



5411 Skycenter Drive, Ste 650
Tampa, FL 33607
wsp.com

April 9, 2024

Michelle Monteclaro
via email: monteclaro@dunedinfl.net
Environmental Program Manager
City of Dunedin

Re: Dunedin Resilient Florida Vulnerability Assessment Scope of Work
WSP Project No. USEI600912

Dear Ms. Monteclaro:

SCOPE OF SERVICES

Task 1 - Kickoff Meeting

Description: After a notice-to-proceed is issued, the CONSULTANT will conduct a kickoff meeting to discuss the project scope, project goals, schedule, key milestones, and deliverables. Prior to the meeting, the CONSULTANT will prepare the sign-in sheet, draft project schedule, and other meeting materials, as necessary.

Deliverables: The CONSULTANT will provide the following: 1) Draft list of stakeholder representatives to serve on the steering committee; 2) kick-off meeting agenda and minutes, and 3) 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. 4) Attend Kick off meeting (in person, if applicable). 5.) Copy of the presentation(s) and any materials created for distribution at the meeting. 6). Meeting sign-in sheets

Task 2- Assembling Steering Committee

Description: The CONSULTANT will assist the CITY review and approve the steering committee list and then distribute the draft email prepared in Task 2 to the steering committee members. The email requests steering committee member participation and to provide confirmation of acceptance or denial.

Deliverables: The CONSULTANT will assist the CITY provide a 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: This task will also include steering committee meetings as necessary at key milestones listed below. 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.

6 steering committee meetings are anticipated (3 in person (if applicable), 3 virtual).

Anticipated Steering Committees Meetings:

- ▶ Kick off meeting (Task 1)
- ▶ Completion of Task 5
- ▶ Completion of Task 7

- ▶ Completion of Task 9
- ▶ Task 11 Kick off
- ▶ Completion of Task 11

Anticipated Commission Meetings

- ▶ Attend Project kick off: Grant Approval /CONSULTANT award

Deliverables: 1) meeting agendas to include location, date, and time of the meeting; 2) meeting sign-in sheets with attendee names and affiliation; and 3) a copy of the presentation(s) and any materials created for distribution at the meeting, as applicable. 4) Progress Reporting and Invoicing

Task 4 – Data Collection and Research

Description: The CONSULTANT will research and compile the data needed to perform the Vulnerability Assessment based on the requirements as defined in Section 380.093, Florida Statute (F.S.). An asset inventory will be compiled for all critical and regionally significant assets such as the City’s Wastewater Treatment Plant, the City’s Water Treatment Plant, the City’s Emergency Operations Center, Solid Waste and Fleet Yard, Public Services Yard, etc. Data collection includes obtaining City of Dunedin Stormwater Master Plan including Appendix K: Vulnerability Assessment, the final ICPR v4 model developed by the CITY’s Stormwater Master Plan completed in 2020, Pinellas County LiDAR (DEM) data flown in 2018, Pinellas County Property Appraiser data, Pinellas County’s Vulnerability Assessment, CITY land use data, king tide data finished floor elevations for critical CITY assets, FEMA flood maps, NOAA data/maps, national and state sea level reports/data, and projections for sea level rise (SLR), etc. GIS metadata should incorporate a layer for each of the four asset types as defined in s. 380.093(2) 1-4, F.S. 1) transportation 2) Critical infrastructure 3) Critical community and emergency facilities 4) Natural, cultural, and historical resources. Sea level rise projection data shall include the 2017 National Oceanic and Atmospheric Administration (NOAA) intermediate-high and intermediate-low projections (or the projection(s) required by Section 380.093, F.S.) for 2040 and 2070 (or the planning horizons selected in consultation with the Department in the “Identify Vulnerability Assessment Data Standards” task) at a minimum. Other projections can be used at the Grantees discretion so long as additional scenarios do not require additional funds. Storm surge data used must be equal to or exceed the 100-year return period (1% annual chance) flood event.

Three main categories of data will be used to perform the Vulnerability Assessment: 1) critical and regionally significant asset inventory, 2) topographic data, and 3) flood scenario-related data.

In the process of researching background data, the CONSULTANT shall identify data gaps, where missing data or low-quality information may limit the Vulnerability Assessment’s extent or reduce the accuracy of the results. Any data gaps will be identified and rectified by the CITY where required.

Deliverables: GIS files provided for each critical asset type: Transportation, Infrastructure, Community and Emergency, and Natural/Cultural/Historical resources. A summary report outlining the data compiled and identifying any data gaps and actions taken to rectify them. GIS files provided that identify impacted areas. GIS files and associated metadata will adhere to the Resilient Florida Program’s GIS Data Standards (Exhibit I), and raw data sources shall be defined within the associated metadata.

Task 5 – Public Outreach Meeting 1

Description: The purpose of the first meeting will be to allow the public to provide valuable input on areas of concern during the initial data collection stages, to gain data from stakeholders on potential sea level rise impacts and/or flooding, guiding factors to consider, and critical assets important to the community. The CONSULTANT will prepare the meeting agenda, sign-in sheet, notification letter/meeting invitation, meeting materials, presentation, and graphics utilized during the meeting, as applicable. The CITY will perform mail out of notification letters/meeting invitations, emails to CITY representatives/stakeholders, website updates and/or social media information.

Deliverables: The CONSULTANT will provide the following: 1) Attend meeting (in person). 2) meeting agendas to include location, date, and time of meeting; 3) meeting sign-in sheets with attendee names

and affiliation (i.e. local stakeholder, resident, steering committee member, local government staff); 4) a copy of the presentation(s) and any materials created in preparation of or for distribution at the meeting (i.e. graphics), as applicable; and 5) a summary report including attendee input and meeting outcomes.

Task 6 – Exposure Analysis

Description: The purpose of this task is to identify the depth of water caused by each rainfall, sea level rise, and storm surge. Compound flooding will be handled by analyzing matching probability analysis for significant events for both rainfall and storm surge, to establish the analysis baseline. For all of the analysis to be conducted two local sea-level rise scenarios, including the 2017 NOAA Intermediate-Low and Intermediate-High sea-level rise projections will be utilized to determine conditions like tailwater elevations, tidal elevations for inundation, or base conditions for surge modeling.

Rainfall: the CONSULTANT will perform an exposure analysis by utilizing the final ICPR v4 model developed by the CITY’s Stormwater master plan completed in 2020. The CONSULTANT will evaluate readily available modeling tools and determine the best fit for modeling. 6 (rainfall + SLR) scenarios will be produced as a part of this task. Rainfall events include 10-year (24-hour), 25-Year (24-hour), 50-year (24-hour), 100-year (24-hour), and 500-year (24-hour) and will be prepared for the SLR scenarios identified.

Sea Level Rise / Tidal Concerns: local sea level data will be interpolated between the two closest NOAA tide gauges to determine water elevations. Refined analysis of sea level rise will include the determination of key measures like mean sea level, mean high water and king tide water elevations. This data will be prepared to represent extents and depths of flooding for tidal flooding for the SLR scenarios identified.

Storm Surge: the storm surge analysis data generated by the University of Florida for the Pinellas County Vulnerability Assessment will be used, which will be for increments that are in excess of the 100-year return period (1% annual chance), 25-year return period and 500-year return period (.2% annual chance) flood event. Data will be prepared for the two SLR scenarios identified, with the intermediate high scenario (not previously developed for Pinellas County Vulnerability Assessment) developed through appropriate interpolation techniques.

Deliverables: The CONSULTANT will provide a new “existing conditions” watershed model (ICPR v4) to be used as basis for establishing impact analyses for compound flooding. A draft Vulnerability Assessment report will be developed outlining the modeling process, updates to the existing conditions, scenarios modeled, and results for Compound Flooding and storm surge. This deliverable will include GIS files depicting the water surface boundaries and depths for each modeled scenario.

Task 7 – Sensitivity Analysis

Description: Using the data collected from the previous Tasks, the CONSULTANT will perform a sensitivity analysis by applying the surface water depths reported in the exposure analysis to each of the assets listed in the critical asset inventory. The analysis will identify the impact of each of the stressors, sea level rise (combined with stormwater runoff), and storm surge in relation to communities, infrastructure, transportation, structures, critical assets, and natural resources. The sensitivity analysis will include an evaluation of the impact of flood severity on each asset type for each flood scenario and assign a risk level. The sensitivity analysis will assign a risk level based on percentages of land area inundated and the number of critical assets affected. The analysis will include and analysis of when (time Horizon) flooding may occur and at what level for each SLR scenario of when (which planning horizon) and how much (which SLR scenario).

Deliverables: The CONSULTANT will provide an updated draft Vulnerability Assessment report that provides details on the findings of the exposure analysis and sensitivity analysis (which will include a visual presentation of the data via maps and tables, based on the statutory-required scenarios and standards). The updated draft Vulnerability Assessment will also include an initial list of critical and regionally significant assets, prioritized by area and/or immediate need, which are impacted by flooding and identified by flood scenarios. Includes GIS files identifying impacted areas, critical assets, and prioritization

of need. The list of critical and regionally significant assets will be prioritized by area or immediate need and will identify which flood scenario(s) impacts each asset.

Task 8 – Public Outreach Meeting 2

Description: The purpose of the second meeting is to allow the public to provide valuable input on information collected and analyzed to this point and review the results of the analysis. The CONSULTANT will prepare the meeting agenda, sign-in sheet, notification letter/meeting invitation, meeting materials, presentation, and graphics utilized during the meeting, as applicable. The CITY will perform mail out of notification letters/meeting invitations, emails to CITY representatives/stakeholders, website updates and/or social media information. The CITY shall be responsible for venue procurement and associated fees.

Deliverables: The CONSULTANT will provide the following: 1) Attend meeting (in person). 2) meeting agendas to include location, date, and time of meeting; 3) meeting sign-in sheets with attendee names and affiliation (i.e. local stakeholder, resident, steering committee member, local government staff); 4) a copy of the presentation(s) and any materials created in preparation of or for distribution at the meeting (i.e. graphics), as applicable; and 5) a summary report including attendee input and meeting outcomes.

Task 9 – Identify Focus Areas

Description: The CONSULTANT will identify focus areas based on the results of the second public outreach meeting and input from the steering committee. Based on the exposure and sensitivity analyses, the CONSULTANT will assign focus areas to locations or assets that are particularly vulnerable and require the development of adaptation strategies. This analysis also includes the identification and outlining of the CITY's Adaptation Action Areas (AAA). This task will follow guidelines presented 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 CONSULTANT will provide the following: 1) a report summarizing the areas identified as focus areas, with justification for choosing each area; 2) tables listing each focus area with any critical assets that are contained inside the focus area; 3) maps illustrating the location of each focus area compared to the location of all critical assets within the geographic extent of the study; and 4) GIS files and associated metadata illustrating geographic boundaries of the identified focus areas.

Task 10 – Vulnerability Assessment Report

Description: The CONSULTANT will finalize the Vulnerability Assessment report pursuant to the requirements in s. 380.093, F.S. and based upon the public outreach efforts. The final Vulnerability Assessment will include all results from the exposure and sensitivity analyses, as well as a summary of identified risks and assigned focus areas. It will 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. The Vulnerability Assessment will serve as a basis to inform community policies to improve resilience to current coastal flooding. A draft final Vulnerability Assessment report will be prepared and submitted to the CITY for review. CITY comments and suggested revisions will be incorporated into a Final Vulnerability Assessment report.

Deliverables: The CONSULTANT will provide the final Vulnerability Assessment report. Final GIS files for each critical asset type, delineations of flood areas and depths for each modeled scenario, delineations of impacted areas, focus areas, and prioritization delineations. The Final Vulnerability Assessment Report will provide 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.; including a final list of critical and regionally significant assets that are impacted by flooding. The list of critical and regionally significant assets will be prioritized by area or immediate need and will identify which flood scenario(s) impacts each asset. All

electronic mapping data used to illustrate flooding and sea level rise impacts identified in the Vulnerability Assessment will include the geospatial data in an electronic file format and GIS metadata and a signed Vulnerability Assessment Compliance Checklist Certification.

Task 11 - Adaption Plan

The CONSULTANT will complete an Adaptation Plan (AP) that is consistent with the Florida Adaptation Planning Guidebook and includes the following: assessment of adaptive capacities, prioritization of adaptation needs, and identification of adaptation strategies. The Adaption Plan will also include areawide strategies, facility-level strategies, policy strategies, and identify funding. The CONSULTANT will coordinate with the CITY to review existing Capital Improvement projects and develop new projects to retrofit to incorporate resilience. This analysis will be conceptual level design, detailed CADD design is not anticipated.

Deliverables: Identify and summarize a list of possible City adaptation strategies. Prioritized list of conceptual projects. Programmatic recommendations and provide the final adaption plan report.

Task 12- Public Presentation (City Commission Meeting)

The CONSULTANT will present at a City commission meeting. 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. Presentation will be held at the completion of the Vulnerability Assessment report. The CITY will perform mail out of notification letters/meeting invitations, emails to CITY representatives/stakeholders, website updates and/or social media information. The CITY shall be responsible for venue procurement and associated fees.

Deliverables: A copy of the presentation(s) and any materials created in preparation of or for distribution at the meeting.

Task 13 Project Management,

Description: The CONSULTANT shall provide Project Management and staff administration for the professional services described in this Scope of Services including budgeting, invoicing, and quality assurance program/quality control. This Task will include internal meetings between the project team and CITY staff PM meetings (up to 16 Meetings anticipated). Project Management Budget has been accounted for throughout various task listed.

PROJECT SCHEDULE

The CONSULTANT shall commence professional services upon written receipt of Notice to Proceed (NTP) from the CITY. The estimated time necessary to deliver this project is shown below. The schedule assumes a twenty-one (21) calendar day turnaround for the CITY to review deliverables. Project schedule below is contingent on Notice to proceed provided by the City by April 30,2024.

Phase/Task No.	Task Name	Task Start Date	Task Due Date	Calendar Days
Task 1	Kick off Meeting	5/1/2024	5/31/2024	30
Task 2	Assemble Steering Committee	5/1/2024	5/31/2024	30
Task 3	Conduct Steering Committee Meetings	5/1/2024	3/31/2026	699
Task 4	Data Collection	5/14/2024	8/31/2024	109
Task 5	Public Outreach Meeting 1	5/15/2024	5/31/2024	16
Task 6	Exposure Analysis	8/31/2024	12/31/2024	122
Task 7	Sensitivity Analysis	1/1/2025	4/30/2025	119
Task 8	Public Outreach Meeting 2	4/30/2025	5/31/2025	31
Task 9	Identify Focus Areas	5/31/2025	7/31/2025	61
Task 10	Vulnerability Assessment Report	7/31/2025	9/30/2025	61
Task 11	Adaption Plan	10/30/2025	3/31/2026	152
Task 12	Public Presentation (City Commission Meeting)	3/15/2024	3/31/2026	16
Task 13	Project Management	5/1/2024	3/31/2026	699

*Schedule Assumes NTP of 4/30/2024

COMPENSATION

This Task order will be completed in accordance with Method I-LUMP SUM found in the Agreement for CONSULTANT Services dated May 16th, 2023. The total project fee is not to exceed amount of **\$380,950**.

Phase/Task No.	Task Name	Amount
1	Kick off Meeting	\$12,005
2	Assemble Steering Committee	\$10,455
3	Conduct Steering Committee Meetings	\$18,645
4	Data Collection	\$27,830
5	Public Outreach Meeting 1	\$13,185
6	Exposure Analysis	\$69,585
7	Sensitivity Analysis	\$53,430
8	Public Outreach Meeting 2	\$13,185
9	Identify Focus Areas	\$23,950
10	Vulnerability Assessment Report	\$37,225
11	Adaption Plan	\$89,535
12	Public Presentation (City Commission Meeting)	\$11,920
Total		\$380,950

Sincerely

WSP USA Environment and Infrastructure Inc.



Nabil Bawany
Lead Consultant

NB/CM/sn



Christine Mehle
Vice President, Local Business Leader