective member of your team of professionals.

Respectfully,
KESHAVARZ & ASSOCIATES, INC.

Randy Wertepny, P.E.
Vice President

MANHOUR SUMMARY

Town of Loxahatchee Groves Resiliency Vulnerability Assessment

[illegible]