

TASK ORDER 1-21 ENG

**RESILIENT ENGINEERING SERVICES FOR THE CITY OF KEY WEST
SEA LEVEL RISE - POLICY STUDY**

This TASK ORDER 1-21 ENG is issued under the terms and conditions of the AGREEMENT TO FURNISH GENERAL ENGINEERING SERVICES TO THE CITY OF KEY WEST ("AGREEMENT") between the City of Key West ("CITY") and CH2M HILL, Engineers, Inc. ("CONSULTANT") dated November 3, 2017 and as amended September 25, 2020 which is incorporated herein by this reference.

A. SCOPE OF SERVICES

Specific services which the CONSULTANT agrees to furnish are summarized on the attached statement entitled TASK ORDER 1-21 ENG "SCOPE OF SERVICES." The "Scope of Services" defines the work effort anticipated for the Task Order.

This Task Order, when executed, shall be incorporated in and shall become an integral part of the Master Agreement as amended on September 25, 2020.

B. TIME OF COMPLETION

Work under this Task Order will begin immediately following acceptance and be completed expeditiously.

C. COMPENSATION

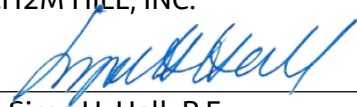
Compensation for the labor portions of TASK ORDER 1-21 ENG, tasks 1, 2 and 3 will be on a lump sum fee basis as stipulated in Article 2, Paragraph 2.1 of the AGREEMENT. Compensation for task 4 and all expenses will be on a Cost Reimbursable-Per Diem basis as stipulated in Article 2, Paragraph 2.2 of the AGREEMENT. The estimated compensation is shown on the attached statement entitled TASK ORDER 1-21 ENG COMPENSATION.


D. ACCEPTANCE

By signature, the parties each accept the provisions of this TASK ORDER 1-21 ENG and authorize the CONSULTANT to proceed at the direction of the CITY's representative in accordance with the "SCOPE OF SERVICES." Start date for this project will be no later than two (2) days after execution of this authorization.

For CH2M HILL, INC.

By: _____


Sirpa H. Hall, P.E.
Senior Business Vice President


Sean McCoy, P.E.
Key West Project Manager

For CITY OF KEY WEST

By: _____

Greg Veliz
City Manager

Dated the _____ day of _____, 2020

ATTEST: _____

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SCOPE OF SERVICES

BACKGROUND

The City of Key West, FL is an island city at the southernmost tip of Florida with a population of almost 25,000 people. The island is about four miles long by one mile wide, and contains an airport, cruise port and naval air station. It is low lying and vulnerable to coastal flooding and sea level rise (SLR). The city is Monroe County's municipal representative at the Southeast Florida (SE FL) Regional Climate Change Compact.

INTRODUCTION/PURPOSE

This task order is intended to provide guidance in support of the application of SLR and rainfall projections and the development of tidal boundary conditions for use in stormwater management and other city infrastructure projects. Much of the City's public and private infrastructure is vulnerable to flooding from extreme rainfall, extreme tides and storm surge as a result of low coastal defenses such as seawalls, and infrastructure, homes and businesses at low elevations. Guidance for a new SLR policy will aim to support the process by which Key West can efficiently and equitably continue to enhance its Resilience to flooding.

As a fundamental component of building community resilience, this guidance shall include an overview of historical water levels and projections used as the basis for public infrastructure design criteria. This guidance will focus on providing recommendations to inform a future City policy to mitigate flood risk and maintain future operational capacity for critical infrastructure. Key infrastructure identified in this guidance will include but not limited to roads, stormwater pump stations, wells, tidal barriers and other tidally influenced infrastructure. Examples of guidance may include increased road elevations, road hardening and harmonization with private property, boundary conditions for stormwater management, and minimum elevations for top of coastal barriers.

SCOPE OF SERVICES:

TASK 1

Kickoff, Data Collection and Review:

This task includes the collection of information used to inform the development of recommendations in support of a new City sea level rise Policy referenced to the City of Key West tide gauge. Readily available documents provided by the City and other readily available information will be collected and reviewed, including SE FL Regional Climate Change Compact, SLR projections and Regional Climate Action Plan, current City Comprehensive Plan and related resilience policies, engineering design criteria for roads, stormwater, and coastal barriers.

This task includes the following activities:

- Project kickoff meeting (virtual) will be attended by at least two Consultant staff
- Develop meeting agenda and minutes
- Data collection and review, which may include:
 - Model language and policies adopted by other cities in southeast Florida, such as the City of Miami Beach, to incorporate the SE FL Climate Change Compact's unified SLR projections for public infrastructure projects.
 - Sample infrastructure design criteria from other cities in southeast FL, including: stormwater boundary conditions and LOS; minimum design criteria for coastal barriers and roads.
 - Historical weather and water level records from local tide and rainfall station(s).
 - Readily available City/County/State LiDAR DEM.
 - City GIS shapefiles for sea walls, roads and stormwater infrastructure.

Deliverables:

1. Meeting agenda and minutes for kickoff meeting (pdf & MS Word)
2. Summary of data collected and reviewed (pdf & MS Word)

Assumptions:

1. Critical City infrastructure includes roads, stormwater pump stations, wells and coastal/tidal barriers.
2. City of Key West is responsible for coordinating kickoff meeting, invitation of participants as well as identification of key stakeholders to be present. At least two members of the Consultant team will attend the meeting virtually.
3. City shall provide Consultant with requested documents, where available, in a timely manner.

TASK 2

Stakeholder Engagement & Visioning Session (virtual)

This task is intended to explore the potential implications of various projections related to City infrastructure and policy to establish the project focus in terms of planning horizons and risk tolerance that will inform the suggested application guidance. This task includes a virtual goal setting/visioning meeting with key City stakeholders which may include representatives from engineering, utilities, buildings, planning, budget office, communications, policy, capital improvements and sustainability/resilience departments to discuss considerations for SLR and related policy development. This visioning session will discuss sea level rise adaptation, infrastructure investment needs and policy to inform the analysis and to lay the groundwork for future capital projects.

- Host a Virtual Staff Visioning Session (less than 10 staff) to discuss and understand:
 - a) Review current conditions (weather and climate events)ground water levels from boring logs/reports and other data collected in task 1.
 - b) Discuss future planning scenarios (SE FL Climate Change Compact Unified Projections)
 - c) Review and discuss lessons learned from the region (Miami Beach, Monroe, others?)
 - d) Consensus building around approach

This task includes the following activities:

- Prepare meeting agenda, materials and minutes.
- Facilitate meeting to solicit input and reactions from attendees.
- At least two CONSULATNT staff will attend the virtual meeting.

Deliverables:

1. Summary of meeting materials including invitation, agenda, list of attendees, presentation materials and meeting minutes (pdf & MS Word)
2. Lessons learned, key findings and recommendations in a TM. (pdf & MS Word)

Assumptions:

1. City of Key West is responsible for invitation of required stakeholders to virtual meeting.
2. City of Key West is responsible for hosting meeting and related logistics.
3. City shall provide requested documents in a timely manner.
4. CONSULATNT will provide meeting content and facilitate meeting.

TASK 3**Develop Technical Memorandum**

This task includes the development of a Technical Memorandum (TM) and supporting graphics intended to inform the future development of new City SLR policy and infrastructure design standards. The TM will also include model language used by other cities in SE Florida to adopt the Compact unified sea level rise projects in the form of a sample City Manager's memorandum and resolution language that would incorporate findings from the TM and would be ready for staff to transmit to the city commission.

This task also includes development of a 1-2 page visualization/communication graphic similar to those prepared for Miami Beach for helping to communicate technical topics to non-technical stakeholders.

This TM may include the following elements:

- Summary of existing City of Key West design criteria/standards/policy, case study information from other FL Cities, and recommendations for new City standards/policies with supporting documentation.
- City SLR application framework for future capital projects,
- Boundary conditions for stormwater system and pump station basis of design,
- Roadway design guidance to mitigate SLR,
- Coastal/Tidal barrier design guidance,
- Frequency of updates for alignment with SE FL Compact SLR projections (4-5 years),

Deliverables:

1. Draft and Final Technical Memorandum (pdf & MS Word)

Assumptions:

1. Draft TM and supporting materials will be submitted to City for 2-week review.
2. All recommendations are based on professional opinions, subject to City consideration.
3. Any changes to City policy, Comprehensive Plan, design guidelines or ordinances, as a result of the adopted criteria, would be performed by the City for future adoption by City Commission.
4. City shall review draft TM submittal and provide comments in a timely manner.

TASK 4**Presentation of Findings**

Under this task, key findings will be presented to City Commission or City Committee by one CONSULATNT staff member.

Deliverables:

1. Draft and Final Power Point presentation of key findings to City Commission or City Committee.

Assumptions:

1. City will prepare Commission agenda item.
2. City Commission presentation assumed to occur middle of March as indicated by the orange block in the proposed schedule below. Specific date to be determined later.

TASK ORDER 1-21 ENG SCHEDULE & DUE DATES

The following is a draft schedule associated with delivery of the above tasks, pending NTP issuance.

		Approximate Project Schedule																			
		2020								2021											
		Nov.				Dec.				Jan.			Feb.			March			April		
Task	Description	weeks																			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	Issue NTP																				
	Project Management																				
	Kickoff Meeting																				
1	Data Collection and Review																				
2	Stakeholder Engagement - Visioning Workshop																				
3	SLR Policy Technical Memo																				

TASK ORDER 1-21 ENG COMPENSATION

Estimated labor effort for each task is shown as Exhibit 1 below. Total Fee for this scope of services is: \$47,370.

Exhibit 1 - Work Order 1-21 Labor Estimate Totals										
Project Role		PM	Senior Resilience Advisor	Resilience Lead	Resilience Specialist / GIS	Resilience Specialist / GIS	Project Acct.	Technical Editor		
		\$171.76	\$256.40	\$217.14	\$89.56	\$79.75	\$87.10	\$171.76		
Task	Notes / Assumptions	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Task Totals	
0.0 Project Management		11	0	0	0	0	9	0	20	\$2,673
Start up		4					3			
Monthly invoicing	assumes 3-4 month duration	3					3			
Close out		4					3			
0.1 Kickoff Meeting		2	6	6	7	3	0	0	24	\$4,051
Prepare for goal setting meeting (+ data needs list)			2	2	3	2				
Attend kickoff and goal setting meeting (virtual)	2 hour meeting x 3 staff (virtual)	2	2	2	2					
Document minutes and deliverables			2	2	2	1				
1.0 Data Collection and Review		0	9	23	26	22	0	0	80	\$11,385
Compile & Review Existing Data			2	8	8	8				
Municipal Plans (Comprehensive, Climate, Storm Water Plan, Master Plan etc)			2	4	2					
Compare City policies with other communities' structures				2	2					
Gather Boundary Conditions				2	2	2				
Gather Design Criteria				1	2	2				
Gather LOS Criteria					2	2				
Develop Climate Science Memo			1	2	4	4				
Document Findings			4	4	4	4				
2.0 Stakeholder Engagement - Visioning Workshop		2	8	7	12	6	0	0	35	\$5,468
Create a list of attendees, their roles, titles etc.			2			1				
Prepare Virtual Meeting (ppts, agenda, invitations, etc.)			3	3	8	5				
Attend Virtual Meeting	2 hour meeting x 3 staff (virtual)	2	2	2	2					
Develop meeting minutes and distribute to attendees			1	2	2					
3.0 SLR Policy Technical Memo		2	22	29	35	31	0	6	125	\$18,919
Summary of Stakeholder input and recommendations from Task 2		0	4	3	4	4				
Prepare initial guidance from policy input for future execution				2	3	2				
Create visual for staff & stakeholder communication			2	2	3	2				
Develop road elevation design criteria framework, if applicable				4	3	3				
Meet with City to review findings from Tasks 1-3	2 hour meeting x 3 staff (virtual)	2	2	2	2					
Prepare Draft SLR Policy Tech Memo		0	5	5	8	8				
Review Draft SLR Policy Tech Memo			4	5	4	4		3		
Prepare Final SLR Policy Tech Memo		0	5	6	8	8		3		
4.0 Presentation of Findings		0	0	16	0	0	0	0	16	\$3,474
Prepare and Present SLR Policy Tech Memo summary to CoKW Commission	MSppt wih Jason Bird presenting			2						
Presenters Travel				14						
Work Order Labor Totals		17	45	81	80	62	9	6	284	\$45,970
									Labor	\$45,970
									Travel	\$1,400
									WO Total	\$47,370