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3. Except as expressly modified herein, all of the terms and conditions contained in Agreement No. 34497 are ratified and confirmed and shall remain in full force and effect.

IN WITNESS WHEREOF, the Parties have caused this document to be duly executed with all formalities required by law as of the date first stated above.

AECOM TECHNICAL SERVICES, INC., a California corporation

MARCH 20<sup>th</sup>, 2018

By [Signature]  
Name ROBERT LAVEY, AIA  
Title VICE PRESIDENT

March 20<sup>th</sup>, 2018

By [Signature]  
Name RICHARD M HANSEN  
Title V.P.

"Consultant"

CITY OF LONG BEACH, a municipal corporation

4/10, 2018

By [Signature]  
City Manager

"City"

This Second Amendment to Agreement No. 34497 is approved as to form on 3/21, 2018.

CHARLES PARKIN, City Attorney

By [Signature]  
Deputy

# EXHIBIT “A-2”

## Scope of Work

**Scope of Work for the following economic analysis tasks related to the Long Beach Climate Action and Adaptation Plan: 1) examine impacts to City-owned assets from sea level rise and coastal storm surge, cost of adaptation strategies, and financing mechanisms for adaptation strategies, 2) investigate tax impacts from disruption to private property from sea level rise and coastal storm surge, 3) investigate potential funding mechanisms for energy upgrades to existing buildings, 4) analyze the green business potential in Long Beach, and 5) present findings to the City at an in-person meeting.**

December 8, 2017

**Task 1: Examine impacts to City-owned assets from sea level rise and coastal storm surge, and identify financing mechanisms for implementing adaptation strategies**

**Summary of Task 1 components covered in existing budget versus the add service**

- A vulnerability assessment of the impact of sea level rise on City-owned facilities. (Completed as part of Long Beach Climate Action and Adaptation Plan (CAAP) – Task 6).
- Maps showing the areas that may be affected by sea level rise (SLR) in the years 2030 and 2050. These maps shall include the potential impacts of 100-year storm events. (Completed as part of CAAP – Task 6).
- An estimate of the financial cost of the SLR impacts on City-owned facilities. The estimate should consider the potential cost of damage repair and the value of lost use of improvements and land, and the anticipated cost to prevent or mitigate potential damage. (Additional scope of work highlighted below).
- Identification of adaptation strategies that would mitigate impacts of SLR and storm surge on the aforementioned assets. (Completed as part of CAAP – Task 7).
- Identification of order-of-magnitude costs of adaptation strategies and funding mechanisms to implement the strategies. (Additional scope of work highlighted below).

**Methodology:** AECOM’s current contract with the City of Long Beach includes an analysis to enable City compliance with AB 691, which focuses on state lands. This analysis includes an estimate of the financial cost of the SLR impacts on granted public trust lands (i.e., cost of damage repair and the value of lost use of improvements and land), and the anticipated order of magnitude cost to prevent or mitigate potential damage. AECOM will extend this analysis to include estimates of the financial/economic costs of SLR and storm surge to City-owned buildings, such as fire and police stations, community and recreation centers, libraries, marine safety buildings, and solid waste facilities.<sup>1</sup> Further, AECOM will estimate order-of-magnitude costs of adaptation strategies and identify financing mechanisms to enable implementation of adaptation strategies aimed at preventing impacts to state lands and city owned assets.

**Impacts Analysis:** AECOM will expand on the existing methodology to assess potential costs of inaction across defined scenarios, develop order-of magnitude estimates of repair and lost use by asset type, and report the results of the analysis in a memorandum.

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<sup>1</sup> The full list of city-owned assets will be determined on the basis of the results of the vulnerability analysis, which will identify assets exposed to SLR and storm surge.

The proposed assessment will involve a series of tasks that will include: (1) data collection; (2) data analysis; and (3) sensitivity testing. AECOM will use the CAAP's inventory of vulnerable assets in 2030 and 2050. These assets will be assigned economic attributes using the best, readily available data. The resulting asset database will be linked to order-of-magnitude economic repair, replacement and loss-of-use values by type to inform the final estimates. Data (where available based on AECOM's request to the City) and estimates based on market experience will be used to apply sensitivity parameters when there are multiple economic indicator values that could be applied to vulnerable assets, and additional consideration will be given to uncertainty as it relates to the degree and type of exposure (i.e., temporary, permanent).

The analysis will result in a first-order estimate at each time horizon of the following: (1) potential damage to vulnerable assets measured as a basis of repair or replacement cost; (2) the value of lost operational use of assets from temporary or permanent inundation; and (3) the anticipated returns from adaptation, based on a comparison of estimated adaptation strategy costs to estimated losses. The quantitative first-order estimates will be categorized into low, medium and high tiers of impact according to the evaluated SLR and storm scenarios.<sup>2</sup> This standardized system for classifying returns will enable the City to compare the costs of repair and value of lost use with the costs of adaptation strategies to understand the potential benefits of adaptation, as well as provide information that can be used to prioritize implementation of adaptation strategies.

**Cost of adaptation strategies:** Coastal engineers and cost engineers will collaborate with the project team to develop order-of-magnitude unit cost estimates for identified short term and long term adaptation strategies, such as sand bags, coastal armoring, beach nourishment, structural adjustments, etc. These unit costs will be applied across relevant geographic reaches within the City boundaries and to the extent feasible costs will be broken out to distinguish between planning and design costs, permitting costs, and construction, maintenance and renewal costs.

**Financing mechanisms:** AECOM will investigate and identify potential funding mechanisms to finance adaptation strategies (as recommended in the CAAP) addressing SLR and storm surge impacts on City-owned assets. Private, public and non-profit sources of funding will be examined, and information on the applicability, requirements, and funding available for adaptation strategies will be provided. All information will be condensed into a matrix format to allow for quick reference and prioritization.

**Deliverable:**

- Order-of-magnitude cost of repair and lost use for 2 SLR + 100-year storm scenarios for City owned assets, to be incorporated into previously-authorized memorandum on SLR Financial Costs.

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<sup>2</sup> AECOM, through consultation with the City, will determine the appropriate level of supplemental data to include in the deliverable. In particular, quantitative data on the number of buildings, marina slips or area of shoreline exposed to SLR and flooding could help to substantiate the final impact rankings and the scale of identified adaptation strategies. Including additional data metrics like these could provide for more transparency and support of findings. Yet it may be the case that some of these data points are confidential or proprietary in nature and the preferred course would be to not include these details in the final deliverable.

**Budget:** The estimated budget for the level of effort described above is \$29,690. Please see Attachment A for more details.

## **Task 2: Investigate tax impacts from sea level rise and coastal storm surge**

### **Summary of Task 2 components covered in existing budget versus the add service**

- A vulnerability assessment of the impact of SLR on general private property. (Completed as part of Long Beach Climate Action and Adaptation Plan (CAAP) – Task 6).
- Maps showing the areas that may be affected by SLR in the years 2030 and 2050. These maps shall include the potential impacts of 100-year storm events. (Completed as part of CAAP – Task 6).
- An estimate of lost tax revenue from disruption to general private property. (Additional scope of work highlighted below).
- Identification of adaptation strategies that would mitigate impacts of sea level rise (SLR) and storm surge on the aforementioned assets. (Completed as part of CAAP – Task 7).

**Methodology:** AECOM will estimate the tax revenue at risk from SLR and storm surge by examining the fiscal contribution of residential and commercial properties in the permanent inundation zone, examining fiscal contributions of businesses in the temporary inundation zone, and performing desk research and engaging in discussions with up to three County Assessors around the U.S. where SLR and coastal storm surge have similar impacts on revenue-generating assets. Because this analysis will include a series of key assumptions, sensitivity analysis on these assumptions will be performed to provide a range of potential fiscal revenue at risk to provide decision-makers with best, intermediate, and worst-case scenarios. Estimates will be presented for 2030 and 2050, with cumulative losses included from 2030 and 2050.

### **Deliverables:**

- Memorandum on tax impacts from 2 SLR + 100-year storm scenarios including best, intermediate, and worst-case scenarios of fiscal revenue at risk.

**Budget:** The estimated budget for the level of effort described above is \$10,696. Please see Attachment A for more details.

## **Task 3: Investigate potential funding mechanisms for energy upgrades to existing buildings**

### **Summary of Task 3 components covered in existing budget versus the add service**

- An inventory of GHG emissions from the buildings sector in Long Beach. (Completed as part of Long Beach Climate Action and Adaptation Plan (CAAP) – Task 3).
- Identification of GHG mitigation strategies related to energy efficiency, fuel switching, and renewable energy upgrades in the buildings sector in Long Beach. (Completed as part of CAAP – Task 7).
- Identification of high level capital and operating costs associated with GHG mitigation strategies. (Completed as part of CAAP – Task 7).

- Identification of funding mechanisms to implement GHG mitigation strategies in the buildings sector in Long Beach. (Additional scope of work highlighted below).

**Methodology:** AECOM will investigate and identify potential funding mechanisms to finance energy upgrades, as recommended in the CAAP, which support GHG mitigation. Based on the technological transformations recommended in the CAAP to enable GHG reduction in existing buildings, AECOM will identify programs and policies that will drive these transformations in Long Beach, and provide financing mechanisms to implement the policies and programs. Private, public and non-profit sources will be examined, and information on the applicability, requirements, and funding available for energy upgrades will be provided. All information will be condensed into a matrix format to allow for quick reference and prioritization.

**Deliverable:**

- Memorandum on funding mechanisms for energy upgrades to existing buildings, including funding matrix.

**Budget:** The estimated budget for the level of effort described above is \$15,271. Please see Attachment A for more details.

**Task 4: Analyze the green business potential in Long Beach**

**Summary of Task 4 components covered in existing budget versus the add service**

- Identification of GHG mitigation strategies in the CAAP that will require adoption of clean technology. (Completed as part of CAAP – Task 7).
- Identification of the benefits to clean technology businesses in Long Beach that may result from the implementation of such GHG mitigation strategies. (Additional scope of work highlighted below).

**Methodology:** AECOM will examine the near term and long term market opportunity for green businesses in Long Beach. In the short term, City green businesses will have an opportunity to provide green products and services based on CAAP policies and programs. AECOM will examine the scale of CAAP policies, and estimate the revenue potential of these policies given today's market conditions. Next, AECOM will engage in a qualitative analysis of how CAAP policies could provide opportunities for innovation (such as through product piloting and technology development) to City businesses, and provide the framework for the development of a clean technology cluster. Discussion of the development of other clean tech clusters will also be included to provide insight on how CAAP policies can be leveraged in a broader economic development context.

**Deliverables:**

- Memorandum on green business potential in Long Beach

**Budget:** The estimated budget for the level of effort described above is \$18,185. Please see Attachment A for more details.

**Task 5: Meeting with City staff to discuss findings**

AECOM's Economic Analysis team leads will present the findings of the above analyses to City staff at an in-person meeting in Long Beach.

**Deliverables:**

- Draft and final PowerPoint Presentation
- In-person attendance and facilitation of meeting on findings

**Budget:**

The estimated budget for the level of effort described above is \$4,685 (including labor hours and direct expenses). Please see Attachment A for more details.

**Technical Leads for Economic Analysis:**

Aaron McGregor – Economist with 10 years of experience in assessing the costs and benefits of climate change adaptation in coastal communities, including public trust lands. Aaron has performed financial and economic analyses of SLR for the Port of Los Angeles, marinas in the Long Beach area and has studied coastal uses along the Long Beach waterfront in support of the U.S. Army Corps of Engineers' (USACE's) initial investigation of federal interest in reconfiguring the Long Beach breakwater. He was also a co-author on the Economic Impacts of Climate Adaptation Strategies for Southern Monterey Bay cited by the State Lands Commission (SLC) as an example framework for considering the financial costs of SLR.

Feliz Ventura – Feliz M. Ventura has fifteen years of public sector, non-profit and private sector experience in economic analysis and development strategy that incorporate climate change and technological change across the US and globally. Feliz has worked on projects across California, the U.S., and the world that seek to improve economic, environmental, and social outcomes informed by the most current scientific and technical data for areas ranging from local communities to countries.. Feliz has performed financial analyses of SLR for Port of Los Angeles and Port of Long Beach, sustainable leasing strategy development for the Port of San Diego, and climate action planning in Southern California.



**ATTACHMENT A**

<b>Task</b>	<b>DW PM</b>	<b>AS DPM/QA QC</b>	<b>FV (Economics)</b>	<b>AM (Economics)</b>	<b>Total Budget</b>
Rate	\$202	\$132	\$186	\$146	
1. Cost impacts, adaptation costs, financing mechanisms	4.0	8.0	32.0	150.0	\$29,690
2. Tax Impacts from SLR	4.0	8.0	20.0	35.0	\$10,696
3. Funding Mechanisms for Existing Buildings	4.0	8.0	25.0	60.0	\$15,271
4. Green Business Potential	4.0	8.0	25.0	80.0	\$18,185
4. City meeting on findings			12.0	12.0	\$3,985
Direct costs (flight, ground transportation, and meals for 2 AECOM staff)					\$700
<b>Subtotal</b>	<b>16.0</b>	<b>32.0</b>	<b>115.0</b>	<b>355.0</b>	<b>\$78,527</b>

**Scope of Work for Outreach Activities Related to the Long Beach Climate Action and Adaptation Plan**

December 8, 2017, Revised February 7, 2018

**Introduction**

The AECOM team recognizes the importance of developing an inclusive community outreach and engagement program for the Long Beach Climate Action and Adaptation Plan (CAAP). The goal of the outreach strategy is to maximize stakeholder engagement, generate support for the CAAP, provide opportunities for the community to directly inform the CAAP, educate the community, and provide project information in a creative, engaging manner. The following are the tasks associated with this strategy:

**Task 2.1 Community Engagement Elements****2.1.1 Public Workshops**

Two-three public workshops will be held as part of the community engagement strategy for the CAAP, where the Long Beach community as a whole, including members from the science, business, and NGO sectors, will be invited to learn more about the CAAP and provide their input. The workshops will be designed to actively engage the community and show how the CAAP aligns with their priorities so that they feel invested in its success. Feedback through comment cards will be collected and processed from each workshop.

At the first workshop, information on project goals, the communitywide GHG inventory and target, and climate vulnerability assessment will be presented as background. The results of these analyses will be validated through feedback from the community. Further, input will be sought on the community's preferred climate mitigation and adaptation strategies. The public workshop will give community members the opportunity to view project poster boards and a project presentation, and provide comments through a live, informal Q&A session as well as comment cards. Online surveys tailored for businesses and the overall community in Long Beach will be made available on two iPads at stations for the public through SurveyMonkey.

In addition, the stations will include the following interactive exercises:

- a. Large maps of the city asking people to identify using pins, where they have seen instances of localized flooding or bad air quality or extreme heat
- b. Large maps of the city asking people to identify using pins, their favorite locations in the city (e.g., beaches, wetlands, other landmarks that give Long Beach its identity).
- c. Boards showing images of mitigation and adaptation strategies (options organized by sector) from which attendees would be asked to pick (and prioritize). For example, the following options could be made available under the transportation sector:
  - i. Increase bicycle and pedestrian infrastructure/safety
  - ii. Increase transit coverage and frequency

Attendees may be given a specific amount of "Monopoly money". Working with this limited budget, they will be asked to specify which strategy they would like to invest in the most. They can invest all of their money in one strategy or spread it across multiple strategies.

- d. Boards asking about co-benefits of adaptation and mitigation strategies that the community values, e.g.:
  - i. Better air quality
  - ii. Better health
  - iii. Cost savings, etc.
- e. A pledge board where citizens can fill in the blanks in the following statements:
  - i. I applaud \_\_\_\_ (this is a chance for the City to hear what citizens are happy with)
  - ii. I wish for \_\_\_\_ (this is a wish list for citizens)
  - iii. I commit to \_\_\_\_ (this is to make citizens realize that the fight against climate change cannot just be fought by the City alone and that individuals will need to do their part)

The second and third public workshop will follow a similar structure as the first. (Note: the third public workshop is an optional item.) The main purpose of the second workshop will be to showcase the suite of narrowed down mitigation and adaptation strategies being considered for inclusion in the CAAP, and highlight what the implementation of the strategies will look like in Long Beach. Information on financial and technical resources available to the community to aid with strategy implementation will be presented at the workshop via stations. For example, Southern California Edison can set up a station with information on their energy efficiency assistance programs.

#### **Deliverables for Public Workshop 1**

- Workshop facilitation and logistics
- Draft and final presentation
- Interactive display boards/exercises to engage the public (up to 7 boards)
- Tally results of interactive exercises
- Comment cards
- Comment database (Smartsheet)
- Comment card matrix

#### **Deliverables for Public Workshop 2**

- Workshop facilitation and logistics
- Draft and final presentation
- Stations with information on financial and technical resources (up to 3)
- Comment cards
- Comment database (Smartsheet)
- Comment card matrix

#### **Deliverables for Public Workshop 3 (Optional)**

- Workshop facilitation and logistics

- Draft and final presentation
- Stations with information on financial and technical resources (up to 3)
- Comment cards
- Comment database (Smartsheet)
- Comment card matrix

#### **Assumptions for Workshops**

- City of Long Beach to provide a venue, refreshments, printing of all collateral (except for poster boards), interpreters, and photography/videography services
- AECOM to prepare PPT (content and graphics)
- AECOM to prepare and print boards
- 2 people from AECOM to attend and co-facilitate
- 2 people from MBI to attend and co-facilitate
- 1 person from Climate Resolve to attend and co-facilitate
- MBI to process comment cards collected at the 2 Public Workshops
- MBI to collect names of attendees and add them to the stakeholder database
- MBI to collect survey responses; AECOM to use responses in subsequent analyses

#### **2.1.2 Special Interest Events – up to 5 events**

Up to five special interest events will be identified to promote the CAAP and gain feedback from a wider, diverse audience. The intent of these events is to engage with the public, educate them about the CAAP, and most importantly collect feedback and input from stakeholders, especially those who do not already know about the project or are in support of the CAAP. Feedback collected at each event will be processed and entered into a comment database. These events will include meetings with community organizations, businesses, as well as attending community events or classes from partner organizations in Long Beach. Suggestions include presenting to the Building Healthy Communities: Long Beach, as they are working to improve community health through collaboration, and strategic communication about community needs and solutions. Another event that would promote the CAAP is the Long Beach Aquarium of the Pacific's Annual Earth Day Celebration on April 21, 2018. Having a booth at the event enables distribution of project information to an audience interested in celebrating the Earth and wants to learn simple tips to make Long Beach more sustainable and resilient to climate change.

#### **Community Working Group Meeting 2 (as one of the 5 events)**

The Community Working Group Meeting (CWG) has met once to provide their inputs on communications tools, strategies and channels developed to date for the CAAP. Their feedback will directly inform the project's outreach strategy going forward. Improvements will be made to the City's outreach toolkit, which will include a PowerPoint Presentation on the project, flyers announcing public workshops, a fact-sheet, an online survey, project website content, and social media posts.

The second CWG meeting will be held as part of the 5 special events after updates to key outreach toolkit material have been made. The toolkit will be used to train the Working Group members on its content so that they can disseminate information about the project to their own constituencies, and to brainstorm creative and effective strategies for reaching

their constituents. For example, the community organizations can use the toolkit to support a youth-led process for defining resilience, researching/developing solutions, conducting youth-led outreach or facilitating intergenerational engagement activities. The same toolkit will be used for the other special events.

### **Spanish-language event (as one of the 5 events)**

To ensure that outreach encompasses Long Beach's large Spanish population, one of the five special interest events will be organized to be a Spanish community event. This will include all Spanish collateral, bilingual staff, and a presentation that will be created and presented in Spanish. Flyer noticing will be conducted announcing the event.

#### **Deliverables:**

- MBI and AECOM to attend and present at the first two of five events, including the Spanish-language event and the second Community Working Group meeting (1 person per firm). One person from PacRim to attend the Spanish language meeting. The City to lead the remaining events.
- Presentation and collateral (the presentation and fact sheet that are a part of the outreach toolkit will be used for each of the 5 events).
- Presentation and collateral for the Spanish-speaking community event in Spanish (the budget for which will be rolled into Task 2.4)
- Special canvassing for Spanish-speaking community event (the budget for which will be rolled up into Task 2.2)
- Updated stakeholder database for e-blast updates
- Meeting minutes

#### **Assumptions:**

- 1 person from AECOM to attend the first two of five events
- 1 person from MBI to attend the first two of five events
- 1 person from PacRim to attend the Spanish community event
- MBI to translate collaterals in Spanish
- AECOM to develop content for Spanish community event Save-the-Date flyer, MBI to format
- MBI to collect names of attendees and add them to the stakeholder database
- MBI to process comment cards collected at all special interest events (even those MBI does not attend)
- City of Long Beach to provide a venue, refreshments, printing of all collateral, interpreters, and photography/videography services

### **2.1.3 Business Working Group Meeting 2**

The second Business Working Group Meeting (BWG) will be held once a narrowed down list of climate mitigation and adaptation strategies has been identified based on comments received from the first BWG meeting. A key goal of this meeting will be to attract not only businesses that specialize in green or clean technology and services, or businesses that have incorporated sustainability into their operations, but also businesses that have not yet recognized the value of reducing their environmental footprint or making their operations more resilient to climate change impacts. The key co-benefits of the suggested mitigation and adaptation strategies to businesses

will be communicated, and information will be shared on financial and technical resources available to businesses to accelerate their adoption. Input will be sought on what resources would be helpful to businesses to mainstream sustainability into their operations.

#### **Deliverables**

- Meeting facilitation and logistics
- Presentation
- Strategy implementation resources
- Meeting minutes

#### **Assumptions**

- City of Long Beach to provide a venue, refreshments, and photography/videography services
- AECOM to prepare presentation (content and graphics) with help from Tom Bowman
- Tom Bowman to send specialized invites and prepare agenda
- 1 AECOM member to attend and co-facilitate
- Tom Bowman to attend and co-facilitate
- 1 MBI member to attend and co-facilitate
- MBI to conduct phone banking and canvassing
- AECOM to collect feedback and prepare summary of notes
- MBI to process comment cards collected at the Business Working Group

#### **Business Community Outreach**

Specialized outreach will be made to the Long Beach business community. This will include phone banking for the second BWG meeting and 2 public workshops, direct canvassing outreach to distribute flyers for the 2 public workshops, and promoting an online business survey. The survey will be created specifically for the business community by including focused questions that are tailored to affect businesses and capture a variety of responses.

#### **Deliverables**

- One round of phone banking using the stakeholder database (to be updated on an ongoing basis; current gaps in contact information to be filled, the budget for which will be rolled up into the Task 2.2)
- Business online survey development and setup through SurveyMonkey
- Direct canvassing outreach for the two public workshops during which the business survey will also be promoted (the budget for which will be rolled up into the Task 2.2)

#### **Assumptions**

- MBI to lead phone banking and canvassing
- AECOM to provide high level review of talking points
- AECOM to develop survey; MBI to administer and collect survey responses; AECOM to use responses in subsequent analyses

### **Task 2.2 – Grassroots Outreach**

#### **2.2.1 Canvassing**

Direct flyer noticing will be conducted within a one-mile radius of the venue locations for the two Public Workshops. For the public workshops, noticing will begin after the first Save-the-

Date is sent out to promote each workshop as well as the online community survey. Direct outreach will also be conducted to target prominent Business Improvement Districts to further promote the business survey and business involvement in the public workshops. In addition, specialized grassroots outreach will be conducted for the Spanish community event, which will be targeted outreach to specific Spanish communities within a week of the meeting. For each direct outreach task, the project team will distribute Save-the-Date flyers to businesses, and community groups in the city to spread the word about the CAAP public workshops and the Spanish-language event. A team of four MBI members will distribute the notices. One bilingual Spanish-speaking staff will canvass with the team at all times. Grassroots outreach will take approximately 4 days, covering the one-mile radius of each public workshop and the Spanish community event venue.

#### **Deliverables**

- Save-the-Date Flyers for 2 public workshops
- Save-the-Date for Spanish community event
- Canvassing in one-mile radius of venue locations
- One-page report-summarizing information on canvassed areas

#### **Assumptions**

- MBI to lead canvassing
- MBI to translate Save-the-Date to Spanish
- MBI to print Save-the-Dates for noticing
- AECOM to provide high level input on talking points
- MBI to provide one-page report summarizing canvassed areas

### **2.2.2 Phone Banking**

The team will conduct a phone bank following the distribution of the first e-blasts informing people about the two public workshops. This will consist of making calls to the stakeholder database (which includes businesses, community groups, scientific organizations, school teachers, and student groups) to promote the CAAP and inform the community about the public workshops. During the calls, stakeholders will be asked if they would like to promote the public workshop by receiving Save-the-Date flyers digitally or directly dropped off.

#### **Deliverables**

- One round of phone banking using the stakeholder database (to be updated on an ongoing basis; current gaps in contact information to be filled)

#### **Assumptions**

- MBI to lead phone banking
- AECOM to provide high level input on talking points

## **Task 2.3 - Online Engagement**

### **2.3.1 Social Media (Calendar and Content)**

To spread that word and to receive feedback about the CAAP, the reach and influence of social media will be utilized. Messaging content will be developed by MBI while Long Beach City Staff will facilitate the actual posting throughout the City's social media accounts, such as, Facebook, Instagram, and Twitter.

The social media strategy for the City will consist of:

- Weekly posts (one post per week)

- Bite-sized, relevant, engaging content with means of receiving feedback. Comments from the City of Long Beach Communications team on draft social media messages developed by AECOM will be incorporated.
  - Example: We want to take care of the Long Beach we love so much! Send us a picture of how you help take care of our City!
    - Post to Facebook, Instagram, and Twitter and tag #ClimateActionLB
    - A succinct script for an online photo contest in which residents are asked to submit photos showing evidence of climate change in their community, or examples of actions on climate change mitigation and adaptation.

**Deliverables:**

- Create social media content calendar
- Draft social media posts (one post per week)

**Assumptions**

- MBI to create social media content calendar
- MBI to lead content development with AECOM’s input
  - MBI to create generic content which can be used throughout the project
- The City will finalize the posts from the content provided and post weekly

**2.3.2 Online Survey**

Two versions of the online survey will be created to capture a wide target audience: a business community survey and an overall community survey. The survey will ask for input on climate mitigation and adaptation strategies, valued assets in the community, and key motivations for sustainable action. The purpose of designing two focused surveys is to ask tailored questions and gather specific, topical responses from different types of community members. For the online surveys, AECOM will create the content and questions with input from the City. MBI will administer the online surveys and provide a weblink link, using SurveyMonkey. Once the surveys are closed, MBI will provide the results in a spreadsheet with the raw data. AECOM will perform a trends analysis based on survey responses that will be shown in the form of one infographic.

**Deliverables:**

- Two online surveys (one community-wide and one business community specific) setup through SurveyMonkey
- Spreadsheet of raw data from each survey
- One infographic showing survey results

**Assumptions**

- AECOM to develop content and incorporate one round of comments from the City on both surveys; MBI to administer
- MBI to provide raw data of survey results
- AECOM to condition responses and produce infographic displaying results
- City of Long Beach SurveyMonkey account to be used

**2.3.3 Project Website**

A landing page has been created for the project website that contains information on project background, CAAP components, getting involved, and existing sustainability actions at the City. The page will be updated with new pertinent information to make it more user-friendly and



engaging, and will be consistent with the collateral branding. The website will include the online survey (for each target group), project collateral (fact sheets, Save-the-Date, etc.), a presentation on the project (see Section 2.3.4), and other relevant information. Also included on the website will be an online comment form to provide the public another outlet to offer feedback.

**Deliverables:**

- Updates to information on website landing page

**Assumptions:**

- AECOM to provide up to 7 content updates to the current website (see timing of updates below); MBI to review
- MBI to develop online comment form; AECOM to review
- After the first round of updates, it is assumed that the website will be updated incrementally at the following 7 stages:
  - 1) Completion of GHG inventories and forecast;
  - 2) Completion of vulnerability assessment;
  - 3) Selection of Draft GHG reduction targets;
  - 4) Development of Draft mitigation and adaptation strategies;
  - 5) Draft CAAP;
  - 6) Final CAAP;
  - 7) Monitoring Dashboard

#### 2.3.4 Digital Outreach Toolkit

A draft Outreach Toolkit has been assembled to easily disseminate project information to key community champions, such as the Long Beach Area Chamber of Commerce, Rotary Club of Long Beach, and various NGOs to distribute to their constituents at pre-scheduled events. This draft toolkit consists of:

- A project fact sheet
- A flyer for the first public workshop
- A PowerPoint presentation

The toolkit will be updated based on comments received at the first Community Working Group Meeting. Further, the following elements will be added to the toolkit:

- A Save-the-Date flyer for the second public workshop and second BWG meeting.
- A link to a communitywide online survey (to be administered approximately a month prior to the first public workshop)
- A link to a business community-specific online survey (to be administered approximately a month prior to the second business working group meeting)

Note: these elements will be added to the toolkit at a later time in line with upcoming meetings.

This toolkit will be emailed to pre-identified stakeholders from the working groups as a zip folder, containing all needed contents.

**Deliverables:**

- Revised Digital Outreach Toolkit (including new elements)

- Dissemination of Digital Outreach Toolkit to key stakeholders
- “How to guide” to disseminate information

**Assumptions:**

- AECOM to update PPT (content and graphics) and fact sheet (content)
- AECOM to develop new Save-the-Date flyers, FAQs, and comment cards (content)
- MBI to lead formatting of all deliverables except the PPT
- MBI to develop one page “How-to Guide”

**Task 2.4 Marketing**

**2.4.1 Collateral Translation**

Project materials developed as part of the outreach toolkit (namely, the PowerPoint Presentation, project fact-sheet, flyers, etc.) and will all be translated in Spanish only.

**Deliverables**

- Translation for all collaterals in Spanish only

**Assumptions**

- MBI translate all collaterals in Spanish only

**2.4.2 E-blast Campaigns**

A electronic Save-the-Date will be created, using the City’s branding style guide, to promote the 2 CAAP public workshops. The Save-the-Date will include the meeting information as well as key project information for the public to access. Using the stakeholder database, an e-blast will be distributed to strategically promote the public workshop at optimal times.

- **E-blast for public workshops**
  - Save-the-Date e-blast – sent one time for each public workshop.
    - One month before each workshop
  - Reminder e-blasts – 2 rounds of notices to be sent for each public workshop
    - Two weeks before each workshop
    - The week of each workshop
- **E-blast thanking participants attending each workshop**
  - Following each workshop
- **Database**
  - Stakeholder Database Updates

**Deliverables:**

- E-blast – Save the Dates for each public workshop
- E-blast – Reminders for each public workshop
- E-blast – Thank You for each public workshop

**Assumptions**

- AECOM to develop content for e-blasts; MBI to review/edit
- MBI to send the e-blasts

City of Long Beach Climate Action and Adaptation Plan

Updated as of: February 7, 2018

STEP	ACTIVITY	AECOM PM (DW)	AECOM PD (CBC)	AECOM OPM (AS)	MBI PD (MH)	MBI PM (NM)	MBI DPM (EM)	MBI Account Coordinator	MBI Graphics	Climate Resolve (JP)	Climate Resolve (TB)	AECOM Graphics	Total Budget	
		\$202	\$270	\$132	\$ 178.57	\$ 137.84	\$ 87.00	\$ 64.35	\$ 121.55	\$ 120.09	\$ 160.80	\$ 105.42		
2.1 Community Engagement Activities	Public Workshop 1 (AECOM to prepare PPT (content and graphics); AECOM to prepare boards and print; 2 people from AECOM to attend and facilitate; 2 from MBI, and 1 from Climate Resolve to attend and co-facilitate; MBI to process comments collected at the meeting; MBI to collect survey responses; AECOM to use responses in subsequent analyses)	10	8	40	3	7	10	23		8		10	\$17,013	
	Public Workshop 2 (AECOM to prepare PPT (content and graphics); AECOM to prepare boards and print; 2 people from AECOM to attend and facilitate; 2 from MBI, and 1 from Climate Resolve to attend and co-facilitate; MBI to process comments collected at the meeting)	10	8	40	3	7	10	23		8		10	\$17,013	
	Public Workshop 3 (OPTIONAL) (AECOM to prepare PPT (content and graphics); AECOM to prepare boards and print; 2 people from AECOM to attend and facilitate; 2 from MBI, and 1 from Climate Resolve to attend and co-facilitate; MBI to process comments collected at the meeting)	10	8	40	3	7	10	23	0	0	0	10	\$17,013	
	Special Interest Events (5) (MBI to suggest events; 1 person from MBI and AECOM to attend 2 meetings; MBI to collect names of attendees and add them to the stakeholder database; the same material developed from the toolkit to be used for each meeting; Separate material to be developed for Spanish meeting)	10		4	16		20	40	60	10				\$10,024
	Business Community Outreach and Meeting (AECOM to prepare presentation (content and graphics) with help from Tom Bowman; Tom Bowman to send specialized invites and prepare agenda; 1 AECOM member to attend and co-facilitate; 1 MBI member to attend and co-facilitate; Tom Bowman to attend and co-facilitate; MBI to conduct phone banking and canvassing; AECOM to collect feedback and prepare summary of notes)	10		2	16	5	20	30	30		4	16		\$16,028
Subtotal		74.0	30.0	152.0	12.5	88.5	100.0	157.5	10.0	24.0	16.0	48.0	\$86,091	
2.2 Grassroots Outreach	Canvassing for 2 workshops (MBI to lead with input from AECOM on talking points)	4		8	0	5	10	167					\$14,183	
	Phone Banking (Stakeholder Database) (MBI to lead with input from AECOM on talking points)	4		8	5	5	30	60					\$9,950	
	Subtotal	8	0	16	5	10	40	227	0	0	0	0	\$24,133	
2.3 Online Engagement	Social Media (Calendar, Content, Contests) (MBI to lead content development with AECOM's input)	4	2	8		5	15	18	5				\$6,163	
	Online Survey (1 business and 1 community survey; AECOM to develop content; MBI to administer; AECOM to condition responses and produce infographic displaying result)	4	8	48		8	20	20	0			20	\$15,585	
	Project Website (Assumes the website will be updated incrementally at the following stages: 1) Completion of GHG inventories and forecast; 2) Completion of vulnerability assessment; 3) Selection of Draft GHG reduction targets; 4) Development of Draft mitigation and adaptation strategies; 5) Draft CAAP; 6) Final CAAP; 7) Monitoring Dashboard)	4	8	28		5	5		5				\$8,418	
	Update to Outreach Toolkit (AECOM to update PPT (content and graphics), fact sheet (content), AECOM to develop new Save the Date flyers, FAQs, and comment cards (content); MBI to lead formatting of all deliverables except the PPT; MBI to develop how-to guide)	4	8	20		5	10	5	25			12	\$12,009	
Subtotal	16	26	110	0	23	60	43	35	0	0	32	\$47,792		
2.4 Marketing	Spanish translation of collaterals; MBI to lead; AECOM to review	2	2	4		0	2	5	5				\$2,681	
	E-blast Campaigns for 2 public workshops (AECOM to develop content for e-Blast; MBI to review/edit; MBI to send the blast)	2	2	8		5	5	0	20				\$5,594	
	Subtotal	4	4	12	0	5	7	5	25	0	0	0	\$8,144	
		162	60	290	18	117	197	433	70	28	16	80	\$161,071	
								Expenses (incl. mileage (\$200) printing (\$3500), and translation (\$1800))					\$5,500	
													Total	\$166,571

## **Scope of Work for Refinements to the Climate Vulnerability Assessment**

February 8, 2018

### **Task 1 Additional Meetings**

AECOM will participate in two additional meetings with City staff to review the results of the Vulnerability Assessment:

1. **Meeting with City staff:** AECOM's climate adaptation leads will meet with City staff and their coastal engineering consultant to discuss the results of the Draft Vulnerability Assessment. The purpose of this meeting will be to discuss the following topics:
  - a. The overall methodology for the sea level rise (SLR) Vulnerability Assessment (including data sources for projections, the role of the Scientific Working Group (SWG), exposure assessment, sensitivity analysis, and adaptive capacity analysis)
  - b. Consideration of new data sources on SLR projections (e.g., the Ocean Protection Council's Draft Update to the State of California Sea-Level Rise Guidance).
  - c. Consideration of King Tides in the assessment
  - d. Updates to the CoSMoS SLR inundation maps to account for existing seawalls that currently protect low-lying areas around Alamitos Bay.
  - e. Ideas to include discussion on probabilities associated with SLR projections while acknowledging the complexities associated with probabilities.
2. **Meeting with City department heads:** AECOM's climate adaptation leads will support and prepare materials for a City staff and department heads meeting to discuss the findings of a revised Vulnerability Assessment after feedback from the first meeting has been incorporated into the first draft. AECOM will prepare a high-level presentation providing an overview of the findings. Two rounds of comments will be incorporated.

#### *Assumptions:*

- Three AECOM staff will participate in each meeting
- AECOM will prepare presentation materials for each meeting

### **Task 2 Revisions to Vulnerability Assessment**

Based on input received from the meeting with City Staff, AECOM will update the SLR portion of the Vulnerability Assessment to reflect the effect of existing seawalls along the Alamitos Bay shoreline. This task includes the following sub-tasks:

- **Update sea level rise scenario descriptions in study documents.** AECOM will update the Climate Science Memo and Vulnerability Assessment language to characterize the SLR scenarios

with respect to new California state SLR science report (April 2017) and draft guidance document (November 2017)

- **Update CoSMoS SLR inundation layers accounting for seawalls along the Alamitos Bay shoreline.** AECOM will extract seawall crest elevations from available LiDAR data to estimate typical seawall heights. AECOM will compare the CoSMoS water level and SLR scenarios to the estimated seawall elevations to identify low-lying areas that may be protected from flooding by the existing seawalls. AECOM will update the SLR inundation layers to reflect any protection provided by the seawalls.
- **Assess SLR exposure of additional assets.** Update SLR exposure assessment to include additional assets not previously identified, including stormwater pump stations, THUMS oil islands, tank farm, a new oil facility, and transmission line).
- **Update SLR exposure maps in Vulnerability Assessment.** AECOM will update the SLR exposure maps included in the Vulnerability Assessment using the updated SLR inundation layers.
- **Update and refine SLR exposure analysis and reporting.** AECOM will update the Vulnerability Assessment to reflect the revised SLR inundation layers. AECOM will update the reporting narrative and tables that document SLR impacts to Long Beach assets. AECOM will also provide refined vulnerability analysis for City assets impacted by the 2030 (11") and 2050 (24") SLR scenarios to provide a greater level of detail, particularly in cases where the nature of the impacts may be unclear. The refined analysis will include zoom-in maps and a high-level description of the flood impacts for each asset category, which will further enable tailored identification of the likely level of adaptation intervention required – for example, asset-level actions (such as flood-proofing or small scale flood protection) vs. regional actions (such as large-scale seawall improvements, etc.).<sup>1</sup>
- **Update precipitation-based flooding assessment.** Include additional discussion of precipitation-based urban flooding in vulnerability assessment and distinguish between localized urban flooding and watershed riverine flooding. Collect additional data from City on urban flooding hotspots and include qualitative discussion of the impacts of SLR on stormwater system and drainage.
- **Update Climate Science Memo and Vulnerability Assessment in response to comments.** Update the climate science memo and vulnerability assessment to address comments by Moffat & Nichol related to coastal processes and CoSMoS model assumptions and caveats.

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<sup>1</sup> Note that the identification of adaptation strategies is already budgeted for in AECOM's existing contract with the City of Long Beach.

*Assumptions:*

- The refined vulnerability analysis will be performed for the following asset types and categories:
  - City-owned buildings and facilities
  - Parks and open space (parks)
  - Wastewater (pump stations but not force mains or gravity mains)
- The refined vulnerability analysis will not be performed for the following asset types and categories. These assets are either too numerous to evaluate in detail (group assets) or not City-owned.
  - Privately-owned buildings and facilities
  - Transportation (roads, bikeways, and bridges)
  - Energy (generation facilities, electrical substations, transmission lines, or natural gas mains)
  - Stormwater (outfalls and storm drain)
  - Potable water (facilities, mains, hydrants)
  - Public health
- Zoom-in maps will be provided for each impacted asset only for the first scenario in which it is impacted by flooding (either 11" or 24")
- The refined vulnerability analysis will be based on desktop level evaluations; no site visits will be conducted.

