

RESOLUTION NO. 2022-

**A RESOLUTION OF THE VILLAGE OF PINECREST, FLORIDA,
AUTHORIZING THE VILLAGE MANAGER TO ACCEPT THE
BCC ENGINEERING PROPOSAL TO COMPLETE THE
PINECREST VULNERABILITY ASSESSMENT; PROVIDING
FOR AN EFFECTIVE DATE.**

WHEREAS, as part of the 2021 regular session, the Florida Legislature recognized that the state is particularly vulnerable to adverse impacts from flooding resulting from increased frequency and duration of rainfall events, storm surge from more frequent severe weather systems, and sea level/groundwater rise.

WHEREAS, the Legislature further recognized that this Vulnerability Assessment is necessary to comprehensively determine the specific risks posed to the state by flooding and sea-level/groundwater rise and develop a statewide coordinated approach to addressing such risks.

WHEREAS, to facilitate this assessment, the Florida Department of Environmental Protection (FDEP) has established the Resilient Florida (RF) Grant Program. This initiative authorizes the FDEP to provide grants to local governments to fund the costs of community resilience.

WHEREAS, Federal and State grant funding sources now require all grant applicants have a Vulnerability Assessment Study to apply for funding.

BE IT RESOLVED BY THE VILLAGE COUNCIL OF PINECREST, FLORIDA, AS FOLLOWS:

Section 1. That the Village Council hereby authorizes the Village Manager to accept the BCC Engineering proposal to complete the Vulnerability Assessment (VA), per s. 380.093, F.S., which will identify areas within the Village most susceptible to damage from an increase in sea-level and groundwater rise.

Section 2. This resolution shall take effect immediately upon adoption.

PASSED AND ADOPTED this 11th day of July, 2022.

Joseph M. Corradino, Mayor

Attest:

Priscilla Torres, CMC
Village Clerk

Approved as to Form and Legal Sufficiency:

Mitchell Bierman
Village Attorney




Yocelyn Galiano, ICMA-CM
Village Manager
manager@pinecrest-fl.gov

MEMORANDUM
Office of the Village Manager

DATE: July 6, 2022

TO: The Honorable Mayor and Members of the Village Council

FROM: Yocelyn Galiano, ICMA-CM, Village Manager 

RE: Resolution Authorizing the Village Manager to Accept the Proposal for the Completion of a Vulnerability Assessment Study

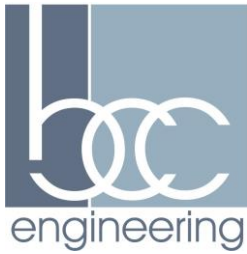
The Village has a strategic goal to seek outside funding for infrastructure projects from Federal and State agencies. Recently, funding agencies have required that applicants to grants have a vulnerability assessment as a condition of grant approval.

Vulnerability Assessments are intended to assess the likely impact of sea-level rise on critical infrastructure, including transportation and drainage infrastructure. With Florida's low-lying geography, assessment of the impact of sea-level rise on these systems is particularly important.

Attached for your consideration is a proposal from BCC Engineering to complete a Vulnerability Assessment Study for the Village of Pinecrest for the amount of \$189,896.00. The cost of the study will be paid for through a grant from the Florida Department of Environmental Protection through the Resilient Florida Grant Program. The Village currently has an ongoing contract for professional engineering services with BCC Engineering. I hereby respectfully recommend approval of the resolution authorizing the Village Manager to accept the proposal and proceed with the project.

/yg





June 9, 2022

David Mendez, P.E.
Public Works Director
Village of Pinecrest
10800 Red Road
Pinecrest, FL 33156

Reference: VILLAGE OF PINECREST VULNERABILITY ASSESSMENT

Mr. Peters:

As part of the 2021 regular session, the Florida Legislature recognized that the state is particularly vulnerable to adverse impacts from flooding resulting from increased frequency and duration of rainfall events, storm surge from more frequent severe weather systems, and sea level/groundwater rise. The Legislature further recognized that this Vulnerability Assessment is necessary to comprehensively determine the specific risks posed to the state by flooding and sea-level/groundwater rise and develop a statewide coordinated approach to addressing such risks.

To facilitate this assessment, the Florida Department of Environmental Protection (FDEP) has established the Resilient Florida (RF) Grant Program. This initiative authorizes the FDEP to provide grants to local governments to fund the costs of community resilience planning and to set forth requirements for certain local government vulnerability assessments.

As part of this Service Order proposal, BCC Engineering, LLC. (BCC) will support the Village of Pinecrest (Village) in completing the Vulnerability Assessment (VA), per s. 380.093, F.S., which will identify areas within the Village most susceptible to damage from an increase in sea-level and groundwater rise. This Service Order will be an integral part of the Continuing Professional Engineering Services Agreement (RFQ No. 2019-05) between the Village and BCC.

This Service Order defines the scope of work, schedule, compensation, and scope of work exclusions for this project's professional engineering services.

I. SCOPE OF WORK

The Scope of Work is comprised of the following essential tasks:

- Task 1 – Data Collection & Gap Analysis
- Task 2 – Project Coordination, Public Outreach & Stakeholder Engagement
- Task 3 – Critical Asset Inventory
- Task 4 – Exposure Analysis
- Task 5 – Sensitivity Analysis
- Task 6 – Identification & Ranking of Focus Areas
- Task 7 – Development of Adaptation Plan

Task 8 – Final Vulnerability Assessment (VA) Report

Task 1 – Data Collection & Gap Analysis

As part of this task, BCC will perform the following activities:

- BCC will request and collect readily available data from the Village and various other governmental agencies/entities to support the vulnerability assessment.
- BCC will identify data gaps based on vulnerability assessment requirements outlined in s. 380.093, F.S., which includes collecting the necessary data to address those gaps.
- BCC will prepare a data catalog for all collected data.

BCC will prepare Technical Memorandum No. 1: *Data Collection & Gap Analysis*, summarizing the results of Task 1. One (1) electronic copy of the memorandum will be submitted for the Village's review. Comments from the Village will be implemented in the pertinent sections of the draft vulnerability assessment report to be developed under Task 8.

Task 2 – Project Coordination, Public Outreach & Stakeholder Engagement

As part of this task, BCC will attend an initial project kick-off meeting with Village staff to introduce the project team, identify goals and objectives for the project, and obtain specific directions from the Village to develop the Vulnerability Assessment Report.

BCC will attend bi-monthly progress meetings for a period of up to twelve (12) months to provide general project coordination and work planning. The progress meetings will be scheduled approximately every two (2) months (up to 6 progress meetings), and the status of all-ongoing tasks and Village reviews will be discussed. These meetings will also serve as a platform for discussing all issues related to draft deliverables and will be one (1) of the forums available to receive verbal and written comments from the Village regarding such deliverables. BCC will prepare and distribute meeting minutes for each progress meeting.

BCC will also perform the following activities:

- BCC will coordinate public outreach to advance the public information program on the project, share the goals of the project, and to solicit feedback/input from the public and key stakeholders throughout the project's duration.
- BCC will coordinate with the Village to identify goals/objectives, obtain specific directions/feedback, and provide project updates.
- BCC will develop a project outreach plan to determine audiences/key stakeholders, outline project objectives, identify planning goals, identify relevant assets, and develop appropriate distribution lists for information.
- BCC will coordinate and plan an initial and final workshop, one (1) commission meeting presentation, and one (1) Sustainability and Resilience Task Force presentation to share the goals of the project and solicit input from the public and stakeholders.
- BCC will prepare necessary documentation and equipment for public meetings such as agenda, name tags, sign-in sheets, comment cards, posters/exhibits, minutes, and other pertinent project information.

BCC will prepare Technical Memorandum No. 2: *Project Coordination, Public Outreach & Stakeholder Engagement*, summarizing the results of Task 2. One (1) electronic copy of the memorandum will be submitted for the Village's review. Comments from the Village will be implemented in the pertinent sections of the draft vulnerability assessment report to be developed under Task 8. BCC will also provide minutes for the project kick-off meeting, general workshop meetings, and any meetings with elected officials.

Task 3 – Critical Asset Inventory

BCC will use the information from the data collection and gap analysis effort to perform the following activities:

- BCC will prepare and/or update the inventory of critical and regionally significant assets based on the findings of the gap analysis and stakeholder engagement coordination.
- BCC will review critical facilities and create and/or update asset inventory as defined in s. 380.093, F.S. At a minimum, these critical asset types shall include:
 - Transportation and evacuation routes (i.e., bus terminals, bridges, etc.)
 - Critical infrastructure (i.e., wastewater treatment facilities, lift stations, stormwater pump stations, drinking water facilities, etc.)
 - Critical community and emergency facilities (i.e., schools, fire stations, hospitals, shelters, etc.)
 - Natural, cultural, and historical resources (i.e., shorelines, cultural assets, parks, etc.)
- BCC will prepare applicable Geographic Information Systems (GIS) shapefiles in accordance with Resilient Florida Planning Grants GIS Data and Metadata standards.

BCC will prepare Technical Memorandum No. 3: *Critical Asset Inventory*, summarizing the results of Task 3. One (1) electronic copy of the memorandum will be submitted for the Village's review. Comments from the Village will be implemented in the pertinent sections of the draft vulnerability assessment report to be developed under Task 8. BCC will also provide an electronic copy of the critical and regionally significant asset GIS database along with a PDF copy of the asset inventory list.

Task 4 – Exposure Analysis

As part of this task, BCC will use the models developed as part of the Stormwater Master Plan (SWMP) completed in 2015 to perform an exposure analysis in accordance with guidelines set forth in s. 380.093, F.S.

BCC will perform the following activities as part of this task:

- BCC will conduct an exposure analysis to identify the depth of water caused by rainfall and tidal induced flooding for four (4) design storm events using different sea-level/groundwater rise scenarios. The four (4) design storm events will include the following:
 - 5-Year 24-Hour
 - 10-Year 24-Hour
 - 25-Year 72-Hour
 - 100-Year 72-Hour

- BCC will map the spatial extent of flooding throughout the Village using scenarios and standards outlined in s. 380.093, F.S. Two (2) planning horizons will be evaluated in the years 2040 and 2070 using both the 2017 NOAA intermediate-low and intermediate-high sea-level rise projection curves.
- BCC will prepare applicable GIS shapefiles and depth of flooding (i.e., inundation) maps in accordance with Resilient Florida Planning Grants GIS Data and Metadata standards.

BCC will prepare Technical Memorandum No. 4: *Exposure Analysis*, summarizing the results of Task 4. One (1) electronic copy of the memorandum will be submitted for the Village's review. Comments from the Village will be implemented in the pertinent sections of the draft vulnerability assessment report to be developed under Task 8. BCC will also furnish H&H model files and electronic copies of the GIS depth of flooding (i.e., inundation) maps for each future scenario.

Task 5 – Sensitivity Analysis

BCC will use the information from the exposure analysis to perform the following activities:

- BCC will perform a sensitivity analysis in accordance with guidelines set forth in s. 380.093, F.S.
- BCC will measure the impact of flooding on assets by applying the data/results obtained through the exposure analysis to the inventory of critical assets created in Task 3.
- BCC will prepare applicable GIS shapefiles in accordance with Resilient Florida Planning Grants GIS Data and Metadata standards.

BCC will prepare Technical Memorandum No. 5: *Sensitivity Analysis*, summarizing the results of Task 5. One (1) electronic copy of the memorandum will be submitted for the Village's review. Comments from the Village will be implemented in the pertinent sections of the draft vulnerability assessment report to be developed under Task 8. BCC will also provide an electronic copy of the GIS asset inventory with identified flood impacts along with a digital copy of the asset inventory list.

Task 6 – Identification & Ranking of Focus Areas

BCC will use the results from both the exposure and sensitivity analysis to perform the following activities:

- BCC will identify and rank vulnerable areas of significant flooding to determine locations that require the development of adaptation strategies.
- The approach for ranking and prioritizing vulnerable areas will follow the procedure utilized in the SWMP, which establishes a Flood Protection Severity Score (FPSS) for each sub-basin based on the flood protection level of services (LOS) indicators, weighting factors (WF), and amount of flooding exceedance (E). Sub-basins developed as part of the SWMP will be used to facilitate this effort.

BCC will prepare Technical Memorandum No. 6: *Identification & Ranking of Focus Areas*, summarizing the results of Task 6. One (1) electronic copy of the memorandum will be submitted for the Village's review. Comments from the Village will be implemented in the pertinent sections of the draft

vulnerability assessment report to be developed under Task 8. BCC will also provide electronic GIS files showing vulnerable areas along with a digital copy of the evaluation and ranking spreadsheet.

Task 7 – Development of Adaptation Plan

As part of this task, BCC will perform the following activities:

- BCC will develop planning level adaptation and implementation strategies for vulnerable focus areas, as defined in Task 6, within a timeframe that is applicable and realistic.
- BCC will identify and assess the impacts that are likely to affect the planning area, develop goals and planning level actions to best minimize these impacts, and establish a process to implement those actions.
- BCC will assess adaptive capacities, evaluate prioritization of adaptation needs, identify adaptation strategies, and integrate actions into existing plans, if applicable.
- BCC will develop the Adaptation Plan based on a planning level effort and will not conduct any conceptual design. Moreover, adaptation strategies to address sea-level and groundwater rise will be suggested but will need to be comprehensively addressed in a subsequent report. A future study will be required to determine the details of proposed adaptation projects, timelines of completion, estimates of costs, and priorities.

BCC will prepare Technical Memorandum No. 7: *Development of Adaptation Plan*, summarizing the results of Task 7. One (1) electronic copy of the memorandum will be submitted for the Village's review. Comments from the Village will be implemented in the pertinent sections of the draft vulnerability assessment report to be developed under Task 8.

Task 8 – Final Vulnerability Assessment (VA) Report

BCC will compile the Technical Memorandums outlined in Tasks 1 through 7 into a single draft Vulnerability Assessment Report per guidelines set forth in s. 380.093, F.S. The Vulnerability Assessment Report will include an Executive Summary outlining the key findings and recommendations developed as part of this project. One (1) electronic copy of the draft Report will be submitted for the Village's review. Upon receipt of the Village's written review comments, three (3) final copies of the Vulnerability Assessment Report will be issued to the Village. BCC will also provide the Vulnerability Assessment Report in electronic format in combination with the accompanying digital H&H model data and GIS shapefiles that were developed as part of this project.

As part of this task, BCC will attend up to two (2) meetings with a group of Village Council members to present the findings of the Vulnerability Assessment Report. After those meetings, BCC will present the findings of the Report at a Village Council meeting for the Village to adopt the Vulnerability Assessment.

II. SCHEDULE OF WORK – TIME OF PERFORMANCE

BCC shall submit the Deliverables and perform the Work as depicted in the table below. Completion dates are in months from notice to proceed (NTP).

Schedule of Deliverables		
Task(s)	Project Activity Description and Deliverable	Months from NTP
1	Data Collection & Gap Analysis (TM 1)	1.5
2	Project Coordination, Public Outreach & Stakeholder Engagement (TM 2)	12
3	Critical Asset Inventory (TM 3)	3.5
4	Exposure Analysis (TM 4)	6
5	Sensitivity Analysis (TM 5)	8
6	Identification & Ranking of Focus Areas (TM 6)	9
7	Development of Adaptation Plan (TM 7)	11
8	Final Vulnerability Assessment (VA) Report	12

III. COMPENSATION

BCC will be compensated \$189,896.00 for performing the work detailed in the Scope of Work. The total project fee is on a lump sum basis for performing the required project work activities detailed in the Scope of Work. BCC will submit to the Village monthly invoices for work billed as actual hours charged to the project. The table below outlines the estimated fee schedule of the required tasks in the Scope of Work. Exhibit A includes a detailed man-hour estimate for work outlined in the Scope of Work. Rates are based upon the agreed rates within the Village’s Professional Services Agreement (RFQ 2021-1101).

Summary of Compensation – Required Work Activities		
Task(s)	Project Activity Description and Deliverable	Fee Amount
1	Data Collection & Gap Analysis (TM 1)	\$16,885.00
2	Project Coordination, Public Outreach & Stakeholder Engagement (TM 2)	\$24,419.00
3	Critical Asset Inventory (TM 3)	\$19,299.00
4	Exposure Analysis (TM 4)	\$55,700.00
5	Sensitivity Analysis (TM 5)	\$18,127.00
6	Identification & Ranking of Focus Areas (TM 6)	\$17,333.00
7	Development of Adaptation Plan (TM 7)	\$25,875.00
8	Final Vulnerability Assessment (VA) Report	\$12,258.00
TOTAL		\$189,896.00

IV. SCOPE OF WORK EXCLUSIONS

The services outlined below are not included as part of the Scope of Work, although additional service orders can be executed to assist the Village with these services if necessary:

1. Hydrologic/hydraulic modeling of improvement projects.
2. Conceptual designs or permitting of improvement projects.
3. Collection of necessary additional data (i.e., LiDAR, seawall survey, etc.) identified during the data gap analysis.
4. Development of Peril of Flood Comprehensive Plan Amendments.
5. All other activities not explicitly outlined in the Scope of Work.

We look forward to assisting the Village on this important project assignment. If you have any questions or need additional information, please do not hesitate to contact Victor Herrera, PE, or me at (305) 670-2350.

Sincerely

BCC ENGINEERING, LLC.



Alex Vazquez, PE, CFM

Director of Water Resources/Project Manager

Enclosures:

Exhibit A – Fee Estimate

Exhibit A – Fee Estimate



VILLAGE OF PINECREST
VULNERABILITY ASSESSMENT

FEE ESTIMATE

Date Estimated: 6/9/2022

WORK ACTIVITY	BCC Staff by Category				TOTAL HOURS	TOTAL FEE	Comments/Assumptions
	Principal/QC	Project Manager	Sr. Project Engineer	GIS Technician			
HOURLY RATE	\$205.00	\$190.00	\$175.00	\$127.00			
Task 1 – Data Collection & Gap Analysis	1	12	46	50	109	\$16,885.00	
Request and collect available data		4	8	14	26	\$3,938.00	
Review available information and identify data gaps		2	4	10	16	\$2,350.00	
Prepare data catalog and list of additional data needs		2	2	8	12	\$1,746.00	
Prepare technical memorandum summarizing work effort	1	4	32	18	55	\$8,851.00	One electronic PDF copy
Task 2 – Project Coordination, Public Outreach & Stakeholder Engagement	1	25	88	32	146	\$24,419.00	
Develop project goals, template and timeline		4	12	8	24	\$3,876.00	
Prepare for and attend project kick-off meeting		1	4		5	\$890.00	
Initial stakeholder engagement and educational materials		4	16	12	32	\$5,084.00	
Prepare project updates and attend progress meetings (up to 7 meetings)		6	14		20	\$3,590.00	6 mtg, 2 eng, 1hr virtual
Prepare and distribute monthly progress meeting minutes		4	14		18	\$3,210.00	
Final stakeholder engagement and educational materials		4	12	10	26	\$4,130.00	
Prepare technical memorandum summarizing work effort	1	2	16	2	21	\$3,639.00	One electronic PDF copy
Task 3 – Critical Asset Inventory	1	7	42	82	132	\$19,299.00	
Review critical facilities within the Village per s. 380.093 F.S.		1	2	16	19	\$2,572.00	
Prepare and/or update inventory of critical and regionally significant assets		1	4	16	21	\$2,922.00	
Prepare and/or update GIS shapefiles per Resilient Florida Planning Grants standards		1	4	10	15	\$2,160.00	
Prepare technical memorandum summarizing work effort	1	4	32	40	77	\$11,645.00	One electronic PDF copy
Task 4 – Exposure Analysis	1	14	135	230	380	\$55,700.00	
Review planning horizons and NOAA projection curves		1	4	12	17	\$2,414.00	
Determine sea level/groundwater rise projection values for each future scenario		1	2	8	11	\$1,556.00	
Update input parameters for H&H model		2	40	60	102	\$15,000.00	
Debug/troubleshoot updated H&H model		1	16	24	41	\$6,038.00	
Perform design storm simulations for each future scenario			1	6	7	\$937.00	
Process model results and prepare inundation flood maps for each future scenario		4	24	40	68	\$10,040.00	
Update critical asset inventory with relevant impact information for each future scenario		1	16	20	37	\$5,530.00	
Prepare and/or update GIS shapefiles per Resilient Florida Planning Grants standards		1	16	20	37	\$5,530.00	
Prepare technical memorandum summarizing work effort	1	4	32	60	97	\$14,185.00	One electronic PDF copy
Task 5 - Sensitivity Analysis	1	9	52	56	118	\$18,127.00	
Assess impact of flooding on assets for each future scenario		4	12	24	40	\$5,908.00	
Update critical asset inventory with relevant impact information for each future scenario		1	8	16	25	\$3,622.00	
Prepare technical memorandum summarizing work effort	1	4	32	16	53	\$8,597.00	One electronic PDF copy
Task 6 - Identification & Ranking of Focus Areas	1	8	50	54	113	\$17,333.00	
Process model output data in GIS to develop FPSS		1	2	6	9	\$1,302.00	
Compute FPSS for all concern/focus areas for each future scenario		1	8	16	25	\$3,622.00	
Rank focus areas and prepare ranking maps for each future scenario		2	8	12	22	\$3,304.00	
Prepare technical memorandum summarizing work effort	1	4	32	20	57	\$9,105.00	One electronic PDF copy
Task 7 - Development of Adaptation Plan	3	21	78	60	162	\$25,875.00	
Identify impacts affecting vulnerable focus areas		1	2	6	9	\$1,302.00	
Develop planning level adaptation goals	1	4	12	16	33	\$5,097.00	
Establish action process and implementation strategies	1	8	24	14	47	\$7,703.00	
Prepare technical memorandum summarizing work effort	1	8	40	24	73	\$11,773.00	One electronic PDF copy
Task 8 - Final Vulnerability Assessment (VA) Report	2	18	38	14	72	\$12,258.00	
Prepare Draft Vulnerability Assessment (VA) Report		4	16	10	30	\$4,830.00	One electronic PDF copy
Attend meeting with Council Members		4	4		8	\$1,460.00	
Prepare Final Vulnerability Assessment (VA) Report	1	2	10	4	17	\$2,843.00	One electronic PDF copy
Present Final Vulnerability Assessment (VA) at Council Meeting	1	8	8		17	\$3,125.00	
Total Hours	11	114	529	578			
Total Fee	\$2,255.00	\$21,660.00	\$92,575.00	\$73,406.00	1232	\$189,896.00	