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## VIA ELECTRONIC MAIL

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**Re: 2102 - 2120 S. Pacific Avenue, 116 - 302 E. North Venice Boulevard, 2106 -2116  
S. Canal Street, and 319 E. South Venice Boulevard; VTT-82288; CPC-2018-7344-  
GPAJ-VZCJ-HD-SP-SPP-CDP-MEL-WDI-SPR-PHP; ENV-2018-6667-SE**

Dear Council President Martinez and Councilmembers:

This firm represents Venice Vision with regard to the development project Reese Davidson Community. Venice Vision has cited to a variety of reference materials in the letters submitted to the City thus far. This letter is intended to provide the City with copies of the referenced documents cited to in previous correspondence to ensure that they are made part of the Administrative Record.

Sincerely,



Jamie T. Hall

# **Exhibit 27 (H)**

# 13. MITIGATION ACTION PLAN

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## 13.1 CATALOG OF MITIGATION ALTERNATIVES

At its November 14, 2019, meeting, the Steering Committee performed a core capability exercise to assess local strengths, weaknesses, obstacles and opportunities related to floodplain management. The results of this exercise served as the basis for identifying the range of alternatives the City could consider as actions for the FMP2020. The planning team used the results of this exercise to refresh the catalog of floodplain management alternatives that was created for the FMP2015 planning effort. This catalog represents the range of floodplain management alternatives that were considered by the City in compliance with Step 7 of the CRS 10-step process. It represents a systematic review of a wide range of activities to ensure that all possible measures are explored, not just the traditional approaches of flood control, acquisition, and regulation of land use. Floodplain management actions recommended in this plan were selected from an analysis of the alternatives presented in the catalog.

The planning team also used findings of public outreach efforts, the risk assessment results, and the actions identified in the FMP2015 to finalize the catalog for the FMP2020 update. The resulting catalog includes alternatives that are categorized in three ways:

- By what type of hazard it addresses:
  - Flooding
  - Dam failure
  - Tsunami
- By who would have responsibility for implementation:
  - Individuals (personal-scale actions)
  - Businesses (corporate-scale actions)
  - Government agencies (government-scale actions)
- By what the alternative would do:
  - Manipulate the flooding hazard
  - Reduce exposure to the flooding hazard
  - Reduce vulnerability to the flooding hazard
  - Increase the ability to respond to or be prepared for the flooding hazard.

The catalog includes actions to mitigate current risk from the flood hazards assessed by this plan as well as actions to help reduce risk from changes in the impacts of these hazards resulting from climate change. It provides a baseline of mitigation alternatives that are backed by a planning process, are consistent with the established goals and objectives, and are generally within the capabilities of the City to implement. Some of its alternatives may not be feasible based on selection criteria identified for this plan. Actions were selected based on an analysis of the City's ability to implement the action and general feasibility. Actions from the catalog that are not included in the action plan were not selected for one or more of the following reasons:

- The action is not feasible.
- The action is already being implemented.
- The City lacks the current capability to implement the action.
- There is an apparently more cost-effective alternative.
- The action does not have public or political support.

Table 13-1 presents the catalog of flood hazard alternatives considered by the City. Table 13-2 presents the catalog of dam failure alternatives considered by the City. Table 13-3 presents the catalog of tsunami hazard alternatives considered by the City.

## 13.2 MITIGATION ACTIONS SELECTED FOR THE ACTION PLAN

The action plan (CRS Step 8) consists of specific mitigation actions identified for implementation by the Steering Committee and planning team. All actions from the FMP2015 have been brought forward as ongoing recommendations, with minor revisions to provide floodplain management benefits. The numbering from the FMP2015 was reused for the FMP2020. Table 13-4 lists the recommended mitigation actions, along with the following information for each:

- The agencies responsible for overseeing implementation of the action. Where multiple agencies are listed, a lead agency is identified by underlining in the table.
- Possible funding sources
- A qualitative estimate of project cost
- A proposed timeline, as follows:
  - Short Term = to be completed in 1 to 5 years
  - Long Term = to be completed in greater than 5 years
  - Ongoing = currently being funded and implemented under existing programs.
- The objectives addressed by the action.

Lead departments and possible funding sources are identified as follows:

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• BOE—Bureau of Engineering, Department of Public Works</li> <li>• CAO—Chief Administrative Office</li> <li>• DBS—Department of Building and Safety</li> <li>• DCP—Department of City Planning</li> <li>• DGS—Department of General Services</li> <li>• DOA—Department of Airports</li> <li>• DRP—Department of Recreation and Parks</li> <li>• DWP—Department of Water and Power</li> <li>• EMD—Emergency Management Department</li> <li>• FCBAF—Flood Control Benefit Assessment Fund (funding source for LACDPW-owned facilities only)</li> </ul> | <ul style="list-style-type: none"> <li>• FD—Fire Department</li> <li>• HD—Harbor Department</li> <li>• LACDPW—Los Angeles County Department of Public Works</li> <li>• LASAN—Bureau of Sanitation, Department of Public Works</li> <li>• Library—Library Department</li> <li>• PD—Police Department.</li> <li>• STREETS LA—Bureau of Street Services, Department of Public Works</li> </ul> |
|---|---|

A companion document prepared in conjunction with this plan, the *City of Los Angeles 2020 Repetitive Loss Area Analysis*, provides a detailed assessment of areas in Los Angeles that have experienced repeated flood damage in the past, with recommended actions to mitigate flooding at each specific repetitive loss area.

**Table 13-1. Alternatives to Mitigate the Flooding Hazard**

Personal-Scale	Corporate-Scale	Government-Scale	
<ul style="list-style-type: none"> <li>• <b>Manipulate the hazard:</b> <ul style="list-style-type: none"> <li>❖ Clear storm drains and culverts</li> </ul> </li> <li>• <b>Reduce exposure to the hazard:</b> <ul style="list-style-type: none"> <li>❖ Locate outside of hazard area</li> <li>❖ Elevate utilities above base flood elevation</li> </ul> </li> <li>• <b>Reduce vulnerability to the hazard:</b> <ul style="list-style-type: none"> <li>❖ Raise structures above base flood elevation</li> <li>❖ Elevate items within house above base flood elevation</li> <li>❖ Build new homes above base flood elevation</li> <li>❖ Flood-proof structures</li> </ul> </li> <li>• <b>Build local capacity to respond to or prepare for the hazard:</b> <ul style="list-style-type: none"> <li>❖ Buy flood insurance</li> <li>❖ Develop household plan, such as retrofit savings, communication with outside, 72-hour self-sufficiency during and after an event</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• <b>Manipulate the hazard:</b> <ul style="list-style-type: none"> <li>❖ Clear storm drains and culverts</li> </ul> </li> <li>• <b>Reduce exposure to the hazard:</b> <ul style="list-style-type: none"> <li>❖ Locate critical facilities or functions outside hazard area</li> </ul> </li> <li>• <b>Reduce vulnerability to the hazard:</b> <ul style="list-style-type: none"> <li>❖ Build redundancy for critical functions or retrofit critical buildings</li> <li>❖ Provide flood-proofing when new critical infrastructure must be located in floodplains</li> </ul> </li> <li>• <b>Build local capacity to respond to or prepare for the hazard:</b> <ul style="list-style-type: none"> <li>❖ Keep cash reserves for reconstruction</li> <li>❖ Support and implement hazard disclosure for sale of property in risk zones.</li> <li>❖ Solicit cost-sharing through partnerships with others on projects with multiple benefits.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• <b>Manipulate the hazard:</b> <ul style="list-style-type: none"> <li>❖ Maintain drainage system</li> <li>❖ Dredging, levee construction, and providing regional retention areas</li> <li>❖ Structural flood control, levees, channelization, or revetments.</li> <li>❖ Stormwater management regulations and master planning</li> <li>❖ Acquire vacant land or promote open space uses in developing watersheds to control increases in runoff</li> </ul> </li> <li>• <b>Reduce exposure to the hazard:</b> <ul style="list-style-type: none"> <li>❖ Locate or relocate critical facilities outside of hazard area</li> <li>❖ Acquire or relocate identified repetitive loss properties</li> <li>❖ Promote open space uses in identified high hazard areas via techniques such as: planned unit developments, easements, setbacks, greenways, sensitive area tracks.</li> <li>❖ Adopt land development criteria such as planned unit developments, density transfers, clustering</li> <li>❖ Institute low impact development techniques on property</li> <li>❖ Acquire vacant land or promote open space uses in developing watersheds to control increases in runoff</li> <li>❖ Preserve undeveloped and vulnerable shoreline</li> <li>❖ Restore existing flood control and riparian corridors</li> </ul> </li> <li>• <b>Reduce vulnerability to the hazard:</b> <ul style="list-style-type: none"> <li>❖ Harden infrastructure, bridge replacement program</li> <li>❖ Provide redundancy for critical functions and infrastructure</li> <li>❖ Adopt regulatory standards such as freeboard standards, cumulative substantial improvement, lower substantial damage threshold; compensatory storage, non-conversion deed restrictions.</li> <li>❖ Stormwater management regulations and master planning.</li> <li>❖ Adopt “no-adverse impact” floodplain management policies that strive to not increase the flood risk on downstream communities</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>❖ Facilitate managed retreat from, or upgrade of, the most at-risk areas</li> <li>❖ Require accounting of sea level rise in all applications for new development in shoreline areas</li> <li>• <b>Build local capacity to respond to or prepare for the hazard:</b> <ul style="list-style-type: none"> <li>❖ Produce better hazard maps</li> <li>❖ Provide technical information and guidance</li> <li>❖ Enact tools to help manage development in hazard areas (stronger controls, tax incentives, and information)</li> <li>❖ Incorporate retrofitting or replacement of critical system elements in capital improvement plan</li> <li>❖ Develop strategy to take advantage of post-disaster opportunities</li> <li>❖ Warehouse critical infrastructure components</li> <li>❖ Develop and adopt a continuity of operations plan</li> <li>❖ Continue participation in the Community Rating System</li> <li>❖ Maintain and collect data to define risks and vulnerability</li> <li>❖ Train emergency responders</li> <li>❖ Create an elevation inventory of structures in the floodplain</li> <li>❖ Develop and implement a public information strategy</li> <li>❖ Charge a hazard mitigation fee</li> <li>❖ Integrate floodplain management policies into other planning mechanisms within the planning area.</li> <li>❖ Consider the probable impacts of climate change on the risk associated with the flood hazard</li> <li>❖ Consider the residual risk associated with structural flood control in future land use decisions</li> <li>❖ Enforce National Flood Insurance Program requirements</li> <li>❖ Adopt a Stormwater Management Master Plan</li> <li>❖ Develop an adaptive management plan to address the long-term impacts of sea level rise</li> </ul> </li> </ul>

**Table 13-2. Alternatives to Mitigate the Dam Failure Hazard**

Personal-Scale	Corporate-Scale	Government-Scale
<ul style="list-style-type: none"> <li>• <b>Manipulate the hazard:</b> <ul style="list-style-type: none"> <li>❖ None</li> </ul> </li> <li>• <b>Reduce exposure to the hazard:</b> <ul style="list-style-type: none"> <li>❖ Relocate out of dam failure inundation areas</li> </ul> </li> <li>• <b>Reduce vulnerability to the hazard:</b> <ul style="list-style-type: none"> <li>❖ Elevate home to appropriate levels</li> </ul> </li> <li>• <b>Build local capacity to respond to or prepare for the hazard:</b> <ul style="list-style-type: none"> <li>❖ Learn about risk reduction for the dam failure hazard</li> <li>❖ Learn the evacuation routes for a dam failure event</li> <li>❖ Educate yourself on early warning systems and the dissemination of warnings</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• <b>Manipulate the hazard:</b> <ul style="list-style-type: none"> <li>❖ Remove dams</li> <li>❖ Harden dams</li> </ul> </li> <li>• <b>Reduce exposure to the hazard:</b> <ul style="list-style-type: none"> <li>❖ Replace earthen dams with hardened structures</li> </ul> </li> <li>• <b>Reduce vulnerability to the hazard:</b> <ul style="list-style-type: none"> <li>❖ Flood-proof facilities within dam failure inundation areas</li> </ul> </li> <li>• <b>Build local capacity to respond to or prepare for the hazard:</b> <ul style="list-style-type: none"> <li>❖ Educate employees on the probable impacts of a dam failure</li> <li>❖ Develop a continuity of operations plan</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• <b>Manipulate the hazard:</b> <ul style="list-style-type: none"> <li>❖ Remove dams</li> <li>❖ Harden dams</li> </ul> </li> <li>• <b>Reduce exposure to the hazard:</b> <ul style="list-style-type: none"> <li>❖ Replace earthen dams with hardened structures</li> <li>❖ Relocate critical facilities out of dam failure inundation areas</li> <li>❖ Consider open space land use in designated dam failure inundation areas</li> </ul> </li> <li>• <b>Reduce vulnerability to the hazard:</b> <ul style="list-style-type: none"> <li>❖ Adopt higher floodplain standards in mapped dam failure inundation areas</li> <li>❖ Retrofit critical facilities within dam failure inundation areas</li> </ul> </li> <li>• <b>Build local capacity to respond to or prepare for the hazard:</b> <ul style="list-style-type: none"> <li>❖ Map dam failure inundation areas</li> <li>❖ Enhance emergency operations plan to include a dam failure component</li> <li>❖ Institute monthly communications checks with dam operators</li> <li>❖ Inform the public on risk reduction techniques</li> <li>❖ Adopt real-estate disclosure requirements for the re-sale of property located within dam failure inundation areas</li> <li>❖ Consider the probable impacts of climate change in assessing the risk associated with the dam failure hazard</li> <li>❖ Establish early warning capability downstream of listed high hazard dams</li> <li>❖ Consider the residual risk associated with protection provided by dams in future land use decisions</li> </ul> </li> </ul>

**Table 13-3. Alternatives to Mitigate the Tsunami Hazard**

Personal-Scale	Corporate-Scale	Government-Scale
<ul style="list-style-type: none"> <li>• <b>Manipulate the hazard:</b> <ul style="list-style-type: none"> <li>❖ None</li> </ul> </li> <li>• <b>Reduce exposure to the hazard:</b> <ul style="list-style-type: none"> <li>❖ Locate outside of hazard area</li> </ul> </li> <li>• <b>Reduce vulnerability to the hazard:</b> <ul style="list-style-type: none"> <li>❖ Apply personal property mitigation techniques to your home such as anchoring your foundation and foundation openings to allow flow through.</li> </ul> </li> <li>• <b>Build local capacity to respond to or prepare for the hazard:</b> <ul style="list-style-type: none"> <li>❖ Develop and practice a household evacuation plan</li> <li>❖ Educate yourself on the risk exposure from the tsunami hazard and ways to minimize that risk</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• <b>Manipulate the hazard:</b> <ul style="list-style-type: none"> <li>❖ None</li> </ul> </li> <li>• <b>Reduce exposure to the hazard:</b> <ul style="list-style-type: none"> <li>❖ Locate structure or mission critical functions outside of hazard area whenever possible</li> </ul> </li> <li>• <b>Reduce vulnerability to the hazard:</b> <ul style="list-style-type: none"> <li>❖ Mitigate personal property for the impacts of tsunami</li> </ul> </li> <li>• <b>Build local capacity to respond to or prepare for the hazard:</b> <ul style="list-style-type: none"> <li>❖ Develop and practice a corporate evacuation plan</li> <li>❖ Educate employees on the risk exposure from the tsunami hazard and ways to minimize that risk</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• <b>Manipulate the hazard:</b> <ul style="list-style-type: none"> <li>❖ Build wave abatement structures</li> </ul> </li> <li>• <b>Reduce exposure to the hazard:</b> <ul style="list-style-type: none"> <li>❖ Locate structure or functions outside of hazard area whenever possible</li> <li>❖ Relocate identified critical facilities located in tsunami high hazard areas</li> </ul> </li> <li>• <b>Reduce vulnerability to the hazard:</b> <ul style="list-style-type: none"> <li>❖ Harden infrastructure for tsunami impacts</li> <li>❖ Adopt higher regulatory standards that will provide higher levels of protection to structures built in a tsunami inundation area</li> <li>❖ Utilize tsunami mapping to guide development away from high risk areas through land use planning</li> </ul> </li> <li>• <b>Build local capacity to respond to or prepare for the hazard:</b> <ul style="list-style-type: none"> <li>❖ Create a probabilistic tsunami map for the planning area</li> <li>❖ Provide incentives to guide development away from hazard areas</li> <li>❖ Develop a tsunami warning and response system</li> <li>❖ Provide residents with tsunami inundation maps</li> <li>❖ Join NOAA's Tsunami Ready program</li> <li>❖ Develop and communicate evacuation routes</li> <li>❖ Enhance the public information program to include risk reduction options for the tsunami hazard</li> </ul> </li> </ul>

**Table 13-4. Recommended Flood Mitigation Actions**

Lead Department <sup>a</sup>	Possible Funding Sources	Estimated Project Cost	Time Line	Objectives
<b>P-1</b> —Continue to maintain the City Tsunami Response Plan Annex and community education effort and participate in the Los Angeles County Operational Area Tsunami Mitigation Task Force. Consider inclusion of outreach to identified vulnerable populations.				
EMD, HD	General Fund, HD	Low. Work performed by existing staff	Ongoing	2, 5, 11
<b>P-2</b> —Continue to partner with the NOAA and the NWS, who provide tsunami warning information to the state, the county and the city.				
EMD, HD, FD	General Fund, HD	Low. Work performed by existing staff	Ongoing	2, 5
<b>P-3</b> —Maintain the City Tsunami Response Plan Annex as part of the City’s Emergency Operations Organization Master Plan.				
EMD, HD	General Fund, HD	Low. Work performed by existing staff	Ongoing	5, 6
<b>P-4</b> —Update evacuation plans for areas potentially affected by a tsunami according to California State Office of Emergency Services tsunami inundation maps and the City’s Tsunami Response Plan Annex. Forward these evacuation plans to appropriate agencies for coordination (police, sheriff, Department of Transportation, DCP, Los Angeles County, etc.).				
EMD, FD, PD	General Funds; Possible grants	Low. Work performed by existing staff	Ongoing	5, 6, 11
<b>P-5</b> —Continue to maintain and annually update the Dam and Reservoir Emergency Notification List.				
DWP	DWP	Low. Work performed by existing staff	Ongoing	5, 8, 11
<b>P-6</b> —Continue to evaluate reservoirs in terms of earthquake safety and implement necessary mitigation or improvement measures, as required by the California Department of Water Resources Division of Safety of Dams.				
DWP, LACDPW	DWP, FCBAF	High	Ongoing	1, 2, 5
<b>P-7</b> —Continue to collect and analyze data regarding water volumes and pumping capabilities in water storage facilities provided by the Los Angeles Water Systems Data Acquisition Center to ensure those facilities are functioning properly to minimize potential hazards.				
DWP	DWP	Low. Work performed by existing staff	Ongoing	1, 2, 5
<b>P-8</b> —Continue to dispatch reservoir inspection and damage teams following natural disasters to inspect and report the condition of facilities.				
DWP, LACDPW	DWP, FCBAF	Low. Work performed by existing staff	Ongoing	1, 2, 5, 6
<b>P-9</b> —Continue to routinely monitor the existing structural condition of City-owned water storage facilities.				
DWP	DWP	Low. Work performed by existing staff	Ongoing	1, 2, 5, 6
<b>P-10</b> —Maintain a flood threat recognition system for properties downstream of City-owned water tanks.				
DWP, EMD	DWP	Low. Work performed by existing staff	Ongoing	2, 5
<b>P-11</b> —Prepare and update emergency response plans for water tanks and other non-dam systems.				
DWP	DWP	Medium	Ongoing	1, 2, 3, 5, 6, 11
<b>P-12</b> —Continue to provide and participate in community education and outreach programs and events in the City (such as Earth Day, Public Works Week and preparedness fairs), prioritizing identified vulnerable populations.				
EMD, LASAN, BOE, LASAN, DCP, HD, FD, PD, DBS, DWP	General Fund	Low. Work performed by existing staff	Ongoing	5, 8, 9, 11
<b>P-13</b> —Maintain the City’s Emergency Management Department and ReadyLA websites and other City social media sites to provide emergency preparedness information to the general public and media.				
EMD	General Fund	Low. Work performed by existing staff	Ongoing	5, 8, 10, 11
<b>P-14</b> —Distribute information regarding flood prevention and flood insurance at emergency operations and emergency preparedness events.				
BOE, EMD	General Fund, Stormwater Pollution Abatement Fund	Low. Work performed by existing staff	Ongoing	6, 8, 9, 11
<b>P-15</b> —Maintain the City’s Emergency Operations Master Plan and Procedures including, but not limited to, periodic plan updates and training and exercises.				
EMD	General Fund	Low. Work performed by existing staff	Ongoing	2, 5, 6, 11
<b>P-16</b> —Make sand and sandbags available to flood risk property owners during the wet season, provide notifications of the availability of these materials, and track the distribution of the materials.				
FD, BOE, STREETS LA, EMD,	General Fund; Stormwater Pollution Abatement Fund	Low. Work performed by existing staff	Ongoing	1, 2, 5, 8, 9, 11

Lead Department <sup>a</sup>	Possible Funding Sources	Estimated Project Cost	Time Line	Objectives
<b>P-17</b> —Maintain and improve the drainage complaint database to help identify flood risks.				
<u>BOE</u> , LASAN	Stormwater Pollution Abatement Fund	Low. Work performed by existing staff	Ongoing	2, 7
<b>P-18</b> —Maintain and improve a technically based prioritization methodology for use in developing the stormwater capital improvement program.				
<u>BOE</u> , LASAN	Stormwater Pollution Abatement Fund	Low. Work performed by existing staff	Ongoing	1, 2, 3, 7, 10
<b>P-19</b> —Maintain regular contact with surrounding cities, the Los Angeles County Department of Public Works, and applicable state and federal agencies regarding floodplain management and the National Flood Insurance Program.				
<u>BOE</u> , CAO, EMD	Stormwater Pollution Abatement Fund; General Fund	Low. Work performed by existing staff	Ongoing	2, 3
<b>P-20</b> —Network with other agencies and participate in organizations such as the Association of State Floodplain Managers, California Floodplain Management Association and the National Association of Flood and Stormwater Management Agencies to remain current in the field of floodplain management.				
<u>BOE</u> , LASAN	Stormwater Pollution Abatement Fund	Low. Work performed by existing staff	Ongoing	2, 3, 10
<b>P-21</b> —Provide training and necessary support to foster Certified Floodplain Managers within the Department of Public Works and other Departments with floodplain management responsibilities.				
<u>BOE</u> , LASAN, DCP, DBS	Stormwater Pollution Abatement Fund	Low. Work performed by existing staff	Ongoing	1, 2, 3
<b>P-22</b> —Conduct an annual National Flood Insurance Program seminar for City agencies responsible for applying and enforcing floodplain management regulations.				
<u>BOE</u> , DBS, DCP, HD	Stormwater Pollution Abatement Fund	Low. Work performed by existing staff	Ongoing	1, 2, 3
<b>P-23</b> —Based on the annual National Flood Insurance Program seminar, update operational procedures and training materials for staff who apply and enforce floodplain management regulations and provide annual training.				
<u>DBS</u> , DCP, HD, <u>BOE</u>	General Fund	Low. Work performed by existing staff	Ongoing	1, 2, 3
<b>P-24</b> —Maintain Geographic Information System mapping and modeling capability to support the stormwater facilities condition assessment program.				
<u>BOE</u> , LASAN	Stormwater Pollution Abatement Fund	Low. Work performed by existing staff	Ongoing	1, 2, 6, 7
<b>P-25</b> —Continue to maintain precise survey benchmarks throughout the City.				
<u>BOE</u>	General Fund	Low. Work performed by existing staff	Ongoing	2, 3
<b>P-26</b> —Develop and maintain a citywide list of priority maintenance-related flood problem sites for where the City has jurisdiction.				
<u>LASAN</u> , <u>BOE</u>	Stormwater Pollution Abatement Fund	Low. Work performed by existing staff	Ongoing	1, 2, 3, 7
<b>P-27</b> —Based on the citywide list of priority maintenance-related flood problem sites (see P-26), conduct necessary inspection and maintenance at priority maintenance-related flood problem sites prior to the wet season and after significant storms, where the City has jurisdiction.				
<u>LASAN</u>	Stormwater Pollution Abatement Fund	Low. Work performed by existing staff	Ongoing	1, 6, 7
<b>P-28</b> —Provide public education about keeping the stormwater system free of debris, the blockage of flow paths and reporting violations.				
<u>BOE</u> , LASAN	Stormwater Pollution Abatement Fund	Low. Work performed by existing staff	Ongoing	1, 7, 8, 9, 11
<b>P-29</b> —Post “No Dumping” signs at points of entry to the stormwater system where the City has jurisdiction.				
<u>LASAN</u> , LACDPW	Stormwater Pollution Abatement Fund (City); Benefit Assessment for Flood Control (County)	Low. Work performed by existing staff	Ongoing	7, 8
<b>P-30</b> —Maintain a map for potential landslide and mudflow areas (including post-fire impact areas).				
<u>BOE</u> , LASAN, DBS, DCP, LACDPW	General Fund, Stormwater Pollution Abatement Fund, FCBAF (post-fire mapping only)	Low. Work performed by existing staff	Ongoing	2, 3, 8
<b>P-31</b> —Update the established policy for substantial improvement/damage assessment to be consistent with FEMA requirements as needed.				
<u>BOE</u> , DBS	General Fund, Stormwater Pollution Abatement Fund	Low. Work performed by existing staff	Ongoing	2, 3, 4

Lead Department <sup>a</sup>	Possible Funding Sources	Estimated Project Cost	Time Line	Objectives
<b>P-32</b> —Verify, through the plan check process and post development review, that new development complies with the regulations in the City's Ordinance for the Management of Flood Hazards (Ordinance No. 172,081), including freeboard requirements on new construction and substantial improvements.				
<u>BOE</u> , DBS, DCP, HD	Stormwater Pollution Abatement Fund; General Fund	Low. Work performed by existing staff	Ongoing	1, 3, 4
<b>P-33</b> —Update the City's Flood Damage Prevention Ordinance to incorporate standards appropriate for the flood risk in the City and to incorporate natural floodplain functions and green infrastructure elements. Consider the inclusion of additional measures to address flood risk to identified vulnerable populations. Coordinate with DCP on the development of wildlife protection regulations.				
<u>BOE</u> , DBS, DCP, HD	Stormwater Pollution Abatement Fund; General Fund	Low. Work performed by existing staff	Ongoing	1, 3, 4
<b>P-34</b> —Provide information to the Flood Hazard Mitigation Coordinator on July 1 of each year for preparation of the Annual Floodplain Management Plan Evaluation Report. Describe the progress made for each mitigation action and any floodplain management regulatory actions and compliance actions conducted during the reporting period, including the number of permits approved in designated flood hazard areas, the number of waivers applied for, and the number of waivers approved. Following the completion of the Plan Evaluation Report, the Steering Committee will meet at least one time during the year to finalize the report for posting and presentation to the City Council.				
<u>BOE</u> , CAO, Steering Committee	Stormwater Pollution Abatement Fund; General Fund	Low. Work performed by existing staff	Ongoing	2, 3
<b>P-35</b> —Maintain a filing system for all Elevation Certificates that includes a process for obtaining accurately completed Elevation Certificates that is based upon a review and approval of all elevation certificates prior to the closure of a permit record.				
<u>BOE</u> , DBS	Stormwater Pollution Abatement Fund; General Fund	Low. Work performed by existing staff	Ongoing	2, 3, 4
<b>P-36</b> —Continue to refine the use of the Plan Check and Inspection System to track high-risk properties and ensure that drainage is adequately addressed through the plan check process.				
<u>BOE</u> , LASAN, DBS	Stormwater Pollution Abatement Fund; General Fund	Low. Work performed by existing staff	Ongoing	1, 2, 3, 4
<b>P-37</b> —Incorporate floodplain management information into the Zoning Information and Map Access System (NavigateLA). Ongoing updates will be needed based on updated floodplain management data.				
<u>BOE</u> , DBS, DCP	Stormwater Pollution Abatement Fund; General Fund	Low. Work performed by existing staff	Ongoing	3, 8
<b>P-38</b> —Transfer electronic data annually to the Flood Hazard Mitigation Coordinator regarding structures damaged due to flooding caused by catastrophic events.				
<u>DBS</u>	General Fund	Low. Work performed by existing staff	Ongoing	1, 2, 4
<b>P-39</b> —Update Certified Unified Program Agency data annually regarding hazardous materials storage (including water-reactive chemicals).				
<u>FD</u>	General Fund	Low. Work performed by existing staff	Ongoing	2, 7
<b>P-40</b> —Continue to notify insurance agencies and realtors of the requirement that all lessors or renters give written notice to all prospective and interested parties—including but not limited to, purchasers, lessee and renters—prior to finalization of a transaction when the subject land and/or structures are located within FEMA-designated flood zones. The notice shall comply with the latest version of CRS manual.				
<u>BOE</u>	Stormwater Pollution Abatement Fund	Low. Work performed by existing staff	Ongoing	3, 8, 9, 11
<b>P-41</b> —Provide flood zone information to all residents. Provide notifications when flood insurance is required. Provide notifications when FEMA-designated flood zone changes are made.				
<u>BOE</u>	Stormwater Pollution Abatement Fund	Low. Work performed by existing staff	Ongoing	2, 3, 8
<b>P-42</b> —Develop and distribute flood protection information and materials to property owners and developers in high-risk areas including FEMA mapped floodplains, identified repetitive loss areas, and areas outside of mapped floodplains with known flood risks.				
<u>BOE</u> , DBS, DCP, EMD, Library	Stormwater Pollution Abatement Fund; General Fund	Low. Work performed by existing staff	Ongoing	2, 3, 8, 9, 11

Lead Department <sup>a</sup>	Possible Funding Sources	Estimated Project Cost	Time Line	Objectives
<b>P-43</b> —Maintain a list of critical facilities in the city as documented in the City's Local Hazard Mitigation Plan. Provide flood protection information to operators of critical facilities in FEMA-designated flood zones. Encourage the implementation of flood protection measures at such facilities.				
<u>BOE</u> , EMD	Stormwater Pollution Abatement Fund; General Fund	Low. Work performed by existing staff	Ongoing	2, 3, 4, 6
<b>P-44</b> —Maintain a current list of City-owned or city-leased properties located in FEMA-designated flood zones and evaluate floodplain management alternatives.				
<u>BOE</u> , DGS	General Fund; Stormwater Pollution Abatement Fund	Low. Work performed by existing staff	Ongoing	1, 2, 3, 4, 6
<b>P-45</b> —Pursuant to the directives of the City's Repetitive Loss Area Analysis, continue to investigate repetitive loss properties as they are identified by FEMA. Annually notify repetitive loss property owners about local flood hazards and property protection activities. Provide technical advice regarding flood protection and flood preparedness. Distribute a current repetitive loss property questionnaire to new repetitive loss properties.				
<u>BOE</u> , LASAN, BDS	Stormwater Pollution Abatement Fund	Low. Work performed by existing staff	Ongoing	1, 2, 4, 8
<b>P-46</b> —Identify flood risk areas in the City. Provide annual investigation and notification to property owners of high-risk areas about local flood hazards and proper protection activities. Provide technical advice regarding flood protection and flood preparedness. Distribute a current flood hazard questionnaire to new owners in high risk areas.				
<u>BOE</u>	Stormwater Pollution Abatement Fund	Low. Work performed by existing staff	Ongoing	2, 3, 8, 9, 11
<b>P-47</b> —In the Plan Check and Inspection System database, flag repetitive loss properties and high-risk areas for review and approval of building permit applications by the Flood Hazard Mitigation Coordinator. Ongoing updates will be needed based on updated floodplain management data. Include data in ZIMAS and NavigateLA.				
<u>BOE</u> , DBS	Stormwater Pollution Abatement Fund; General Fund	Low. Work performed by existing staff	Ongoing	2, 3, 4, 8
<b>P-48</b> —Request that FEMA modify the repetitive loss property list based on mitigation projects implemented by owners or other responsible parties.				
<u>BOE</u>	Stormwater Pollution Abatement Fund	Low. Work performed by existing staff	Ongoing	1, 2, 3, 4
<b>P-49</b> —Identify possible sources of funding (increased cost of compliance funds, mitigation grant funds, and others), and provide this information to repetitive loss property owners.				
<u>BOE</u> , LASAN	Stormwater Pollution Abatement Fund	Low. Work performed by existing staff	Ongoing	2, 3, 4, 8
<b>P-50</b> —Establish standards and/or incentives for the use of structural and nonstructural techniques that mitigate flood hazards and manage stormwater pollution.				
<u>BOE</u> , LASAN	Stormwater Pollution Abatement Fund	Low. Work performed by existing staff	Ongoing	1, 2, 3, 7
<b>P-51</b> —Plan and design stormwater projects so that water quality is protected, and flood risks are reduced on site and off site.				
<u>BOE</u> , LASAN, DBS	Stormwater Pollution Abatement Fund	Low. Work performed by existing staff	Ongoing	1, 2, 3, 7
<b>P-52</b> —Continue to require environmental review in the development process to provide for the protection of, or creation of natural resources that can mitigate the impacts of the development.				
<u>BOE</u> , DBS, DCP	General Fund	Low. Work performed by existing staff	Ongoing	1, 2, 7
<b>P-53</b> —Continue to implement environmentally sensitive property management at City-owned sites.				
<u>DGS</u> , DOA, DRP, DWP, HD	Various	Low. Work performed by existing staff	Ongoing	1, 2, 7
<b>P-54</b> —Update a City-wide Watercourse Permit Manual.				
<u>BOE</u>	General Fund, Possible grants	Low. Work performed by existing staff	Ongoing	2, 3, 7
<b>P-55</b> —Update the City's floodplain management website to promote awareness of programs that pursue flood hazard resilience, including but not limited to the National Flood Insurance Program, FEMA's Hazard Mitigation Assistance programs, HUD's CDBG programs, and EPA's Building Blocks programs.				
<u>BOE</u> , EMD	General Fund, Stormwater Pollution Abatement Fund	Low. Work performed by existing staff	Ongoing	8, 9, 11
<b>P-56</b> —Develop a program for regular condition assessment of stormwater facilities where the City has jurisdiction to identify the physical and hydraulic condition of the system and to support infrastructure management needs.				
<u>BOE</u> , LASAN	Stormwater Pollution Abatement Fund	High	Long Term	1, 2, 3, 6

Lead Department <sup>a</sup>	Possible Funding Sources	Estimated Project Cost	Time Line	Objectives
<b>P-57</b> —Conduct a systematic evaluation of FEMA designated flood zones and revise/update designated flood zones to reflect current conditions. Any revised data generated by the City will be provided to FEMA with a request for effective map revision.				
<u>BOE</u> , LASAN	Stormwater Pollution Abatement Fund	High	Long Term	2, 3
<b>P-58</b> — Evaluate current development regulations, including the grading ordinance and zoning ordinances (floodplain management ordinance, proposed wildlife protection ordinance), to determine whether the standards provide sufficient protection for adjacent (downstream or down-slope) development. Evaluate the effects of remedial grading and revise practices to minimize downstream impacts such as soil erosion and drainage. Coordinate updated regulations for hillsides that address the size and intensity of structures to manage flood hazard in hillsides and maintain native habitat to minimize erosion and increase slope stability.				
<u>DCP</u> , DBS, BOE, LASAN	Stormwater Pollution Abatement Fund; General Fund	Low	Long Term	1, 2, 3
<b>P-59</b> —Update the Map of Hillside Areas (BOE Basic Grid Map A- 13372) to more accurately reflect areas subject to hillside regulations based on latest data and regulations (CF 09-1390 and related documents).				
<u>DCP</u> , DBS, BOE, LASAN	Stormwater Pollution Abatement Fund; General Fund	Low	Long Term	2, 3
<b>P-60</b> —Study and recommend solutions to conflicts between height limitations and flood mitigation elevation requirements for structures.				
<u>DCP</u> , BOE	Stormwater Pollution Abatement Fund; General Fund	Low	Long Term	1, 2, 3, 4
<b>P-61</b> —Research and continue to improve municipal code regulations regarding soil stability and erosion abatement.				
<u>DBS</u> , DCP, BOE	Stormwater Pollution Abatement Fund; General Fund	Low	Long Term	2, 3
<b>P-62</b> —Require that all land division proposals in FEMA-designated flood zones include base flood elevation data including recordation of this information on final plats.				
<u>BOE</u> , DBS, DCP	Stormwater Pollution Abatement Fund; General Fund	High	Long Term	1, 2, 4, 9
<b>P-63</b> —Develop a model educational program for hillside properties in general and Mandeville Canyon in particular. The target audience should be, at minimum, residents and real estate agents.				
<u>BOE</u> , DBS	Stormwater Pollution Abatement Fund, Grants	High	Long Term	2, 8, 9
<b>P-64</b> —Develop an annual inspection program of watercourse obstructions and revetments in Mandeville Canyon.				
<u>BOE</u> , LASAN, Streets Los Angeles, CAO, City Attorney; Council Office District 11	General Fund, Grants	High	Long Term	1, 8, 9
<b>P-65</b> —EMD to continue to coordinate its ongoing access to Federal Empower data that identifies residents of the City who may have disabilities or other medical conditions, or access or functional needs that increase their vulnerability to disasters. This information can be used by field level incident commanders or the City's Emergency Operations Center in order to ensure timely and efficient evacuation of vulnerable populations in an event of fire, flood, or tsunami.				
<u>EMD</u> , FD, PD, BOE, DOA, DOD	General Funds; Possible grants	High	Long Term	2, 5, 11
<b>P-66</b> —Continue to develop and maintain evacuation plans for areas potentially affected by a catastrophic dam failure, as identified in the Dam Inundation Map of the General Plan and forward these evacuation plans to appropriate agencies for coordination (police, sheriff, Los Angeles County, etc.).				
<u>EMD</u> , FD, PD, DWP	General Funds; Possible grants	High	Long Term	2, 5, 11
<b>P-67</b> —Maintain self-registry for vulnerable populations with access and functional needs and strive to identify sources of public safety hazards caused by all flood risk zones, including but not limited to the city regulated floodplain, identified repetitive loss areas, dam failure inundation areas, tsunami inundation areas, and areas potentially impacted by sea level rise.				
<u>EMD</u> , PD, DWP, DOA, DOD	General Funds; Possible grants	High	Long Term	2, 5, 11

Lead Department <sup>a</sup>	Possible Funding Sources	Estimated Project Cost	Time Line	Objectives
<b>P-68</b> —Conduct regular coordination meetings with the Los Angeles County Department of Public Works to communicate the City’s list of priority stormwater projects, discuss watershed management programs, and develop countywide standards.				
<u>BOE</u> , LASAN, LACDPW	Stormwater Pollution Abatement Fund; Benefit Assessment for Flood Control (County)	Low	Long Term	1, 2, 3, 7
<b>P-69</b> —Where appropriate, support retrofitting, purchase, or relocation of structures in hazard-prone (high risk) areas to prevent future structure damage. Give priority to properties with exposure to repetitive losses and areas with greatest economic need.				
<u>BOE</u> , LASAN, DBS, DCP, DGS	General Fund, Stormwater Pollution Abatement Fund; Grants	Low -Work performed by existing staff	Long Term	1, 2, 4, 8
<b>P-70</b> —Utilize risk-based information from the City of Los Angeles 2020 Floodplain Management Plan and the City of Los Angeles 2018 Local Hazard Mitigation Plan to update the Safety Element of the City’s General Plan pursuant to California Assembly Bill 2140 California Senate Bill 379 and California Senate Bill 1000.				
DGP, DBS	General Fund	Medium	Short	1, 2, 3, 6
<b>P-71</b> —Institute a program to capture perishable data (e.g., high water marks, damages, functional downtime) after flood events in the City, especially where flooding occurs in places that have not been identified a hazard areas on existing FEMA or City maps.				
<u>BOE</u> , LASAN	General Fund, FEMA Pollution Abatement Fund	Medium	Long term	1,2,8
<b>P-72</b> —Continue to maintain/ enhance the city’s classification under the Community rating System (CRS) as a means to mitigate the impacts from flood insurance reform.				
<u>BOE</u> , DBS, DCP, CAO, LASAN, EMD	General Fund	Low	Ongoing	1,2,3,4,5,6,7,8, 9,10
<b>P-73</b> —Where feasible, cost effective and supported both publicly and politically, restore the natural and beneficial floodplain functions of appropriate floodplains (floodplains that have been identified through a master plan or study certified by a qualified agency) in the City.				
<u>BOE</u> , LASAN, DBS, DCP, DGS	General Fund, Stormwater Pollution Abatement Fund	Low -Work performed by existing staff	Long Term	1, 2, 4, 8
<b>P-74</b> —Using the best available data and science, consider probable impacts on all forms of flooding from global climate change when making program enhancements or updates to the City’s comprehensive floodplain management program. This would include but is not limited to codes, ordinances, plans, studies, public information programs and city directives.				
<u>BOE</u> , LASAN, DCP, DGS, DBS	General Fund	Medium	Long term	1,2,3,10, 11
<b>P-75</b> —Update the open space and conservation elements of the general plan and identify ways to promote the preservation and enhancement of the beneficial functions of floodplains.				
DGP, <u>BOE</u> , LASAN	General Fund	High	Short term	1, 4, 10
<b>P-76</b> —Coordinate floodplain management programs within the Los Angeles River impact area with those projects identified in the Los Angeles River Revitalization Master Plan.				
<u>BOE</u> , LASAN	Federal and State Funds, Possible grants, General Fund	Medium	Long term	1, 2, 9
<b>P-77</b> —The City currently has five approved Enhanced Watershed Management Plans: Ballona Creek, Dominguez Channel, Marina Del Rey, Santa Monica Bay, and Upper Los Angeles River. These plans were approved in 2016 by the Los Angeles Regional Water Quality Control Board. The plans are considered adaptive management plans and must be reassessed and submitted for approval to the Water Quality Control Board every 5 years to ensure the City is working toward meeting its water quality compliance mandates.				
<u>LASAN</u> , <u>BOE</u>	Safe Clean Water Program Fund, General Fund/Stormwater Pollution Abatement Fund, Possible Grants	Low	Short term	1, 2, 3, 7, 10

Lead Department <sup>a</sup>	Possible Funding Sources	Estimated Project Cost	Time Line	Objectives
<b>P-78</b> —Coordinate floodplain management program recommendations and objectives with the Enhanced Watershed Management Plans.				
<u>BOE</u> , LASAN	Safe Clean Water Program Fund, General Fund/Stormwater Pollution Abatement Fund, Possible Grants	Medium	Long term	1, 2, 3, 7, 10
<b>P-79</b> —Include an identifier for RLAA properties in the DBS permitting process so that property owners can be made aware of the potential flood risk when applying for construction permits.				
<u>DCP</u> , BOE, DBS	General Fund	Low	Short term	All

a. Where multiple departments are listed, the underlined department will be the lead agency for overseeing implementation of the action.

### 13.3 STATUS OF ACTIONS FROM FMP2015

All actions selected for the action plan are carried over from the FMP2015, with minor edits and clarifications due department name changes. The following changes are noted from the FMP2015:

- 2015 Action P-32—This action was split into two actions, one on enforcement and one on updating the code.
- 2015 Action P-33—This action is the residual action from P-32 above and is technically a new action for the FMP2020.
- 2015 Action P-34—This action is based on the combination of actions P-33 and P-53 from the FMP2015.
- 2015 Action P-69—This action has been completed so is not carried over for the current update.

### 13.4 BENEFIT/COST ANALYSIS AND ACTION PLAN PRIORITIZATION

A qualitative benefit-cost review was performed for each identified mitigation action. The benefit/cost analysis was not of the detailed variety required by FEMA for project grant eligibility under the Hazard Mitigation Grant Program and Pre-Disaster Mitigation grant program. A less formal approach was used because some projects may not be implemented for up to 10 years, and associated costs and benefits could change dramatically in that time. Parameters were established for assigning subjective ratings (high, medium, and low) to the costs and benefits of each action:

- Cost ratings were defined as follows:
  - **High**—Existing funding will not cover the cost of the project; implementation would require new revenue through an alternative source (for example, bonds, grants, and fee increases).
  - **Medium**—The project could be implemented with existing funding but would require a re-apportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years.
  - **Low**—The project could be funded under the existing budget. The project is part of or can be part of an ongoing existing program.
- Benefit ratings were defined as follows:
  - **High**—Project will provide an immediate reduction of risk exposure for life and property.
  - **Medium**—Project will have a long-term impact on the reduction of risk exposure for life and property, or project will provide an immediate reduction in the risk exposure for property.
  - **Low**—Long-term benefits of the project are difficult to quantify in the short term.

Using this approach, projects with positive benefit-versus-cost ratios (such as high over high, high over medium, medium over low, etc.) are considered cost-beneficial and are prioritized accordingly. The action plan was

prioritized according to the benefit/cost analysis, funding availability and the immediacy of the need for each project (CRS Step 8), as follows:

- **High Priority**—A project that meets multiple objectives, has benefits that exceed cost, has funding secured or is an ongoing project and meets eligibility requirements for a grant program. High priority projects can be completed in the short term (1 to 5 years). The key factors for high priority projects are that they have funding secured and can be completed in the short term.
- **Medium Priority**—A project that meets goals and objectives, that has benefits that exceed costs, and for which funding has not been secured but that is grant eligible. Project can be completed in the short term, once funding is secured. Medium priority projects will become high priority projects once funding is secured. The key factors for medium priority projects are that they are eligible for funding, but do not yet have funding secured, and they can be completed within the short term.
- **Low Priority**—A project that will mitigate the risk of a hazard, that has benefits that do not exceed the costs or are difficult to quantify, for which funding has not been secured, that is not eligible for FEMA grant funding, and for which the time line for completion is long term (1 to 10 years). Low priority projects may be eligible for grant funding from other programs. Low priority projects are “blue-sky” projects. How they will be financed is unknown, and they can be completed over a long term.

Table 13-5 lists the priority of each action as assigned by the planning team, using the same parameters used in selecting the actions. For many of the actions identified in this action plan, the City of Los Angeles may seek financial assistance under the FEMA Hazard Mitigation Grant Program or Hazard Mitigation Assistance program, both of which require detailed benefit/cost analyses. These analyses will be performed on projects at the time of application using the FEMA benefit-cost model. For projects not seeking financial assistance from grant programs that require detailed analysis, the City reserves the right to define “benefits” according to parameters that meet the goals and objectives of the FMP2020.

## 13.5 ANALYSIS OF MITIGATION ACTIONS

Each recommended action was classified based on the type of mitigation it involves, as follows:

- **Prevention**—Government, administrative or regulatory actions that influence the way land and buildings are developed to reduce hazard losses. Includes planning and zoning, floodplain laws, capital improvement programs, open space preservation, and stormwater management regulations.
- **Property Protection**—Modification of buildings or structures to protect them from a hazard or removal of structures from a hazard area. Includes acquisition, elevation, relocation, structural retrofit, storm shutters, and shatter-resistant glass.
- **Public Education and Awareness**—Actions to inform citizens and elected officials about flood hazards and ways to mitigate them. Includes outreach projects, real estate disclosure, hazard information centers, and school-age and adult education.
- **Natural Resource Protection**—Actions that minimize hazard loss and preserve or restore the functions of natural systems. Includes sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.
- **Emergency Services**—Actions that protect people and property during and immediately after a hazard event. Includes warning systems, emergency response services, and the protection of essential facilities.
- **Structural Projects**—Actions that involve the construction of structures to reduce the impact of a hazard. Includes dams, setback levees, floodwalls, retaining walls, and safe rooms.

Table 13-6 presents the results of this analysis.

**Table 13-5. Prioritization of Mitigation Actions**

Action	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Costs?	Is Project Grant Eligible?	Can Project Be Funded Under Existing Programs/ Budgets?	Priority (High, Medium, Low)
P-1	2	Medium	Low	Yes	No	Yes	High
P-2	2	Low	Low	Yes	No	Yes	High
P-3	2	Medium	Low	Yes	No	Yes	High
P-4	2	Medium	Low	Yes	Yes	Yes	High
P-5	2	Medium	Low	Yes	No	Yes	High
P-6	3	High	High	Yes	No	Yes, partially	Medium
P-7	3	High	Low	Yes	No	Yes	High
P-8	4	High	Low	Yes	No	Yes	High
P-9	4	High	Low	Yes	No	Yes	High
P-10	2	High	Low	Yes	No	Yes	High
P-11	5	Medium	Medium	Yes	No	Yes	Medium
P-12	3	Low	Low	Yes	No	Yes	High
P-13	3	Low	Low	Yes	No	Yes	High
P-14	3	Low	Low	Yes	No	Yes	High
P-15	3	Medium	Low	Yes	No	Yes	High
P-16	5	High	Low	Yes	No	Yes	High
P-17	2	Medium	Low	Yes	No	Yes	High
P-18	5	Medium	Low	Yes	No	Yes	High
P-19	2	Low	Low	Yes	No	Yes	High
P-20	3	Low	Low	Yes	No	Yes	High
P-21	3	Medium	Low	Yes	No	Yes	High
P-22	3	Medium	Low	Yes	No	Yes	High
P-23	3	Medium	Low	Yes	No	Yes	High
P-24	4	Medium	Low	Yes	No	Yes	High
P-25	2	High	Low	Yes	No	Yes	High
P-26	4	Medium	Low	Yes	No	Yes	High
P-27	3	High	Low	Yes	No	Yes	High
P-28	4	Medium	Low	Yes	No	Yes	High
P-29	2	Low	Low	Yes	No	Yes	High
P-30	3	Medium	Low	Yes	No	Yes	High
P-31	3	Medium	Low	Yes	No	Yes	High
P-32	3	High	Low	Yes	No	Yes	High
P-33	2	Low	Low	Yes	No	Yes	High
P-34	3	Low	Low	Yes	No	Yes	High
P-35	4	High	Low	Yes	No	Yes	High
P-36	2	Low	Low	Yes	No	Yes	High
P-37	3	Low	Low	Yes	No	Yes	High
P-38	2	Medium	Low	Yes	No	Yes	High
P-39	3	High	Low	Yes	No	Yes	High
P-40	3	Medium	Low	Yes	No	Yes	High
P-41	4	Medium	Low	Yes	No	Yes	High
P-42	4	Medium	Low	Yes	No	Yes	High
P-43	2	Low	Low	Yes	No	Yes	High
P-44	4	Medium	Low	Yes	No	Yes	High

Action	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Costs?	Is Project Grant Eligible?	Can Project Be Funded Under Existing Programs/ Budgets?	Priority (High, Medium, Low)
P-45	4	Medium	Low	Yes	No	Yes	High
P-46	4	High	Low	Yes	No	Yes	High
P-47	4	Low	Low	Yes	No	Yes	High
P-48	4	Medium	Low	Yes	No	Yes	High
P-49	4	High	Low	Yes	No	Yes	High
P-50	4	High	Low	Yes	No	Yes	High
P-51	3	High	Low	Yes	No	Yes	High
P-52	3	Medium	Low	Yes	Maybe	Yes	High
P-53	3	Low	Low	Yes	No	Yes	High
P-54	3	Medium	Low	Yes	Yes	Yes	High
P-55	2	Low	Low	Yes	No	Yes	High
P-56	4	High	High	Yes	No	Maybe	Medium
P-57	2	High	High	Yes	No	Maybe	Medium
P-58	3	High	Low	Yes	No	Yes	High
P-59	2	High	Low	Yes	No	Maybe	Medium
P-60	4	Medium	Low	Yes	No	Maybe	Medium
P-61	2	Medium	Low	Yes	No	Maybe	Medium
P-62	4	High	High	Yes	No	Maybe	Low
P-63	5	Medium	Low	Yes	No	Maybe	Medium
P-64	3	Medium	High	No	No	Maybe	Low
P-65	3	High	High	Yes	Yes	Maybe	Low
P-66	2	High	High	Yes	Yes	Maybe	Low
P-67	2	Medium	High	No	Yes	Maybe	Low
P-68	3	High	High	Yes	Yes	Maybe	Low
P-69	4	Medium	Low	Yes	No	Maybe	Medium
P-70	4	High	Low	Yes	Yes	Maybe	Low
P-71	4	High	Medium	Yes	No	Yes	Medium
P-72	3	Medium	Medium	Yes	Yes	Maybe	Medium
P-73	10	Medium	Low	Yes	No	Yes	High
P-74	4	High	Low	Yes	No	Yes	High
P-75	4	High	Medium	Yes	No	Maybe	Medium
P-76	3	High	High	Yes	Yes	Maybe	Medium
P-77	3	Medium	Medium	Yes	Yes	Maybe	Medium
P-78	5	Low	Low	Yes	No	Yes	High
P-79	Medium	Low	Yes	No	Yes	High	P-79

**Table 13-6. Analysis of Mitigation Actions**

Hazard Type	Initiative Addressing Hazard, by Mitigation Type					
	1. Prevention	2. Property Protection	3. Public Education and Awareness	4. Natural Resource Protection	5. Emergency Services	6. Structural Projects
<b>Dam Failure</b>	6, 7, 9, 20, 21, 24, 25, 26, 27, 34, 37, 39, 50, 56, 70, 72, 74, 75, 77	69, 72	12, 13, 14, 28, 29, 41, 42, 43, 46, 55, 72	52, 53, 72, 73, 75, 76, 77, 78	5, 8, 10, 11, 15, 16, 38, 65, 66, 67, 71, 72	72
<b>FEMA Floodplains</b>	19, 20, 21, 22, 23, 24, 25, 26, 27, 31, 32, 33, 34, 35, 36, 37, 39, 44, 50, 54, 56, 57, 58, 60, 61, 62, 64, 70, 72, 74, 75, 77	35, 69, 72	12, 13, 14, 28, 29, 35, 40, 41, 42, 43, 46, 55, 63, 72	33, 52, 53, 72, 73, 75, 76, 77, 78	15, 16, 38, 65, 67, 71, 72	18, 72, 68
<b>Landslide/ Mudflow</b>	20, 21, 24, 25, 26, 27, 30, 34, 37, 39, 50, 54, 56, 58, 59, 61, 64, 70, 72, 74, 75, 77	69, 72	12, 13, 14, 28, 29, 41, 42, 43, 46, 55, 63, 72	52, 53, 72, 73, 75, 76, 77, 78	15, 16, 38, 65, 67, 71, 72	18, 72, 68
<b>Repetitive Loss Properties</b>	17, 20, 21, 22, 23, 24, 25, 26, 27, 34, 36, 37, 39, 47, 50, 54, 56, 57, 58, 60, 61, 64, 70, 72, 74, 75, 77	69, 72	12, 13, 14, 28, 29, 41, 42, 43, 45, 46, 48, 49, 55, 63, 72, 79	52, 53, 72, 73, 75, 76, 77, 78	15, 16, 38, 65, 67, 71, 72	18, 72, 68
<b>Tsunami</b>	1, 20, 21, 24, 25, 26, 27, 34, 37, 39, 50, 70, 72, 74, 75	69, 72	1, 12, 13, 14, 28, 29, 41, 42, 43, 46, 55, 72	52, 53, 72, 73, 75	1, 2, 3, 4, 15, 16, 38, 65, 67, 71, 72	72
<b>Urban Drainage</b>	17, 20, 21, 24, 25, 26, 27, 34, 36, 37, 39, 50, 54, 56, 58, 60, 64, 70, 72, 74, 75, 77	69, 72	12, 13, 14, 28, 29, 41, 42, 43, 46, 55, 63, 72	51, 52, 53, 72, 73, 75, 76, 77, 78	15, 16, 38, 65, 67, 71, 72	18, 51, 72, 68
<b>Climate Change/Adaptive Capacity</b>	20, 21, 24, 25, 26, 27, 34, 36, 37, 39, 50, 54, 56, 60, 64, 70, 74, 77	69	12, 13, 14, 28, 29, 41, 42, 43, 46, 55	52, 53, 70, 74, 77	15, 16, 38, 65, 67	68



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City of Los Angeles 2020 Floodplain Management Plan

## **PART 4—PLAN MAINTENANCE**



# 14. PLAN ADOPTION

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This chapter documents formal adoption of the FMP2020 by the Los Angeles City Council (CRS Step 9). A copy of the adoption resolution is provided in Figure 14-1.

To Be Provided with Final Draft

**Figure 14-1.** Resolution Adopting FMP2020

# 15. PLAN MAINTENANCE STRATEGY

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This chapter presents a plan maintenance process (CRS Step 10) that includes the following:

- A method and schedule for monitoring, evaluating, and updating the floodplain management plan over a 5-year cycle
- A process for the community to continue to participate in the plan maintenance process
- A process for the City to incorporate floodplain management requirements into other planning mechanisms, such as general or capital improvement plans, when appropriate

The plan maintenance strategy is the formal process that will ensure that the FMP2020 remains an active and relevant document and that the City of Los Angeles maintains its eligibility for applicable funding sources. It includes a schedule for monitoring and evaluating the FMP2020 annually and producing an updated plan every five years. The strategy also describes how public participation will be integrated throughout the plan maintenance and implementation process. It explains how the mitigation strategies outlined in the FMP2020 will be incorporated into existing planning mechanisms and programs, such as comprehensive land-use planning processes, capital improvement planning, hazard mitigation planning, and building code enforcement and implementation. The FMP2020's format allows sections to be reviewed and updated when new data become available, resulting in a plan that will remain current and relevant.

## 15.1 PLAN IMPLEMENTATION

The effectiveness of the FMP2020 depends on its implementation and incorporation of its action items into existing local plans, policies and programs. Together, the action items in the FMP2020 provide a framework for activities that the City of Los Angeles can implement over the next 5 years. The planning team and the Steering Committee have established goals and objectives and have prioritized mitigation actions that will be implemented through existing plans, policies, and programs.

The City of Los Angeles Department of Public Works Bureau of Engineering will have lead responsibility for overseeing the FMP2020 implementation and maintenance strategy. Implementation and evaluation will be a shared responsibility among all agencies identified as lead agencies in the mitigation action plan.

## 15.2 STEERING COMMITTEE

The Steering Committee is a total volunteer body that oversaw the development of the floodplain management plan and made recommendations on key elements of the plan, including the maintenance strategy. It was the Steering Committee's position that an oversight committee with representation similar to that of the Steering Committee should have an active role in the FMP2020 maintenance strategy. Therefore, it is recommended that a steering committee remain a viable body involved in key elements of the plan maintenance strategy. The new steering committee should include representation from local stakeholders.

The principal role of a steering committee in this plan maintenance strategy will be to review the annual progress report and provide input to the City of Los Angeles Department of Public Works Bureau of Engineering on possible enhancements to be considered at the next update. Future plan updates will be overseen by a steering

committee similar to the one that participated in development of the FMP2020, so keeping an interim steering committee intact will provide a head start on future updates. It will be the steering committee's role to review the progress report in an effort to identify issues needing to be addressed by future plan updates.

### 15.3 ANNUAL PROGRESS REPORT

The minimum task of the ongoing annual steering committee meeting will be the evaluation of the progress of the action plan during a 12-month performance period. This review will include the following:

- Summary of any flood hazard events that occurred during the performance period and the impact these events had on the City of Los Angeles
- Review of mitigation success stories
- Review of continuing public involvement
- Brief discussion about why targeted strategies were not completed
- Re-evaluation of the action plan to determine if the timeline for identified projects needs to be amended (such as changing a long-term project to a short-term one because of new funding)
- Recommendations for new projects
- Changes in or potential for new funding options (grant opportunities)
- Impact of any other planning programs or actions that involve floodplain management.

The planning team has created a template for preparing a progress report (see Appendix G). The plan maintenance steering committee will provide feedback to the planning team on items included in the template. The planning team will then prepare a formal annual report on the progress of the plan. This report should be used as follows:

- Posted on the Bureau of Engineering floodplain management plan web page
- Provided to the local media through a press release
- Provided to the Board of Public Works, Mayor, and City Council to inform them of the progress of mitigation actions implemented during the reporting period
- Provided as part of the CRS annual re-certification package. The CRS requires an annual recertification to be submitted by October 1 of every calendar year for which the community has not received a formal audit. To meet this recertification timeline, the planning team will strive to complete progress reports between June and September each year.

Annual progress reporting is credited under CRS Step 10.

### 15.4 PLAN UPDATE

The City of Los Angeles intends to update the FMP2020 on a 5-year cycle from the date of its adoption (CRS Step 10). This cycle may be accelerated to less than 5 years based on the following triggers:

- A federal flood-related disaster declaration that impacts the City of Los Angeles
- A flood event that causes loss of life
- A comprehensive update of the City of Los Angeles general plan.

It will not be the intent of future updates to develop a complete new floodplain management plan. The update will, at a minimum, include the following elements:

- The update process will be convened through a steering committee.
- The hazard risk assessment will be reviewed and, if necessary, updated using best available information and technologies.

- The action plan will be reviewed and revised to account for any actions completed, dropped, or changed and to account for changes in the risk assessment or new policies identified under other planning mechanisms (such as the general plan).
- The draft update will be sent to appropriate agencies and organizations for comment.
- The public will be given an opportunity to comment on the update prior to adoption.
- The City of Los Angeles City Council and Mayor will adopt the updated plan.

It is the City of Los Angeles' intention to fully integrate the FMP2020 into the next update of the City's local hazard mitigation plan. This will allow for a uniform update cycle for both plans and eliminate redundant planning.

## 15.5 CONTINUED PUBLIC INVOLVEMENT

The public will continue to be apprised of the plan's progress through the floodplain management plan website and by providing copies of annual progress reports to the media. The website will not only house the final plan, it will become the one-stop shop for information regarding the plan and plan implementation. Copies of the plan will be distributed to the City of Los Angeles library system. Upon initiation of future update processes, a new public involvement strategy will be initiated based on guidance from a new steering committee. This strategy will be based on the needs and capabilities of City of Los Angeles at the time of the update. At a minimum, this strategy will include the use of local media outlets.

## 15.6 INCORPORATION INTO OTHER PLANNING MECHANISMS

The City of Los Angeles, through adoption of a general plan and zoning ordinance, has planned for the impact of flooding. Policies in these planning mechanisms were reviewed and expanded as appropriate in development of the FMP2020. The general plan and the FMP2020 are complementary documents that work together to achieve the goal of reducing risk. An update to the general plan may trigger an update to the FMP2020.

The following other planning processes and programs also are to be coordinated with the recommendations of the FMP2020:

- Local hazard mitigation plan
- Emergency response plans
- Capital improvement programs
- Municipal codes
- Community design guidelines
- Water-efficient landscape design guidelines
- Stormwater management programs
- Water system vulnerability assessments

Some action items do not need to be implemented through regulation. Instead, these items can be implemented through the creation of new educational programs, continued interagency coordination, or improved public participation. As information becomes available from other planning mechanisms that can enhance the FMP2020, that information will be incorporated via the update process.



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# TERMINOLOGY

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## ACRONYMS

- APC—City of Los Angeles Area Planning Commission
- BOE—Bureau of Engineering, Department of Public Works
- CAO—Chief Administrative Office
- CEQA—California Environmental Quality Act
- CFR—Code of Federal Regulations
- CRS—Community Rating System
- DBS—Department of Building and Safety
- DCP—Department of City Planning
- DGS—Department of General Services
- DOA—Department of Airports
- DRP—Department of Recreation and Parks
- DSOD —California Division of Safety of Dams
- DWP—Department of Water and Power
- DWR—(California) Department of Water Resources
- EMD—Emergency Management Division
- ESA—Endangered Species Act
- EWMP—Enhanced Watershed Management Plans
- FD—Fire Department
- FEMA—Federal Emergency Management Agency
- FERC—Federal Energy Regulatory Commission
- FIRM—Flood Insurance Rate Map
- FMP2015—2015 City of Los Angeles Floodplain Management Plan

FMP2020—2020 City of Los Angeles Floodplain Management Plan

GIS—Geographic Information System

Hazus—MH—Hazards, United States-Multi Hazard

HD—Harbor Department

IPCC—Intergovernmental Panel on Climate Change

LACDA—Los Angeles County Drainage Area (Study)

LACDPW—Los Angeles County Department of Public Works

LASAN—Los Angeles Sanitation and Environmental

LID—Low impact development

LOMR—Letter of Map Revision

NFIP—National Flood Insurance Program

NIMS—National Incident Management System

NOAA—National Oceanic and Atmospheric Administration

NWS—National Weather Service

PD—Police Department.

SEA—Significant Ecological Area

SEMS—Standardized Emergency Management System

SFHA—Special Flood Hazard Area

USGCRP—U.S. Global Change Research Program

## DEFINITIONS

**100-Year Flood:** The flood that has a 1 percent chance of being equaled or exceeded in any given year. The 100-year flood does not necessarily occur once every 100 years. It is possible for a 100-year flood to occur more than once in a relatively short period of time.

**Acre-Foot:** The amount of water it takes to cover 1 acre to a depth of 1 foot. This measure is used to describe the quantity of storage in a water reservoir. An acre-foot is a unit of volume. One acre foot equals 7,758 barrels; 325,829 gallons; or 43,560 cubic feet. An average household of four will use approximately 1 acre-foot of water per year.

**Base Flood:** Another term for the 100-year flood—the flood having a 1 percent chance of being equaled or exceeded in any given year. The base flood is used as a reference flood level to ensure that all properties subject to the National Flood Insurance Program are protected to the same degree against flooding.

**Benefit/Cost Analysis:** A systematic, quantitative method of comparing projected benefits to projected costs of a project or policy. It is used as a measure of cost effectiveness. For the purposes of benefit-cost analysis of proposed mitigation actions, benefits are limited to specific, measurable, risk reduction factors, including reduction in expected property losses (buildings, contents, and functions) and protection of human life.

**Capability Assessment:** A description and analysis of a community's current capacity to address threats associated with flooding. The assessment includes two components: an inventory of an agency's mission, programs, and policies, and an analysis of its capacity to carry them out. A capability assessment is an integral part of the planning process in which a community's actions to reduce losses are identified, reviewed, and analyzed, and the framework for implementation is identified.

**Community Rating System (CRS):** A voluntary program that provides flood insurance premium discounts to property owners in communities that exceed the minimum requirements of the National Flood Insurance Program and complete activities that reduce flood hazard risk.

**Critical Facility:** A structure or other improvement that, because of its function, size, service area, or uniqueness, provides indispensable service that enables the continuous operation of critical business and government functions, and is critical to human health and safety or economic security.

**Drainage Basin:** A basin is the area within which all surface water—whether from rainfall, snowmelt, springs or other sources—flows to a single water body or watercourse. The boundary of a river basin is defined by natural topography, such as hills, mountains and ridges. Drainage basins are also referred to as **watersheds** or **basins**.

**Economically Disadvantaged Populations:** Households with household incomes below a federally defined minimum.

**Exposure:** The number and dollar value of assets considered to be at risk during the occurrence of a specific hazard.

**Federal Disaster Declaration:** Declarations for events that cause more damage than state and local governments and resources can handle without federal government assistance. Generally, no specific dollar loss threshold has been established for such declarations. A federal disaster declaration puts into motion long-term federal recovery programs to help disaster victims, businesses, and public entities.

**Flash Flood:** A flood that occurs with little or no warning when water levels rise at an extremely fast rate.

**Flood Insurance Rate Map (FIRM):** The official map on which the Federal Emergency Management Agency delineates special flood hazard area for a given location.

**Flood Insurance Study:** A report published by the Federal Insurance and Mitigation Administration for a community in conjunction with the community's Flood Insurance Rate Map. The study contains such background data as the base flood discharges and water surface elevations that were used to prepare the FIRM. In most cases, a community FIRM with detailed mapping will have a corresponding flood insurance study.

**Floodplain:** Any land area susceptible to being inundated by flood waters from any source. A flood insurance rate map identifies most, but not necessarily all, of a community's floodplain as the special flood hazard area.

**Floodway:** Areas within a floodplain that are reserved for the purpose of conveying flood discharge without increasing the base flood elevation more than 1 foot. Generally speaking, no development is allowed in floodways, as any structures located there would block the flow of floodwaters.

**Freeboard:** The margin of safety added to the base flood elevation in the design of structures intended to mitigate flooding.

**Frequency:** How often a hazard of specific magnitude, duration, and/or extent is expected to occur on average. Statistically, a hazard with a 100-year frequency is expected to occur about once every 100 years on average and has a 1 percent chance of occurring any given year. Frequency reliability varies depending on the type of hazard.

**Goal:** A general guideline that explains what is to be achieved. Goals are usually broad-based, long-term, policy-type statements and represent global visions. Goals help define the benefits that a plan is trying to achieve. The success of a floodplain management plan is measured by the degree to which its goals have been met (that is, by the benefits in terms of actual floodplain management).

**Geographic Information System (GIS):** A computer software application that relates data regarding physical and other features on the earth to a database for mapping and analysis.

**Hazard:** A source of potential danger or adverse condition that could harm people and/or cause property damage.

**Hazard Mitigation Grant Program:** A FEMA program that provides grants to states, tribes, and local governments to implement hazard mitigation actions after a major disaster declaration. The purpose of the program is to reduce the loss of life and property due to disasters and to enable mitigation activities to be implemented as a community recovers from a disaster

**Hazards U.S. Multi-Hazard (Hazus) Loss Estimation Program:** A GIS-based program used to support the development of risk assessments. The Hazus software program assesses risk in a quantitative manner to estimate damage and losses associated with natural hazards. Hazus is FEMA's nationally applicable, standardized methodology and software program and contains modules for estimating potential losses from earthquakes, floods, and wind hazards.

**Hydraulics:** The branch of science or engineering that addresses fluids (especially water) in motion in rivers or canals, works and machinery for conducting or raising water, the use of water as a prime mover, and other fluid-related areas.

**Hydrology:** The analysis of waters of the earth. For example, a flood discharge estimate is developed by conducting a hydrologic study.

**Intensity:** The measure of the effects of a hazard.

**Inventory:** A list of assets identified in a study region that could be lost when a disaster occurs and community resources are at risk. Assets include people, buildings, transportation, and other valued community resources.

**Local Government:** Any county, municipality, city, town, township, public authority, school district, special district, intrastate district, council of governments, regional or interstate government entity, or agency or instrumentality of a local government; any Indian tribe or authorized tribal organization, or Alaska Native village or organization; and any rural community, unincorporated town or village, or other public entity.

**Mitigation:** A preventive action that can be taken in advance of an event that will reduce or eliminate risk to life or property.

**Mitigation Actions:** Mitigation actions are specific actions to achieve goals and objectives that minimize the effects from a disaster and reduce the loss of life and property.

**Objective:** A short-term aim that, when combined with other objectives, forms a strategy or course of action to meet a goal. Unlike goals, objectives are specific and measurable.

**Preparedness:** Actions that strengthen the capability of government, citizens, and communities to respond to disasters.

**Probability of Occurrence:** A statistical measure or estimate of the likelihood that a hazard will occur. This probability is generally based on past hazard events in the area and a forecast of events that could occur in the future.

**Repetitive Loss Property:** Any NFIP-insured property that, since 1978 and regardless of any changes of ownership during that period, has experienced:

- Four or more paid flood losses in excess of \$1000.00; or
- Two paid flood losses in excess of \$1000.00 within any 10-year period since 1978 or
- Three or more paid losses that equal or exceed the current value of the insured property.

**Risk:** The estimated impact that a hazard would have on people, services, facilities, and structures in a community. Risk measures the likelihood of a hazard occurring and resulting in an adverse condition that causes injury or damage. Risk is often expressed in relative terms such as a high, moderate, or low likelihood of sustaining damage above a particular threshold due to occurrence of a specific type of hazard. Risk also can be expressed in terms of potential monetary losses associated with the intensity of the hazard.

**Risk Assessment:** The process of measuring potential loss of life, personal injury, economic injury, and property damage resulting from hazards. This process assesses the vulnerability of people, buildings, and infrastructure to hazards and focuses on (1) hazard identification; (2) impacts of hazards on physical, social, and economic assets; (3) vulnerability identification; and (4) estimates of the cost of damage or costs that could be avoided through mitigation.

**Significant Ecological Area:** An area mapped in the *Los Angeles County Special Management Areas Policy Map* that contains irreplaceable biological resources, representing the biodiversity of the county. Lands in the SEAs generally have undisturbed or lightly disturbed habitat.

**Special Flood Hazard Area:** The base floodplain delineated on a Flood Insurance Rate Map. The SFHA is mapped as a Zone A in river situations and zone V in coastal situations. The SFHA may or may not encompass all of a community's flood problems

**Stakeholder:** Business leaders, civic groups, academia, non-profit organizations, major employers, managers of critical facilities, farmers, developers, special purpose districts, and others whose actions could impact floodplain management.

**Vulnerability:** An asset's susceptibility to damage during a hazard event. Vulnerability depends on an asset's construction, contents, and the economic value of its functions.

**Watershed:** An area that drains down-gradient from areas of higher land to areas of lower land to the lowest point, a common drainage basin.

**Zoning Ordinance:** An ordinance that designates allowable land use and intensities for a local jurisdiction. Zoning ordinances consist of two components: a zoning text and a zoning map.



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City of Los Angeles 2020 Floodplain Management Plan

## **Appendix A. CRS Guidelines for Flood Planning**

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OMB No. 1660-0022  
Expires: March 31, 2020

National Flood Insurance Program  
Community Rating System

# Coordinator's Manual

*FIA-15/2017*



**FEMA**

## 510 FLOODPLAIN MANAGEMENT PLANNING—Summary

Maximum credit: 622 points

### 512 Elements

- a. **Floodplain management planning (FMP):** 382 points for a community-wide floodplain management plan that follows a 10-step planning process:
  - Step 1. Organize
  - Step 2. Involve the public
  - Step 3. Coordinate
  - Step 4. Assess the hazard
  - Step 5. Assess the problem
  - Step 6. Set goals
  - Step 7. Review possible activities
  - Step 8. Draft an action plan
  - Step 9. Adopt the plan
  - Step 10. Implement, evaluate, revise.
- b. **Repetitive loss area analysis (RLAA):** 140 points for a detailed mitigation plan for a repetitive loss area.
- c. **Natural floodplain functions plan (NFP):** 100 points for adopting plans that protect one or more natural functions within the community's Special Flood Hazard Area.

### Credit Criteria

Each element has a separate section discussing credit criteria.

### Impact Adjustment

The impact adjustments for FMP and RLAA are described in separate sections. There is no impact adjustment for NFP.

### Documentation Provided by the Community

Each element has a separate section describing needed documentation.

## 510 FLOODPLAIN MANAGEMENT PLANNING

The OBJECTIVE of this activity is to credit the production of an overall strategy of programs, projects, and measures that will reduce the adverse impact of the hazard on the community and help meet other community needs.

### 511 Background

Too often flood protection decisions are made quickly, with inadequate or outdated information or without considering all possible mitigation alternatives or the consequences of those alternatives. As a result, the community's resources are not allocated most appropriately, flood problems may not be fully addressed, and natural floodplain functions may suffer.

To remedy this situation, a careful, systematic process of planning is recommended, and may be credited by this activity. The Community Rating System (CRS) does not specify what activities a plan must recommend; rather, it recognizes plans that have been prepared according to the standard planning process explained in this activity.

**Benefits:** A well-prepared plan will

- Identify existing and future flood-related hazards and their causes;
- Ensure that a comprehensive review of all possible activities and mitigation measures is conducted so that the most appropriate solutions will be implemented to address the hazard;
- Ensure that the recommended activities meet the goals and objectives of the community, are in coordination with land use and comprehensive planning, do not create conflicts with other activities, and are coordinated so that the costs of implementing individual activities are reduced;
- Ensure that the criteria used in community land use and development programs account for the hazards faced by existing and new development;
- Educate residents and property owners about the hazards, loss reduction measures, and the natural and beneficial functions of floodplains;
- Build public and political support for activities and projects that prevent new problems, reduce losses, and protect the natural and beneficial functions of floodplains; and
- Build a constituency that wants to see the plan's recommendations implemented.

**Types of plans:** This activity credits three kinds of plans:

- Floodplain management planning (FMP): The most credit is for the first element, a community-wide floodplain management plan, but the element can also credit multi-hazard mitigation plans, multi-jurisdictional floodplain management and hazard mitigation plans, and floodplain management plans prepared for the U.S. Army Corps of Engineers. Only one plan may receive credit under this element, and plans may not

be combined as appendices or credited by virtue of internal reference to another plan, because this element credits the process as well as the content of the planning document.

- Repetitive loss area analyses (RLAA): The second element credits more detailed, site-specific plans to reduce flood losses in repetitively flooded areas. It has a narrower scope than a floodplain management plan, and receives fewer credit points.
- Natural floodplain functions plan (NFP): The third element provides credit for plans that address natural floodplain functions in the community.

A Category C repetitive loss community (defined in Section 502) must prepare either a FMP or RLAA area analysis that covers at least all of its repetitive loss areas.

**Implementation:** Credit is not provided for simply preparing a plan. Continued credit is dependent upon plan implementation. To maintain the credit for Activity 510, every year the community must evaluate its progress toward implementing the projects and programs in the plan, area analysis, or natural floodplain functions plan, and submit a report of that evaluation with its annual CRS recertification. It must update the background information and the recommendations in its floodplain management plans and repetitive loss area analyses at least every five years and in its natural floodplain functions plan(s) every 10 years.

By their very nature as overall guidance for a community's program, plans should be coordinated with other plans and programs as well as the activities of other agencies or offices that have authority over the same area. It is recommended that communities also contact state and regional offices and agencies to review their plans and planning criteria. For example, state planning agencies have requirements for some kinds of plans and state emergency management agencies may have additional elements they would like to see included in a mitigation plan.

**NOTE:** An ordinance is NOT a plan. *An ordinance sets standards for land development and other activities. Planning may include a review of land development standards and procedures, but it should also cover a much broader range of activities, as noted in Figure 510-4.*

**Class 9 Prerequisite:** A Category C repetitive loss community (see Section 502) must receive credit under EITHER Section 512.a, floodplain management planning (FMP), with full credit in planning Step 5(c) OR Section 512.b, repetitive loss area analysis (RLAA), with a plan that covers its repetitive loss areas.

## 512 Elements

### 512.a. Floodplain management planning (FMP)

The maximum credit for this element is 382 points.

FMP credit is provided for a community-wide floodplain management plan that was prepared by following a standard planning process. To receive any credit under this activity, the planning process must receive some credit under each of the 10 steps listed below. If the plan was approved by the Federal Emergency Management Agency (FEMA) as a multi-hazard mitigation plan and one step is missing, the mitigation plan may receive credit, but FMP credit will be limited to 50 points. If two steps are missing, there is no credit for a multi-hazard mitigation plan.

For some steps, such as Step 1, the community may show that it implemented at least one of the listed credit items. For other steps, specific items are required as a minimum. Required items are noted with “(REQUIRED)” after them.

FEMA’s multi-hazard mitigation planning regulations pursuant to the Disaster Mitigation Act of 2000 are explained at [www.fema.gov/plan/mitplanning](http://www.fema.gov/plan/mitplanning). The 10-step CRS planning process is consistent with those regulations, which identify four phases of hazard mitigation planning. The 10 CRS steps are aligned with the four phases of mitigation planning requirements in Table 510-1.

The CRS-credited planning process must follow the 10 steps. Although the plan document must discuss and document all 10 steps, the written plan does not need to be organized by these 10 steps. To document CRS credit, the community must identify where these steps were covered in its plan, using the CRS planning credit activity checklist (see Figure 510-1).

Documentation or discussion of all but Steps 3 and 9 must be presented in the plan document. Steps 3 and 9 may be in the plan document or they may be explained in a separate memo from the community or the plan’s author as explained in the documentation section at the end of each step. The community must update the plan at least every five years and document the update by October 1, five years after the plan was adopted.

**Note:** It is recommended that the planner review all state and FEMA planning program guidelines, including the CRS planning credit checklist for Activity 510. Doing so will ensure that the planning effort will meet all state, FEMA, and CRS criteria. It is the community’s option, but with proper planning, one plan document can fulfill the planning criteria of several FEMA and state programs.

Table 510-1. Planning steps for mitigation and for the CRS.		
Multi-hazard Mitigation Planning	CRS	Maximum
Phase I – Planning process		
§201.6(c)(1)	1. Organize	15
§201.6(b)(1)	2. Involve the public	120
§201.6(b)(2) & (3)	3. Coordinate	35
Phase II – Risk assessment		
§201.6(c)(2)(i)	4. Assess the hazard	35
§201.6(c)(2)(ii) & (iii)	5. Assess the problem	52
Phase III – Mitigation strategy		
§201.6(c)(3)(i)	6. Set goals	2
§201.6(c)(3)(ii)	7. Review possible activities	35
§201.6(c)(3)(iii)	8. Draft an action plan	60
Phase IV – Plan maintenance		
§201.6(c)(5)	9. Adopt the plan	2
§201.6(c)(4)	10. Implement, evaluate, revise	26
Total		382

512.a Floodplain management planning (FMP):	
<input checked="" type="checkbox"/>	(1) Attached is the floodplain management or hazard mitigation plan to be credited.
<input checked="" type="checkbox"/>	Check here if the plan was also approved by FEMA as a hazard mitigation plan
<input checked="" type="checkbox"/>	(2) This CRS planning credit worksheet, completed.
CRS Planning Step	Page/Section
<b>Step 1. Organize to prepare the plan</b>	
(a) Involvement of the office responsible for community planning	Ch. 6, p. 6-2
(b) Planning committee of department staff	Ch. 1, p. 1-3
(c) Process or committee formally created by the community's governing board	
<input checked="" type="checkbox"/> (1) Mark the plan document to show how it was prepared and who was involved in the planning process. Show which people or offices implement which of the six mitigation categories.	
<input type="checkbox"/> (2) [For item 1.(c)] Attach a copy of the governing body's action or resolution.	

Figure 510-1. An excerpt from a floodplain management planning credit checklist.

## Credit Points for FMP

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FMP = the total of points credited for Step 1 through Step 10, up to the maximum of 382 points

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There are no credit formulae for this activity. The credits for each step are simply added together.

Note that the points listed (Step 1 to Step 10) are maximum possible points. The ISO/CRS Technical Reviewer may determine that one or more items do not warrant full credit.

### Step 1. Organize to prepare the plan

The credit for this step is based on how the community organizes to prepare its floodplain management plan.

#### Credit Points for FMP Step 1

Credit for Step 1 is the total of the following points. (Maximum credit: 15 points)

(a) 4 points, if the office responsible for the community's land use and comprehensive planning is actively involved in the floodplain management planning process. The "office" may be the community's planning or community development department, a consulting firm, or a regional planning agency, provided that it performs regular land use or comprehensive planning duties for the community. This office is usually not the floodplain management or mitigation planner or consultant, because the intention of this credit is to incorporate the floodplain management or mitigation plan into the rest of the community's planning activities. "Actively involved" means that staff regularly attend meetings, assist in the coordination (Step 3), and either write or review draft sections of the plan.

(b) 9 points, if the planning process is conducted through a committee composed of staff from those community departments that implement or have expertise in the activities that will be reviewed in Step 7. One point is provided for each office represented.

Divisions of departments can be counted as separate offices. For smaller communities with fewer departments, full credit is provided if the committee has representation from all offices with expertise in all six categories of activities credited in Step 7.

A planning committee is strongly recommended. By involving those who can contribute and will be most affected when the recommendations are carried out, the community will get a more realistic product that will have a much better chance of being

#### Step 7 Categories

- Preventive measures (e.g., codes)
- Property protection (e.g., elevation)
- Natural resource protection
- Emergency services
- Structural flood control projects
- Public Information

Also see Figure 510-4.

adopted and implemented. Community departments that could be represented on the committee include, but are not limited to

- Building department/code enforcement,
- Engineering,
- Land use planning/zoning,
- Public works,
- Emergency management/public safety,
- Public information,
- Environmental protection/public health,
- Parks/recreation,
- A city manager or council member, and
- Housing/community development.

If the planning committee includes representatives from the public and other stakeholders (with no attachment to local government), additional credit is provided in Step 2. Note that there is extra credit in Step 10 if the committee continues to meet after the plan is adopted in order to evaluate progress and recommend changes.

No credit is provided for the creation of a planning committee if the committee only meets once or twice. It must meet a sufficient number of times to involve the members in the following key steps of the planning process (e.g., at least one meeting on each step):

- Step 4. Assess the hazard,
- Step 5. Assess the problem,
- Step 6. Set goals,
- Step 7. Review possible activities, and
- Step 8. Draft an action plan.

If the community wants credit for participating in a multi-jurisdictional floodplain management or hazard mitigation planning committee,

- The community must send at least two representatives to the planning committee;
- At least half of the community's representatives must attend all the meetings of the planning committee. In effect, there must be a quorum from each community. Remote attendance, e.g., via a webinar that allows for everyone to talk, is permissible; and
- CRS credit for the multi-jurisdictional planning committee will be based on the representation from offices that implement the activities in Step 7.

## Examples

- a. A community has a planning committee with representatives from its planning, zoning, building, emergency management, code enforcement, and public works departments, as well as the city manager's public information person. There is no one at the community level that deals with natural floodplain functions. The community's committee would receive six points, one for each representative.
  - b. A county is preparing a multi-jurisdictional plan for the county and 10 participating cities. This planning committee has 30 members, including two from each city. Among the members are representatives of all six Step 7 categories, e.g., a city engineer, a city public works person, the county planner, and the county soil and water conservation district. The county's committee would receive the full nine points, provided there was a quorum from each community seeking credit.
- (c) 2 points, if the planning process and/or the committee are formally created or recognized by action of the community's governing body.

Two points are provided if the community's governing body (e.g., the city council) formally recognizes the planning process. The preferred method is a formal resolution that designates who is responsible for preparing the plan and specifies a completion deadline. If a committee credited under Step 1(b) or 2(a) is used, the resolution should identify the members and the chair (or how the chair is selected) and how staff support is provided.

If a community participates in a multi-jurisdictional committee, its governing body must act in order for the community to receive this credit. A city will not receive this credit for a county council resolution. Conversely, a city can receive this credit even if there is no county credit.

## Step 2. Involve the public

The planning process must include an opportunity for the public to comment on the plan during its development and before its approval. Members of the public may be part of the planning committee created under Step 1 or they may be organized as a separate committee.

For this credit, the term "public" includes residents, businesses, property owners, and tenants in the floodplain and other known hazard areas as well as other stakeholders in the

community, such as developers and contractors, civic groups, environmental organizations, academia, non-profit organizations, major employers, and staff from other governmental agencies, such as a levee district, housing authority, Natural Resources Conservation Service, or the National Weather Service.

Members of an advisory body to the community that does not have any regulatory authority, such as a stormwater advisory board, can be counted as representatives of the public. Community employees and members of a regulatory body, such as a zoning board of appeals that makes final decisions, are not considered “public” or stakeholders and are counted as representatives of the community departments credited under Step 1(b).

As with staff, involving the public and stakeholders brings them fully into the planning process, provides input on the viability of options being considered, and helps them to become concerned about the outcome. The largest number of points is provided for Step 2(a) because a planning committee with public membership has the following advantages:

- The committee can be a forum to both educate the public and also provide a means for public input into the plan.
- The participants recognize that they are involved and will be more willing to commit themselves to the process.
- The participants can do some of the work, especially data gathering, thereby reducing the overall cost of preparing the plan.
- A committee can be an effective forum for discussing alternatives, debating goals and objectives, and matching the technical requirements of a program to local situations.
- The committee members will provide information on the plan and process to their respective constituencies.
- The participants gain a feeling of “ownership” of the plan and its recommendations, which helps build public support for it.
- Committee members form a constituency that will have a stake in ensuring that the plan is implemented.

Note that 50% of the maximum credit for this planning step is a prerequisite for Class 4 or better communities.

The most important partners to assist in the plan development are already within your community: local government officials, community planning and design professionals, business leaders, civic and volunteer groups, emergency services personnel, and interested residents.

. . . Ensuring that your team has an equitable and diverse representation will enhance your planning efforts and help build support for mitigation.

—*Planning for a Sustainable Future*, FEMA-364

### **Credit Points for FMP Step 2**

The credit for this step is the total of the following points based on how the community involves the public during the planning process. (Maximum credit: 120 points)

- (a) Up to 60 points, if the planning process is conducted through a planning committee that includes members of the public and meets the following criteria:
  - (1) If the committee includes community staff (e.g., the planning committee credited under Step 1(b)), then at least one-half of the members must be representatives of the public or stakeholders for full credit. The credit is prorated for lower levels of public or stakeholder representation. Note that receiving 50% of the maximum credit for this planning step is a prerequisite for Class 4 or better communities and item (a) is one-half of the credit for Step 2.
  - (2) It must meet a sufficient number of times to involve the members in the key steps of the planning process, i.e., it must meet the same meeting criteria specified in Step 1(b).
  - (3) All meetings must be open to the public and the meeting schedule must be publicly posted (e.g., on a website).
  - (4) If the community wants credit for participating in a multi-jurisdictional floodplain management or hazard mitigation planning committee, it must meet the criteria specified in Step 1(b).
  - (5) The formalities of organizing and naming the committee are not as important as the membership and the ability of all members to participate. For example, a community may augment an existing committee with an advisory body of stakeholders. Such an arrangement would be credited, provided the stakeholders were treated as full committee members during the meetings, i.e., they can speak up, vote, and receive all the materials that regular members do.

Note that this planning committee can be (and it is recommended that it be) the same committee that prepares a Program for Public Information under Activity 330 (Outreach Projects). The floodplain management plan document can also be or include the Program for Public Information document and/or the flood insurance coverage improvement plan credited under Activity 370 (Flood Insurance Promotion).

There is extra credit in Step 10 if the committee continues to meet after the plan is adopted in order to evaluate progress and recommend changes, provided that the committee continues to meet the above criteria. Such annual evaluations by a committee are required for some of the credits under Activities 330 and 370.

- (b) 15 points, if one or more public information meetings is held in the affected area(s) within the first two months of the planning process to obtain public input on the natural hazards, problems, and possible solutions. The meetings must be held separately from the planning committee meetings credited in item (1).

The intent of the public meeting(s) is to go out to the people to gather input. At a minimum, it must be separate from regular meetings of the planning committee or the

community's governing body. It is recommended that at least one of these public meetings be held in the affected neighborhoods.

- (c) 15 points, for holding one or more public meetings to obtain input on the recommended plan. The meeting(s) must be at the end of the planning process, at least two weeks before submittal of the recommended plan to the community's governing body.

Simply discussing the plan at a regular public meeting of the governing body, just before it is voted on, is not sufficient public input for CRS credit. To receive credit for this item, there must be at least one public meeting at the end of the planning process, at which the plan and its findings and recommendations are explained and people can ask questions and submit their comments for review, consideration, and potential modification of the plan. The CRS does not require public hearings. State and local laws take precedence, however. The community's legal counsel should determine if a public hearing is required.

- (d) 5 points, for each additional public information activity implemented to explain the planning process and encourage input to the planner or planning committee, up to a maximum of 30 points. Examples include, but are not limited to

- A website that explains the planning process and posts the time and place for its meetings, meeting agendas, status reports, and the draft plan, when it is ready for review.
- Conducting a public webcast that explains the planning process and solicits input.
- Questionnaires asking the public for information on their natural hazards, problems, and possible solutions. A questionnaire or survey that is sent to everyone in the floodplain or everyone in the community will receive double credit (10 points).
- Outreach projects, such as those credited in Activity 330 (Outreach Projects), which explain the planning effort and seek comments. These could include brochures, mailers, booths at shopping malls, presentations at civic or neighborhood organizations, etc.

### **Step 3. Coordinate**

Most communities' flood problems have been studied already. There are likely to be existing plans, studies, and reports on flooding that need to be reviewed. There also may be flood protection activities being considered or implemented by other agencies.

This planning step credits incorporating other plans and other agencies' efforts into the floodplain management plan. Other agencies and organizations must be contacted to determine if they have studies, plans, or information pertinent to the floodplain management plan; to determine if their programs or initiatives may affect the community's program; and to see if they could support the community's efforts.

Examples of “other agencies and organizations” include neighboring communities; local, regional, state, and federal agencies; and businesses, colleges, and other private and non-profit organizations affected by the hazards or involved in hazard mitigation or floodplain management.

This credit is for coordinating with other agencies and organizations, particularly those that are not represented on the planning committee credited under Step 1(b) or Step 2(a). No special additional coordination measures are needed for the agencies and organizations on the planning committee, but the planners may want to formally contact the directors and others for the record.

Note that community needs and goals typically are developed during comprehensive planning activities. These goals should be identified in this step, reviewed, and considered during the development of the floodplain management plan. They should be taken into account when the goals for the floodplain management plan are developed in Step 6.

### **Credit Points for FMP Step 3**

The credit for this step is the total of the following points. To receive credit for this step, the coordination must include item (a). (Maximum credit: 35 points)

- (a) 5 points, if the planning includes a review of existing studies, reports, and technical information and of the community’s needs, goals, and plans for the area. (REQUIRED) Where the information from the existing studies and reports is used in the plan, the source(s) should be referenced.

This review needs to include a review of community needs and goals, past flood studies, disaster damage reports, natural areas plans, and other documents that will provide information for the planning process.

- (b) 30 points, for coordinating with agencies and organizations outside the community’s governmental structure. There is no credit for talking to other departments within the city or county government. For this credit, “coordinate” means to

- Contact the agency or organization and keep a record of the contact (a generic announcement or notice on a website is not sufficient);
- Ask for data or information related to the hazard;
- Ask if the agency or organization is doing anything that might affect flooding or properties in flood-prone areas; and
- Offer the agency or organization an opportunity to be involved in the planning effort, such as by attending a committee meeting or commenting on the draft plan.

One point is provided for each agency or organization that is contacted.

Two points are provided for meeting or having a telephone conversation with the agency or organization. Such a coordination meeting or conversation must be separate from attendance at a planning committee meeting.

Coordination with an agency can only be counted once. For example, if a letter to an agency results in a follow-up meeting or telephone conversation, the community receives two points.

Examples of such agencies and organizations include, but are not limited to

- Neighboring communities;
- Local and regional agencies involved in hazard mitigation activities;
- Stakeholder-type organizations that are not represented on the planning committee;
- Local drainage, levee, sanitary, and soil and water conservation districts;
- Regional and metropolitan planning agencies;
- State National Flood Insurance Program (NFIP) Coordinator;
- State water resources agency;
- State coastal zone management agency;
- State emergency management agency;
- FEMA Regional Office;
- National Weather Service;
- U.S. Army Corps of Engineers;
- Natural Resources Conservation Service;
- U.S. Bureau of Reclamation;
- U.S. Fish and Wildlife Service;
- National Oceanic and Atmospheric Administration;
- Native American tribes;
- American Red Cross;
- Local homebuilders association; and
- Local environmental groups.

If the community wants the plan to qualify as a multi-hazard mitigation plan, the plan must identify all stakeholders that are involved or given an opportunity to be involved in the planning process. At a minimum, stakeholders must include

- 1) Local and regional agencies involved in hazard mitigation activities,
- 2) Agencies that have the authority to regulate development, and
- 3) Neighboring communities.

An “opportunity to be involved in the planning process” means that the stakeholders are engaged or invited as participants and given the chance to provide input to affect the plan’s content.

—*Local Mitigation Plan Review Guide*, FEMA

#### **Step 4. Assess the hazard**

At this step in the planning process, the planner or committee reviews, analyzes, and summarizes data collected about the natural hazard(s) that the community faces. This step focuses on the sources, frequency, extent, and causes of flooding while Step 5 will address the impact of flooding on people, property, infrastructure, the local economy, and natural floodplain functions.

Under Step 3(a), the community gathers data about the flood hazard. This step involves reviewing, analyzing, and summarizing the data from existing flood studies, including the Flood Insurance Study, drainage problem studies, historical records, and the knowledge and experiences of the planning committee members.

For CRS credit, the community does not need to conduct studies to develop new flood data. However, if this process determines that new maps or data are needed, they should be described for credit under item (d).

The hazard assessment needs to describe the local flood hazard and not be a broad or generic discussion of flooding in general. It needs to discuss how often it floods, the locations of areas that flood, the depth of flooding, and the source or cause of the flooding. Because the most important readers are elected officials and flood-prone residents, the descriptions of the hazards should be in lay terms.

The CRS Community Self Assessment described in Section 240 can help with this step.

#### **Credit Points for FMP Step 4**

The credit for this step is the total of the following points based on what the community includes in its assessment of the hazard. (Maximum credit: 35 points)

- To receive CRS credit for this step, the plan must include a flood hazard assessment credited under item (1).
  - If the community is a Category B or C repetitive loss community (see Sections 502–503), this step must cover all of its repetitive loss areas.
- (a) 15 points, for including an assessment of the flood hazard in the plan. (REQUIRED) Flood hazard areas that require assessment include
- The Special Flood Hazard Area (SFHA) shown on the Flood Insurance Rate Map (FIRM),
  - Repetitive loss areas,
  - Areas not mapped on the FIRM that have flooded in the past, and
  - Other surface flooding identified in other studies.
- (1) 5 points, for a map of the flood hazard areas. Area maps are acceptable for multi-jurisdictional plans.
- (2) 5 points, for a description of the known flood hazards, including source of water, depth of flooding, velocities, and warning time.
- (3) 5 points, for a discussion of past floods.
- (b) 10 points, for including an assessment of less-frequent flood hazards in the plan. For this credit, the community must
- (1) Identify the hazard, including
- a. Preparing an inventory of levees that would result in a flood of developed areas if they failed or were overtopped during a flood, and/or
  - b. Preparing an inventory of dams that would result in a flood of developed areas if they failed, and/or

- c. Identifying any of the flood-related special hazards listed in Section 401 of the *CRS Coordinator's Manual* that may affect the community, and/or
  - d. Identifying the coastal A Zone, i.e., the area where wave heights during the 100-year flood are between 1.5 and 3 feet;
- (2) Map the area(s) affected. (For planning purposes, an approximate affected area is sufficient. No new engineering studies are needed. Area maps are acceptable for multi-jurisdictional plans.) If an engineering study is conducted, it may receive credit under Activity 410; and
- (3) Summarize the hazard(s) in lay terms.

Note that, under Activities 620 (Levees) and 630 (Dams), items (b)(1)a and (b)(1)b are prerequisites for reaching Class 4 or better. Additional guidance on inventorying and mapping the areas affected by levee and dam failures can be found in Section 621.b and Section 631.b, respectively. It is recommended that communities incorporate these inventories into their floodplain management plans.

Item (a) is prorated if part of the “flood hazard” is missing, where applicable. For example, if the community is downstream of a dam, has a levee, and has a coastal A Zone, and the assessment includes only the dam failure hazard, the credit will be less than the full 10 points. If the community does not have a levee, it is reflected in the proration.

Two points are provided if the inventory is conducted and concludes that there are no levees, dams, or special flood-related hazards that threaten the community.

- (c) 5 points, if the assessment identifies areas likely to be flooded and flood problems that are likely to get worse in the future as a result of (1) changes in floodplain development and demographics, (2) development in the watershed, and (3) climate change or sea level rise. The credit is prorated if the assessment does not include all three types of changes.
- (d) 5 points, if the plan includes a description of the magnitude or severity, history, and probability of future events for other natural hazards, such as earthquakes, wildfires, or tornados. The plan should include all natural hazards that affect the community. At a minimum, it should include hazards identified by the state’s hazard mitigation plan.

***NOTE:** To qualify as a multi-hazard mitigation plan, the plan must address ALL of the community’s flood and other natural hazards identified in the hazard assessment. Not only does an all-hazards plan help qualify for mitigation funds, but also it will better prepare the community for hazards other than flooding. It is common for communities to focus only on mitigation of flood problems because they occur more often. However, assessing the other hazards when preparing a flood plan can help address what can be done for all hazards, some of which may occur less frequently, but have a greater impact on the community.*

## Step 5. Assess the problem

Flooding can be a natural and beneficial occurrence. A floodplain is only a problem area if human development (the built environment) gets in the way of, or exacerbates, the natural flooding process.

The previous step assessed the hazards facing the community. In this step, the community planners or planning committee members collect and summarize data on what is at risk. This step looks at the impact of those hazards on the community.

Note that 50% of the maximum credit for this planning step is a prerequisite for Class 4 or better communities.

### Credit Points for FMP Step 5

The credit for this step is the total of the following points, based on what is included in the assessment of the vulnerability of the community to the hazards identified in the previous, hazard assessment, step. (Maximum credit: 52 points)

- To receive credit for this step, the assessment must include items (a) and (c). A plan for a Category B or a Category C repetitive loss community that does not include item (c) may still receive up to 50 points for the plan, provided that no other step is missed.
  - Each credited item must cover all relevant flood-related hazards identified in Step 4.
  - Each credited item must include a description and summary of the problem(s). Simply listing data, such as the names of the critical facilities or the number of flood insurance claims, does not suffice for credit—there must be description of the impact of flooding and what kinds of problems arise, not just raw data.
  - For a multi-jurisdictional plan, each item needs to be described for each community. Tables are acceptable to show the data by community, but there still needs to be a narrative description and summary of the problem(s).
- (a) 2 points, if the plan includes an overall summary of the jurisdiction’s vulnerability to each hazard identified in the hazard assessment (Step 4) and the impact on the community. (REQUIRED)
- (b) 25 points, if the plan includes a description of the impact that the hazards identified in the hazard assessment (Step 4) have on the features listed below:
- (1) 5 points, for life safety and the need for warning and evacuating residents and visitors.
  - (2) 5 points, for public health, including health hazards to individuals from flood waters and mold.
  - (3) 5 points, for critical facilities and infrastructure.
  - (4) 5 points, for the community’s economy and major employers.
  - (5) 5 points, for the number and types of affected buildings (e.g., residential, commercial, industrial, with or without basements, etc.). For this credit, the

assessment must include an inventory of all buildings owned by the community that are located in flood-prone areas and that identifies which buildings are insured for flood damage.

- (c) 5 points, if the assessment includes a review of historical damage to buildings, including all repetitive loss properties and all properties that have received flood insurance claims payments, and/or an estimate of the potential damage and dollar losses to vulnerable structures, including damage from mold and other flood-related hazards. Vulnerable structures must include all buildings within the community's defined repetitive loss area(s).

Communities must include repetitive loss areas in their problem assessment. (REQUIRED of Category B and C repetitive loss communities (see Sections 502–503))

In order to receive the full credit under item (c), the community reviews ALL the addresses of properties that have received flood insurance claims, not just the repetitive loss properties. Such a list is sent annually to all Category B and C repetitive loss CRS communities. Communities can request more recent lists through their FEMA Regional Office.

Data on building damage usually can be obtained from post-disaster damage assessment reports, flood insurance claims or disaster assistance data, and flood control studies. Particularly in areas that have experienced little or no serious flooding in recent history, a Hazus-MH flood analysis can yield valuable information about the potential for flood damage and loss (Figure 510-2). For best results, the building/structure inventory data bases in Hazus-MH should be augmented with local input.

### The Privacy Act

Flood insurance data about private property, including repetitive loss properties, are protected under the Privacy Act. Personally identifiable Information such as the names or addresses of specific properties, whether they are covered by flood insurance or not, whether they have received flood insurance claims, or the amounts of such claims may not be released outside of local government agencies or to the public or used for solicitation or other purposes. Such information should be marked "For internal use only. Protected by the Privacy Act of 1974."

General or aggregated information, such as total claims paid for a community or an area or data not connected to a particular property may be made public.



Hazus-MH is a software program that contains models for estimating potential losses from earthquakes, floods, and hurricane winds. It can be a great help in the Step 5 vulnerability assessment.

Hazus-MH uses geographic information system (GIS) software to map and display hazard data and the results of damage and economic loss estimates for buildings and infrastructure. It also allows users to estimate the impacts of hurricane winds, floods, and earthquakes on populations.

Copies of Hazus-MH are available at no charge from the FEMA Distribution Center. Users can request that a 60-day trial/evaluation copy of ESRI's ArcGIS software be sent with Hazus-MH. Users should be familiar with GIS software. Hazus training is available at FEMA's Emergency Management Institute and elsewhere. Information is at <http://www.fema.gov/hazus/>.

**Figure 510-2. About Hazus-MH.**

- (d) 5 points, if the assessment describes areas within the floodplain that provide natural functions, such as wetlands, riparian areas, sensitive areas, and habitat for rare or endangered species.

Along with flood protection, comprehensive floodplain management planning should review the unique natural features, natural areas, and other environmental and aesthetic attributes that may be present in the floodplain. Protecting and preserving these natural and beneficial floodplain functions yield flood protection benefits and also help integrate floodplain management efforts with other community goals and objectives. This section should also review existing natural floodplain functions plans, such as those credited under Section 511.c.

- (e) 7 points, if the assessment includes a description of development, redevelopment, and population trends and a discussion of what the future brings for development and redevelopment in the community, the watershed, and natural resource areas.
- (f) 8 points, if the assessment includes a description of the impact of the future flooding conditions described in Step 4(c) on people, property, and natural floodplain functions.

### **Step 6. Set goals**

The goals should set the context for the subsequent review of floodplain management activities and drafting of the action plan (Figure 510-3). They should incorporate or be consistent with other community goals for the affected areas. A multi-hazard mitigation plan should have goals that address all the major hazards that face the community.

#### **Credit Points for FMP Step 6**

The points for this step are provided if the plan includes a statement of the goals of the community's floodplain management or hazard mitigation program. The goals must address all flood-related problems identified in Step 5. (Maximum credit: 2 points)

### **Step 7. Review possible activities**

At this step, the plan reviews different activities that could prevent or reduce the severity of the problems described in Step 5. This is a systematic review of a wide range of activities to ensure that all possible measures are explored, not just the traditional approaches of flood control, acquisition, and regulation of land use. The review, including the pros and cons of each activity, must be included in the plan document. Figure 510-4 lists some of the types of activities that could be reviewed under each of the six credited categories.

*NOTE: This review is separate from Step 8, the selection of projects and activities to pursue. It includes activities that may not be selected and explains why some activities may be appropriate for the community and its flooding conditions and why some may not be appropriate.*

The range of activities should be evaluated for each area affected. While some of them may be quickly eliminated as inappropriate, most deserve careful consideration, especially to ensure full understanding of their costs and benefits.

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### **St. Tammany Parish, Louisiana, Multi-Hazard Mitigation Plan**

1. Protect the lives and health of the Parish's residents from the dangers of natural hazards.
2. Ensure that public services and critical facilities operate during and after a disaster.
3. Ensure that adequate evacuation routes, streets, utilities and public and emergency communications are maintained and available during and after a disaster.
4. Protect homes and businesses from damage.
5. Use new infrastructure and development planning to reduce the impact of natural hazards.
6. Give special attention to repetitively flooded areas.

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### **Gurnee, Illinois, Flood Mitigation Plan**

1. Protect existing properties
  - a. Use the most effective approaches to protect buildings from flooding, including acquisition or relocation where warranted.
  - b. Enact and enforce regulatory measures that ensure that new development will not increase flood threats to existing properties.
  - c. Use appropriate measures to mitigate against the danger and damage posed by other natural hazards.
2. Protect health and safety
  - a. Advise everyone of the safety and health precautions to take against flooding and other natural hazards.
  - b. Improve traffic circulation, during floods and at other times.
  - c. Improve water quality and habitat.
  - d. Do something about the mosquitoes.
3. Improve the quality of life in Gurnee.
  - a. Preserve and improve the downtown core of businesses and services.
  - b. Ensure that current owners can maintain and improve their properties.
  - c. Use acquisition programs to expand open space and recreational opportunities.
  - d. Maintain an attractive riverfront and other public open spaces.
4. Ensure that public funds are used in the most efficient manner.
  - a. Prioritize mitigation projects, starting with those sites facing the greatest threat to life, health, and property.
  - b. Utilize public funding to protect public services and critical facilities.
  - c. Utilize public funding for those projects on private property where the benefits exceed the costs.
  - d. Maximize the use of outside sources of funding.
  - e. Maximize owner participation in mitigation efforts to protect their own properties.
  - f. Encourage property-owner self-protection measures.

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**Figure 510-3. Two examples of communities' statements of their goals.**

1. **Preventive** activities keep flood problems from getting worse. The use and development of flood-prone areas is limited through planning, land acquisition, or regulation. They are usually administered by building, zoning, planning, and/or code enforcement offices.
  - Floodplain mapping and data
  - Open space preservation
  - Floodplain regulations
  - Erosion setbacks
  - Planning and zoning
  - Stormwater management
  - Drainage system maintenance
  - Building codes
2. **Property protection** activities are usually undertaken by property owners on a building-by-building or parcel basis.
  - Relocation
  - Acquisition
  - Building elevation
  - Retrofitting
  - Sewer backup protection
  - Insurance
3. **Natural resource protection** activities preserve or restore natural areas or the natural functions of floodplain and watershed areas. They are implemented by a variety of agencies, primarily parks, recreation, or conservation agencies or organizations.
  - Wetlands protection
  - Erosion and sediment control
  - Natural area preservation
  - Natural area restoration
  - Water quality improvement
  - Coastal barrier protection
  - Environmental corridors
  - Natural functions protection
4. **Emergency services** measures are taken during an emergency to minimize its impact. These measures are usually the responsibility of city or county emergency management staff and the owners or operators of major or critical facilities.
  - Hazard threat recognition
  - Hazard warning
  - Hazard response operations
  - Critical facilities protection
  - Health and safety maintenance
  - Post-disaster mitigation actions
5. **Structural projects** keep flood waters away from an area with a levee, reservoir, or other flood control measure. They are usually designed by engineers and managed or maintained by public works staff.
  - Reservoirs
  - Levees/floodwalls
  - Diversions
  - Channel modifications
  - Storm drain improvements
6. **Public information** activities advise property owners, potential property owners, and visitors about the hazards, ways to protect people and property from the hazards, and the natural and beneficial functions of local floodplains. They are usually implemented by a public information office.
  - Map information
  - Outreach projects
  - Real estate disclosure
  - Library
  - Technical assistance
  - Environmental education

**Figure 510-4. Categories of floodplain management activities.**

**Credit Points for FMP Step 7**

The credit for this step is the total of the following points based on which floodplain management or hazard mitigation activities are reviewed in the plan. (Maximum credit: 35 points)

This step must describe those activities that were considered. There is no credit for simply listing the various types of projects under each credited category. For each activity, there must be a discussion of why the activity is or is not appropriate for the community and its flood problems.

For an activity that is determined to be appropriate,

- The discussion must also include community's capability to fund and implement the activity.
- If an activity is currently being implemented, the plan must note if it is achieving expectations and, if not, whether it should be modified.
- If the plan is an update of a previously credited plan, each activity recommended by the previous plan must be discussed, along with the status of implementation.

The discussion of each activity needs to be detailed enough to be useful to the lay reader.

Section (a) is required for any credit under this step.

(a) 5 points, if the plan reviews preventive activities, such as zoning, stormwater management regulations, building codes, subdivision ordinances, and preservation of open space, and the effectiveness of current regulatory and preventive standards and programs. (REQUIRED) For this credit, the review must include a discussion of the community's

- Comprehensive or land use plan,
- Building code,
- Zoning ordinance,
- Floodplain management regulations,
- Subdivision ordinance, and
- Stormwater management regulations.

The discussion must review

- How these tools can reduce future flood losses,
- The current standards in the community's plans and regulations, and
- Whether the community should adopt or revise such plans and regulations in light of the Step 5 problem assessment and the goals set in Step 6.

- (b) 5 points, if the plan reviews whether the community's floodplain management regulatory standards are sufficient for current and future conditions, as discussed under Steps 4(c) and 5(f).
- (c) 5 points, if the plan reviews property protection activities, such as acquisition, retrofitting, and flood insurance;
- (d) 5 points, if the plan reviews activities to protect the natural and beneficial functions of the floodplain, such as wetlands protection;
- (e) 5 points, if the plan reviews emergency services activities, such as warning and sandbagging;
- (f) 5 points, if the plan reviews structural projects, such as levees, reservoirs, and channel modifications; and
- (g) 5 points, if the plan reviews public information activities, such as outreach projects and environmental education programs.

### **Step 8. Draft an action plan**

After the review of alternatives during Step 7, an action plan is drafted (Step 8) that selects and specifies those activities appropriate to the community's resources, hazards, and vulnerable properties. The community should strive for a balanced program, selecting measures from more than one category of floodplain management activity. In every case, the community should implement preventive activities both to keep its flood problems from getting worse and also to protect new construction from the effects of natural hazards.

There is no requirement that a floodplain management plan identify expensive or massive structural flood control projects. The plan must include activities that the community can be assured will be implemented through its own resources. If outside funding support is needed for some projects, the funding sources should be identified and researched to ensure that the projects are eligible and the community has a chance of receiving the funds. Many of the activities could receive CRS credit once they are implemented.

Note that 50% of the maximum credit for this planning step is a prerequisite for Class 4 or better communities.

### **Credit Points for FMP Step 8**

The credit points are based on the range of actions that are recommended in the plan, subject to the criteria listed below. (Maximum credit: 60 points)

- For each recommendation, the action plan must identify
  - Who is responsible for implementing the action,
  - When it will be done, and
  - How it will be funded.

“When it will be done” can be specified in terms of a date, a set period of time after another action is complete, after the next flood, etc. “How it will be funded” could state that funding will be dependent on a grant, provided the project is eligible for the grant program.

- The actions must be prioritized. When prioritizing mitigation actions, the planners need to consider the benefits that would result from the mitigation actions and projects versus the cost of those actions. Note that this is not a requirement for a cost-benefit analysis for every action item. However, an economic evaluation is essential for selecting one or more actions from among many competing ones.
  - There must be an action item for each goal in Step 6. An example of this is in Figure 510-5.
  - Credit is provided for a recommendation on floodplain regulations, provided it recommends adopting or continuing a regulatory standard that exceeds the minimum requirements of the National Flood Insurance Program (NFIP). Simply continuing to meet the minimum criteria of the NFIP is not credited as an action item to improve the community’s floodplain management program.
  - If the plan calls for acquiring properties, there must be a discussion of how the project(s) will be managed and how the land will be used after it is acquired.
  - When a multi-jurisdictional plan is prepared, it must have action items from at least two of the six categories that directly benefit each community seeking CRS credit.
  - To qualify as a multi-hazard mitigation plan, the plan must include a “process by which local governments incorporate the requirements of the mitigation plan into other planning mechanisms such as comprehensive or capital improvement plans, when appropriate” (44 *CFR* §201.6(c)(4)(ii)). The action items that relate to preventive activities should clarify how this is done. For example, an action item could recommend that the next time the zoning ordinance is revised, flood and landslide hazard areas be considered when determining allowable uses.
- (a) 45 points, depending on how many categories are covered by the action items:
- (1) 10 points, if the action plan includes flood-related recommendations for activities from two of the six categories credited in Step 7; OR
  - (2) 20 points, if the action plan includes flood-related recommendations for activities from three of the six categories credited in Step 7; OR
  - (3) 30 points, if the action plan includes flood-related recommendations for activities from four of the six categories credited in Step 7; OR
  - (4) 45 points, if the action plan includes flood-related recommendations for activities from five of the six categories credited in Step 7.

Table 9-1. Action Items, Goals, and Recommendations							
Action Item	Goal 1. Protect critical facilities and utilities	Goal 2. Protect lives and health	Goal 3. Protect homes, businesses, and schools	Goal 4. Minimize the costs to the City and property owners	Goal 5. Ensure that new construction supports these goals	Chapter – Recommendation	Deadline
<b>9.2. Administrative Action Items</b>							
1. <i>Plan</i> adoption	X	X	X	X	X		5/31/07
2. Monitoring and reporting	X	X	X	X	X		9/30 each year
3. Community Rating System	X	X	X	X	X	4-3, 6-5, 7-3, 8-1 - 8-8	CRS visit
<b>9.3. Program Action Items</b>							
4. Levee improvements	X	X	X	X		4-1	Ongoing
5. Drainage improvements	X	X	X	X		4-2	8/31/08
6. Drainage system maintenance	X	X	X			4-3	CRS visit
7. Property protection funding	X	X	X	X		5-2, 5-3	8/31/07
8. Regulatory review	X		X		X	6-5	CRS visit
9. NFIP administration	X	X	X		X	6-2	After CAC
10. CFMs	X	X	X		X	6-2, 6-3	8/31/07
11. BCEGS	X	X	X		X	6-4	5/31/07
12. Flood response plan	X	X	X			7-1 – 7-4	Ongoing
<b>9.4. Public Information Action Items</b>							
13. Annual mailing		X	X		X	8-1, 8-2, 8-7, 8-8	Each Spring
14. Technical references		X	X		X	8-4, 8-5	CRS visit
15. Public information projects		X	X		X	4-4, 5-1, 6-1, 6-6, 7-4, 8-1 – 8-8	Ongoing
16. Public information messages		X	X		X	4-4, 5-1, 6-1, 6-6, 7-4, 8-1 – 8-8	Ongoing
<p>This table relates the 16 action items to the 5 goals of this Plan. The goals are stated in full on pages 3-6 and 9-1. The table also shows the relation between the action items and the recommendations at the end of chapters 4 – 8. For example action item 8, Regulatory Review, implements recommendation 6-5 at the end of chapter 6. The reviews need to be completed in time for the CRS verification visit, which will be in the second half of 2007.</p>							

**Figure 510-5. An excerpt from the City of Gretna, Louisiana’s Flood Hazard Mitigation Plan.**

- (b) 10 additional points are provided if the action plan establishes or revises post-disaster redevelopment and mitigation policies and procedures. These policies and procedures should account for the expected damage from a base flood or other disaster. For example, the action plan should identify the areas likely to be worst hit and the policies should determine whether they will be rebuilt if substantially damaged. Post-disaster mitigation procedures should assign responsibilities for public information, code enforcement, planning, and other efforts that encourage, mandate, and/or fund loss reduction activities.

Note that Activity 330 (Outreach Projects) provides credit for public information materials developed for use during and after a flood (Flood Response Preparations (FRP)). Preparation of those materials should be done when the other post-disaster policies and procedures are prepared.

- (c) 5 additional points are provided if the plan includes action items (other than public information activities) to mitigate the effects of the other natural hazards identified in the hazard assessment (Step 4, item (d)).

### **Step 9. Adopt the plan**

The points for this step are provided if the plan and later amendments are officially adopted by the community's governing body. The plan must be an official plan of the community, not an internal staff proposal. "Adopted" means that there is a resolution or other formal document that is voted on by the community's governing body. A note in the minutes or passage via a consent agenda is not credited.

When a multi-jurisdictional plan is prepared, it must be adopted by the governing body of each community seeking CRS or multi-hazard mitigation plan credit.

### **Step 10. Implement, evaluate, and revise**

To be useful, planning must be ongoing and plans must be dynamic. The plan should not sit on a shelf gathering dust once it is completed. Therefore, the community must have an evaluation and update process.

For CRS credit, plans must be implemented. No plan is perfect. As implementation proceeds, flaws will be discovered and changes will be needed. Not only can hazard conditions change but also goals and objectives may change. If a community is hit by a tornado, for example, the short-term action items may be changed to focus attention on the newly damaged areas in the SFHA.

Changes should be made in the action plan when opportunities arise to add new activities or complete some items ahead of schedule. The plan should also be revised if it is found that some activities cannot be completed on the original timetable. At a minimum, these types of changes must be made at the required 5-year update.

The key to this step is the annual evaluation report on progress in implementing the plan. Not only are annual evaluations required with the community's annual recertification, but also the process of conducting an annual evaluation gives the community a framework for

monitoring the plan's effectiveness and the community's progress in implementing it. Failure to submit the evaluation report with the community's annual recertification will result in loss of the planning credit (i.e., FMP = 0). This can cause a Category C repetitive loss community to revert to a Class 10.

### **Credit Points for FMP Step 10**

The credit for this step is the total of the following points, based on how the community monitors and evaluates its plan. (Maximum credit: 26 points)

- The plan document must describe how, when, and by whom the plan will be monitored, evaluated, and revised. It is recommended that these items be included in the adoption resolution as well.
  - An annual evaluation report on progress towards plan implementation must be prepared at least once each year and submitted with the community's annual CRS recertification. The report must be submitted to the governing body, released to the media, and made available to the public.
  - If a community receives credit as a result of participation in a multi-jurisdictional plan that includes action items for each community, the annual evaluation report must cover those action items. This can be done either by a multi-jurisdictional planning committee or through separate submittals by each community. However, a community will not receive credit if it did not participate in the meeting at which the annual report was prepared. Therefore, the submittal needs to show who participated in the preparation of the report.
  - The community must update the plan at least every five years. The update is due by October 1, five years after the plan was adopted (see next section).
  - Step 10(b) provides credit if the planning committee does the evaluation and revision. If the committee does not continue to meet and report or if the committee membership no longer meets the credit criteria in Step 2(a), the community will not keep the committee credits under Steps 1(b) or 2(a).
- (a) 2 points, if the community has procedures for monitoring implementation, reviewing progress, and recommending revisions to the plan in an annual evaluation report. The report must be submitted to the governing body, released to the media, and made available to the public. (REQUIRED)
- (b) 24 points, if the annual evaluation report is prepared by the same planning committee that prepared the plan that is credited in Step 2(a) or by a successor committee with a similar membership that was created to replace the planning committee and charged with monitoring and evaluating implementation of the plan. The points are based on how frequently the committee meets, since more frequent meetings yield more progress toward implementing the plan. The committee must continue to meet the representation, quorum, and other criteria that determined the credit points under Step 2(a).
- (1) 6 points, if the committee meets only once a year.
  - (2) 12 points, if the committee meets twice a year.
  - (3) 24 points, if the committee meets at least quarterly.

**Five-year Update**

The community must submit a copy of its plan update at least every five years. The plan update will be reviewed for CRS credit according to the *Coordinator's Manual* currently in effect, not the version used when the community originally requested this credit. The update must include the following steps:

- (a) Steps 1 and 2: If the original planning process included a committee, then in order to keep the credit provided under Step 1(b) or Step 2(a), the update must be conducted by a committee that meets the criteria identified in those steps.
- (b) Step 2: If the original planning process received credit for a public meeting credited under Step 2, item (c), then to keep this credit the community must also conduct a public meeting that reviews and receives comments on the draft update.
- (c) Step 3, item (a): The update must include a review of new studies, reports, and technical information and of the community's needs, goals, and plans for the area that have been published since the plan was prepared.
- (d) Steps 4 and 5: The hazard and problem assessments must be reviewed and brought up to date. The assessments must account for
  - New floodplain or hazard mapping,
  - Annexation of flood-prone areas,
  - Additional repetitive loss properties,
  - Completed mitigation projects,
  - Increased development in the floodplain or watershed,
  - New flood control projects,
  - Lack of maintenance of flood control projects,
  - Major floods or other disasters that occurred since the plan was adopted, and
  - Any other change in flooding conditions and/or development exposed to flooding or the other hazards covered in the plan.
- (e) Step 6: The original plan's goals must be reviewed to determine if they are still appropriate, given the revisions to Steps 4 and 5.
- (f) Step 8: The action plan must be revised to account for projects that have been completed, dropped, or changed and for changes in the hazard and problem assessments, as appropriate.
- (g) Step 9: The update must be adopted by the community's governing body.

An annual evaluation report that includes these steps may qualify as the five-year update (but may not qualify as an update for a multi-hazard mitigation plan).

### Impact Adjustment for FMP

rFMP is a ratio that reflects how much of the community's flood hazard areas are covered by the floodplain management plan. Note that for a hazard mitigation plan to qualify, all of the community's flood hazards must be covered.

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rFMP = EITHER

1.0, if the plan covers all of the community's known flood hazard areas. "Known flood hazard areas" means the SFHA shown on the FIRM, repetitive loss areas, areas not mapped on the FIRM that have been flooded in the past, and surface flooding identified in existing studies (see Step 4)

OR

0.25, if the planning covers either all of the community's repetitive loss areas or at least 25% of the community's known flood hazard areas.

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### Documentation for FMP Provided by the Community

(1) With the submittal of the plan or the five-year update to the plan,

- (a) A copy of the plan or updated plan to be credited. This can be digital, a hard copy, or a link to a website with the full document. Either the plan is marked, or a separate document is provided, to show where each credited step and sub-step appears. There is a checklist that can be used to do this, available at [www.CRSresources.org/500](http://www.CRSresources.org/500).
- (b) [For Step 1(b) credit for a committee of staff from different departments] The plan or a separate document must show which department representatives implement, or have expertise in, which of the six categories of mitigation measures.
- (c) [For Step 1(c) credit] A copy of the resolution or other official action taken by the governing body to create or recognize the planning process as specified in Step 1. For Step 2(a) credit for a planning committee, the resolution or action must identify the committee's membership.
- (d) [For Step 2(a) credit for a planning committee] The names of the committee members, their titles, and their represented organizations must be listed in the plan. The community may submit separate materials, such as meeting minutes and sign-in sheets, to document meeting attendance.
- (e) For Step 2(b), (c), or (d) credit for public meetings] Copies of the publicity for the public meetings. The notices of the meetings should be in the form of letters to floodplain residents, a notice sent to all residents, or a newspaper article or advertisement. An inconspicuous legal notice appearing in the classified section of the newspaper is not sufficient for CRS credit. If very few residents are affected, as may be the case for a plan that addresses only a repetitive loss area, a written record that the residents were called would be sufficient documentation.

- (f) [For Step 3(a) credit for reviewing existing studies, reports, and technical information] The plan must note where the information from the studies and reports was used, e.g., with quotations or footnotes. The plan also needs to include a list of all the documents reviewed. This is usually done in a reference section or at the end of each chapter.
- (g) [For Step 3(b) credit for coordination with other agencies and organizations] A record of the contacts and meetings. Acceptable records include letters that cover the items needed for coordination, copies of any responses that were received, follow-up memos from the meetings, notes from telephone conversations, and e-mails. These items are usually not included as a part of the plan document.
- (h) A copy of the resolution or other formal adoption action by the governing body as specified in Step 9. The resolution should identify the implementation responsibilities, describe the evaluation and revision procedures, and call for the five-year update (or adopt by reference such language that may be in the plan document).

(2) With each annual recertification,

- (a) A copy of the annual evaluation report as specified in Step 10. The report must review each action item, describe what was implemented (or not implemented), and recommend changes to the action plan as appropriate. If not in the evaluation report document, the recertification submittal must also include the minutes of the committee meeting(s) (if getting credit for Step 10(b)) and a description of how the report was submitted to the governing body, released to the media, and made available to the public.

***NOTE:** Failure to submit the floodplain management plan's evaluation report with the annual recertification or the five-year update will result in loss of the planning credit (i.e., FMP = 0). Loss of credit for this activity may cause a repetitive loss Category C community to revert to a Class 10.*

### **512.b. Repetitive loss area analysis (RLAA)**

The maximum credit for this element is 140 points.

A repetitive loss area analysis is a detailed mitigation plan for a repetitive loss area. It provides more specific guidance on how to reduce damage from repetitive flooding than a community-wide floodplain management or hazard mitigation plan. Before beginning the RLAA process, the community must review its repetitive loss list to determine if any properties have been mitigated or incorrectly assigned to the community. Once the list is reviewed and the necessary updates approved as per Section 502, the remaining unmitigated repetitive loss properties will form the basis for the RLAA. Mapping repetitive loss areas is discussed in Section 503.

As with a floodplain management plan, CRS credit is dependent upon the community's following an appropriate process. The five steps for an area analysis are less involved than

the 10-step floodplain management planning process, but the analysis must evaluate each building in the repetitive loss area(s).

A community may receive credit for both a floodplain management plan and repetitive loss area analyses. Area analyses may be conducted during floodplain management planning or a floodplain management plan may identify areas needing analyses, which are conducted after the plan is adopted. For CRS credit, a separate analysis must be prepared for each repetitive loss area and made available to residents of those areas.

Additional guidance and suggestions for conducting an area analysis can be found in Chapter 7 of *Reducing Damage from Localized Flooding*, FEMA-511.

### **Credit Criteria for RLAA**

- (1) Communities with one or more repetitive loss properties on FEMA's list must have at least one repetitive loss area delineated in accordance with the criteria in Section 503. The area(s) must include at least one of the properties on FEMA's repetitive loss list.

An exception to this criterion is made for communities that have no historic repetitive flood claims, but are nevertheless working to reduce repetitive flooding. These communities may prepare area analyses for areas that have been repetitively flooded. The analyses must describe and map the repetitive flooding problem (including all past flood insurance claims, if any) and meet all the following credit criteria. If there are multiple areas, they must not be contiguous. Communities using this approach may receive 20 credit points per area.

- (2) An area analyses must have been prepared and adopted for each repetitive loss area in the community. The analyses must meet the following criteria:
  - (a) The repetitive loss areas must be mapped as described in Section 503.a.
  - (b) If the community does not conduct an analysis of all the areas, it will be reflected through the impact adjustment. A Category C community must prepare analyses for all of its repetitive loss areas if it wants to use RLAA to meet its repetitive loss planning prerequisite (see Section 502).
  - (c) A five-step process must be followed. Although all five steps must be completed, steps 2–4 do not have to be done in the order listed. For example, the planners may want to contact agencies and organizations to see if they have useful data (Step 2) after the site visit is conducted (Step 3).

**Step 1.** Advise all the properties in the repetitive loss areas that the analysis will be conducted and request their input on the hazard and recommended actions. The notice (or any public document) cannot identify which properties are on FEMA's repetitive loss list (see the box on flood insurance data and the Privacy Act). There are no restrictions on publicizing what properties are in repetitive loss AREAS that have more than one property and there are no restrictions on publishing aggregate data, such as how many properties received claims or the average value of those claims. Community planning staff may share insurance claims information with the owner of the property, but may not make it available to anyone else.

### The Privacy Act

Flood insurance data about private property, including repetitive loss properties, are protected under the Privacy Act. Personally identifiable Information such as the names or addresses of specific properties, whether they are covered by flood insurance or not, whether they have received flood insurance claims, or the amounts of such claims may not be released outside of local government agencies or to the public or used for solicitation or other purposes. Such information should be marked "For internal use only. Protected by the Privacy Act of 1974."

General or aggregated information, such as total claims paid for a community or an area or data not connected to a particular property may be made public.

- The notice can be sent to owners OR residents at the community's discretion, as long as a representative of each property is notified.
- The notice cannot be done via a newspaper or newsletter notice or article.
- The notice must advise the recipients when and how copies of the draft report can be obtained and ask for their comments on the draft.

**Step 2.** Contact agencies or organizations that may have plans or studies that could affect the cause or impacts of the flooding. The agencies or organizations must be identified in the analysis report.

**Step 3.** Visit each building in the repetitive loss area and collect basic data.

- The site visit must collect data sufficient to do a preliminary determination of the cause of the repetitive flooding and of the mitigation measures that would be appropriate. This usually includes a review of drainage patterns around the building, the condition of the structure, and the condition and type of foundation.
- The person conducting the visit should not have to enter the property—adequate information should be collected from observations from the street.
- Floor elevations or historical flood levels are not required, but can be very helpful where available.
- The date for each building's insurance claim can help identify the cause of flooding (e.g., rainfall or overbank flooding) and the amount of the claim can help determine the amount of damage. Note that, every year, each repetitive loss community is provided with a list of its historic insurance claims. This includes single-claim properties. Non-repetitive-loss communities that elect to do an RLAA may request these data from their ISO/CRS Specialist.
- More information on appropriate data can be found in *Selecting Appropriate Mitigation Measures for Floodprone Structures*, FEMA-551.

**Step 4.** Review alternative approaches and determine whether any property protection measures or drainage improvements are feasible. The review must look at all of the property protection measures listed in Figures 360-1 and 510-4 that are appropriate for the types of buildings affected. A review that looks only at drainage or structural flood control project alternatives is not sufficient.

**Step 5.** Document the findings. A separate analysis must be conducted for each area. In general, separate reports are preferred for each area, but in cases in which several areas have similar building and flooding characteristics and similar mitigation measures are appropriate, the analyses can be assembled into a single report. Each report must include

- A summary of the process that was followed, including how the property owners were involved;
- The problem statement with a map of the area affected. The statement and map may show individual properties or parcels, but cannot show which ones are on FEMA’s repetitive loss list;
- A list or table showing basic information for each building, such as address, foundation type, condition, and appropriate mitigation measures. This list cannot include insurance data, such as how many claims have been paid for that property. If the property owners responded to a survey, the survey responses may be included (unless the community promised confidentiality);
- The alternative approaches that were reviewed; and
- Action items that include
  - Who is responsible for implementing the action,
  - When it will be done, and
  - How it will be funded.

“When it will be done” can be expressed in terms of a date, a set period of time after another action is complete, after the next flood, etc. “How it will be funded” could state that funding will be dependent upon receiving a grant, provided that one or more suitable grant programs are specified to which application(s) for funding will be made.

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- (3) The repetitive loss area analysis report(s) must be submitted to the community's governing body and made available to the media and the public. If private or sensitive information (such as names or street addresses) is included in the report, then a summary report(s) must be prepared for the governing body, committees, media, and the public. The complete repetitive loss area analysis report(s) must be adopted by the community's governing body or by an office that has been delegated approval authority by the community's governing body.
- (4) The community must prepare an annual evaluation report for its area analyses.
- The report must review each action item, describe what was implemented (or not implemented), and recommend changes to the action items as appropriate.
  - One annual report can cover some or all of the area analyses that were prepared.
  - The report must be made available to the media and the public (including the property owners and residents of the repetitive loss areas).
  - The report is submitted with the community's annual recertification.
- (5) The community must update its repetitive loss area analyses in time for each CRS cycle verification visit.
- The update must review the flooding and building conditions as well as any changes to FEMA's repetitive loss list, to determine whether the number of buildings on the list or other circumstances have changed, and revise the mapping and action items accordingly.
  - The update can be a new report or an addendum to the existing report.
  - An annual evaluation report that reviews and updates the 5-step process may qualify as the area analysis update.
  - The update can qualify as the annual evaluation report for the year it was prepared.
  - The update must be made available to the media and the public (including the property owners and residents of the repetitive loss areas).
  - If the repetitive flooding problem has been mitigated, the appropriate documentation must be submitted in order to remove the properties from FEMA's repetitive loss list (see Section 501).
  - Any changes to an adopted area analysis must be approved following the same process as approval of the original analysis.

If, during the area analysis or annual reviews, the community finds that the flood risk to one or more repetitive loss properties has been mitigated, FEMA must be notified by submitting an AW-501, as described in Section 501.

### Credit Points for RLAA

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$$RLAA = 140$$

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The maximum credit for this element is 140 points. A community can obtain the maximum only if it prepares and adopts repetitive loss area analyses for all its repetitive loss areas. This is factored in through the impact adjustment.

### Impact Adjustment for RLAA

rRLAA is the ratio of the number of buildings covered by credited area analyses to the total number of buildings in the community's repetitive loss areas. See Sections 301–303 on calculating an impact adjustment.

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$$rRLAA = \frac{bAA}{bRLA}, \text{ where}$$

bAA = the number of buildings addressed in credited area analyses, and

bRLA = the number of buildings in the community's repetitive loss areas

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### Documentation for RLAA Provided by the Community

(1) At each verification visit,

- (a) A copy of each repetitive loss area analysis report or update of an earlier report that the community wants credited (see Step 5).
- (b) Documentation showing how the owners or residents of the areas were notified (see Step 1).
- (c) Documentation showing how the analysis was made available to the media and the public.
- (d) A copy of the resolution or other formal action by the governing body that adopts the area analysis or accepts changes in subsequent updates.

(2) With the annual recertification,

- (a) A copy of the annual evaluation report (Section 512.b, credit criterion (4)). If not in the evaluation report, the recertification submittal must also document how the evaluation report and update were made available to the media and the public.

**NOTE:** Failure to submit the area analysis' evaluation report with the annual recertification or the update at the next cycle verification visit will result in loss of the credit (i.e., RLAA = 0). Loss of credit for this activity may cause a repetitive loss Category C community to revert to a Class 10.

**512.c. Natural floodplain functions plan (NFP)**

The maximum credit for this element is 100 points.

NFP credit is provided for adopting plans that protect one or more natural functions within the community's floodplain. Examples include

- A habitat conservation plan that explains and recommends actions to protect rare, threatened, or endangered aquatic or riparian species.
- A habitat protection or restoration plan that identifies critical habitat within the floodplain, actions to protect remaining habitat, and/or actions to restore fully functioning habitat. Frequently this will result in the preservation and/or restoration of riparian habitat that is necessary for water-dependent species.
- A “green infrastructure plan” that identifies open space corridors or connected networks of wetlands, woodlands, wildlife habitats, wilderness, and other areas that support native species, maintain natural ecological processes, and/or sustain air and water resources (for credit, the corridors or networks must include some floodplains).
- A plan or section of a comprehensive or other community plan that includes an inventory of the ecological attributes of the watershed and/or the floodplain and recommends appropriate actions for protecting them, provided that the recommendations are implemented through a mechanism such as a development regulation, development order, grant program, or capital improvement plan.

***NOTE:** Element NFOS2, (section 2 of the natural floodplain functions open space credit under Activity 420 (Open Space Preservation)), provides bonus credit for open space parcels that are designated in a plan to protect natural functions. A plan that receives NFP credit qualifies parcels for this extra open space credit.*

**Credit Criteria for NFP**

(1) For all plans:

- (a) The plan may cover more than one community, but it must identify the natural floodplain functions present within the community and have an impact on those functions within the community seeking credit.
- (b) The plan must be adopted. If the plan is not a community plan adopted by the community's governing body, it must be adopted by the appropriate regional agency.
- (c) The plan must be updated at least once every 10 years. The update must include a review of any changes to conditions as well as progress made since the original plan was prepared. Any changes to the adopted plan must be approved by the original adopting agency.
- (d) The plan must include an inventory of the species and/or habitat present within the floodplain and action items for protecting one or more identified species of interest and natural floodplain functions. The action items must describe who is responsible for implementing the action, how it will be funded, and when it will be done.

General policy statements with no means of implementation are not considered action items.

- (e) There is no credit for a plan that addresses water quality issues prepared pursuant to a requirement for an NPDES (National Pollution Discharge Elimination System) permit. Plans to improve drainage, stormwater storage, or channel bank erosion may be credited under Activity 450 (Stormwater Management) or Activity 540 (Drainage System Maintenance). Plans that are produced as a requirement for a development permit are not credited.
- (2) For NFP1: A plan for NFP1 credit must include a comprehensive inventory of the natural floodplain habitat within the community. It must identify areas that warrant protection or preservation in order to maintain fully functioning habitat for the species of interest. Where threatened or endangered species are present, each species must be addressed and a restoration plan must be included.
- (3) For NFP2: This sub-element credits other plans that meet the credit criteria listed in (1), but that do not address the entire SFHA or all of the species present. These could be single-issue or single-species plans or plans that cover only one area of the community's floodplain.

### **Credit Points for NFP**

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NFP = EITHER

NFP1 = 100 points, for a plan, or combination of plans, that meets credit criteria (1) and (2) and covers the entire SFHA within a community

OR

NFP2 = 15 x the number of plans that meet credit criterion (1), up to four plans (60 points maximum)

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### **Impact Adjustment for NFP**

There is no impact adjustment for this element. The NFP1 plan must cover the entire community or all of the community's SFHA. Each NFP2 plan receives 15 points regardless of the extent of the area covered.

### **Documentation for NFP Provided by the Community**

- (1) At each verification visit,
  - (a) A copy of each natural floodplain functions plan or update to a plan that the community wants credited.
  - (b) A copy of the resolution or other formal adoption action.

## 513 Credit Calculation

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$c510 = (FMP \times rFMP) + (RLAA \times rRLAA) + NFP$ , where

FMP = the total of the credit points for the 10 steps in Section 512.a

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## 514 For More Information

- a. Additional information, reference materials, checklists, and examples can be found at [www.CRSresources.org/500](http://www.CRSresources.org/500).
- b. Hazus-MH is a risk assessment software program that is described in Figure 510-2. Copies are available free from FEMA. Users need to be familiar with operating GIS software. Training is also available. More information is available at [www.fema.gov/hazus/](http://www.fema.gov/hazus/).
- c. Contact state or regional planning, water resources, natural resources, environmental protection, state hazard mitigation, or NFIP coordinating agencies for information on state and federal agencies that can help prepare a floodplain management plan.
- d. The following publications discuss the floodplain management planning process and the variety of measures that should be examined. They can be found on the websites noted.

FEMA has a series of “how-to guides” on planning, to help communities meet the multi-hazard mitigation planning criteria. They can be found at [www.fema.gov/vi/media-library/collections/6](http://www.fema.gov/vi/media-library/collections/6).

*Getting Started: Building Support for Mitigation Planning* (FEMA-386-1) covers planning Phase I and CRS planning Steps 1–3.

*Understanding Your Risks: Identifying Hazards and Estimating Losses* (FEMA-386-2) covers planning Phase II and CRS planning Steps 4–5.

*Developing the Mitigation Plan: Identifying Mitigation Actions and Implementation Strategies* (FEMA-386-3) covers planning Phase III and CRS planning Steps 6–8.

*Bringing the Plan to Life: Implementing the Hazard Mitigation Plan* (FEMA-386-4) covers planning Phase IV and CRS planning Steps 9–10.

*Integrating Manmade Hazards into Mitigation Planning*, FEMA-386-7.

*Reducing Damage from Localized Flooding: A Guide for Communities*, FEMA-511 (2005). Also available at [www.fema.gov/library/viewRecord.do?id=1448](http://www.fema.gov/library/viewRecord.do?id=1448).

*Planning for Post Disaster Recovery and Reconstruction*, American Planning Association (APA) Planning Advisory Service, 346 pages, APA Report # 483/484, FEMA-421 (1998). [www.fema.gov/library/viewRecord.do?id=1558](http://www.fema.gov/library/viewRecord.do?id=1558).

*Planning for a Sustainable Future: The Link Between Hazard Mitigation and Livability*, 43 pages, FEMA-364, 2000. Also available for downloading at <http://www.fema.gov/media-library/assets/documents/2110?id=1541>.

*Reducing Losses in High Risk Flood Hazard Areas—A Guidebook for Local Officials*, FEMA-116, 1987. Also available for downloading at [www.fema.gov/library/viewRecord.do?id=1508](http://www.fema.gov/library/viewRecord.do?id=1508).

“Mitigation Benefit Cost (BCA) Toolkit.” This is FEMA’s BCA software, used to perform benefit-cost analyses for applications to FEMA’s mitigation grant programs. It and its supporting documentation are available for download from [www.fema.gov/media-library/assets/documents/92923](http://www.fema.gov/media-library/assets/documents/92923). More information can be obtained by calling FEMA’s toll-free BC Hotline at 1-855-540-6744 or emailing [bchelpine@dhs.gov](mailto:bchelpine@dhs.gov).

- e. *Hazard Mitigation: Integrating Best Practices into Planning*, James C. Schwab (ed.) (2010) is published by the American Planning Association as Planning Advisory Service No. 560. Available for \$60 from <https://www.planning.org/research/hazards/>.
- f. The Corps of Engineers can also provide technical information and advice to communities interested in preparing a comprehensive floodplain management plan. Requests for assistance should be submitted to the Flood Plain Management Services Coordinator at the appropriate District Office of the Corps. Corps offices can be found at <http://www.usace.army.mil/Locations.aspx>.
- g. The following publications can help with a repetitive loss area analysis.

*Selecting Appropriate Mitigation Measures for Floodprone Structures*, FEMA-551.

*Reducing Damage from Localized Flooding: A Guide for Communities*, FEMA-511 (2005).

*Flood Proofing: How to Evaluate Your Options*, U.S. Army Corps of Engineers (1994). Download at <http://www.usace.army.mil/Missions/CivilWorks/ProjectPlanning/nfpc.aspx>. Click on “NFPC Publications” and scroll down to find the title.

## 515 Related Activities under the Community Rating System

- A floodplain management plan should be a blueprint for ALL of a community's public information and floodplain management activities. Planning Step 7 should review all ongoing and possible activities and Step 8 should identify which should continue, which should change, and what new ones should be initiated.
- The CRS Community Self Assessment in Section 240 can help with the hazard and problem analyses in FMP Steps 4 and 5.
- Activities 330 (Outreach Projects) and 370 (Flood Insurance Promotion) provide credit for having a committee that meets criteria very similar to those of the committee in FMP Step 2. The same committee can fulfill all activities' credit criteria.
- The credit for natural floodplain functions open space (NFOS) under Activity 420 (Open Space Preservation) can be increased if the open space parcels are identified in a natural floodplain functions plan (NFP).
- A repetitive loss area analysis (RLAA) can identify projects and priorities for mitigation activities that can receive bonus credit under Activities 520 (Acquisition and Relocation) and 530 (Flood Protection).
- A multi-hazard mitigation plan that meets FEMA planning criteria is a prerequisite for FEMA funding for projects that can be credited under Activities 520 (Acquisition and Relocation) and 530 (Flood Protection).

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City of Los Angeles 2020 Floodplain Management Plan

## **Appendix B. Steering Committee Charter**

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## CITY OF LOS ANGELES 2020 FLOODPLAIN MANAGEMENT PLAN STEERING COMMITTEE CHARTER

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### **PURPOSE OF THE STEERING COMMITTEE**

The name of this organization shall be the City of Los Angeles 2020 Floodplain Management Plan Steering Committee, hereafter referred to as the Steering Committee (SC). The purpose of the SC shall be to:

- *Serve as an advisory body to oversee the planning process.*
- *Provide guidance and leadership, and act as the point of contact for local governments and the various organizations interested in this planning effort.*
- *Solicit a wide range of input into the planning process and advocate for public involvement.*
- *Educate all participants in hazard mitigation planning.*

Members of the SC were selected to represent a cross-section of views and interests within the planning area. Through this inclusion of diverse interests, the SC will strive to strengthen the planning effort and build support for floodplain management activities across numerous stakeholder groups. A successful planning effort will result in the adoption and approval of the floodplain management plan to reduce adverse impacts of flooding in the planning area, through activities and strategies embraced by both elected officials and their constituents.

### **CHAIRPERSON AND ALTERNATE CHAIRPERSON**

Aaron Gross, Chief Resiliency Officer of the City of Los Angeles will serve as the chairperson. Conni Pallini of The Department of City Planning will serve as the alternate chairperson. The role of the chairperson is to:

- *Ensure agendas are followed and meetings adjourn on-time;*
- *Allow all members to be heard during discussions;*
- *Moderate discussions between members with differing points of view; and*
- *Be a sounding board for staff in the preparation of agendas and how to best involve the full committee in work plan tasks.*

The role of the alternate chairperson is to assume the duties of the chair when the chair is not able to attend a meeting or forum. The alternate chair will act as the designated alternate for the chair person. The alternate chair will designate an alternate as described below, in the event she is serving as the chair. If neither the chair nor alternate chair can attend a scheduled meeting, the meeting will be re-scheduled to a date where one or both seats are able to attend.

### **QUORUM**

A quorum for the SC will be 50% plus one of the voting committee membership, and the chair or alternate chair must be present during the vote. There are 18 members on the SC, therefore 10 members denote a quorum. Members may also *delegate their voting power to other members of the SC to vote in their absence*. Committee members may abstain from voting if they have a conflict of interest on the matter. SC members and alternates get only one vote (when primary members are assigned as an alternate) and there is only one vote given per organization (where multiple agency representatives attend the meeting). *To vote by proxy, SC members must inform the CPT at least one week in advance.*

### **ALTERNATES**

It was the decision of the SC to *allow for designated alternates for SC members, if desired*. Designated alternates shall be considered official members of the SC. Alternates are welcome to attend any and all scheduled meetings. They will receive copies of all meeting materials as well as meeting agendas and summaries to keep informed. SC members and alternates are interchangeable, and alternates will have full voting rights, but only when the primary

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SC member is not in attendance. Coordination of who attends scheduled SC meetings is the sole responsibility of the primary member and their designated alternate. SC members were given until August 9, 2019 to designate an alternate. Those SC members that choose to designate alternates shall notify the Core Planning Team (CPT) no later than one week prior to the next scheduled SC meeting.

## **DECISION-MAKING**

As the SC provides advice and guidance on the plan, it will reach its recommendations *primarily through consensus*. Consensus is defined as a recommendation that may not be ideal for each committee member, but every member can accept. If consensus cannot be reached, *the SC members will vote to reach a ruling, with the majority of the votes deciding the vote*. Members may abstain from voting if they choose. The City is able to accept the direction of the SC or not. It is the City's choice. Designated alternates for SC members are interchangeable and have full voting rights on behalf of the SC member. In either case, the meeting summaries will record minority dissent and that the SC chose to note such opinions in their final recommendations.

## **RECOMMENDATIONS**

The committee's recommendations will be recorded in the meeting summaries and reflected in the plan as appropriate. The SC may also be asked to assist in public presentations of the plan and its recommendations.

## **STAFFING**

The CPT for this project includes appropriate representatives from the City of Los Angeles along with contract consultant assistance provided by Tetra Tech, Inc. The CPT will schedule meetings, distribute agendas, prepare information/presentations for steering committee meetings, write meeting summaries, and generally seek to facilitate the steering committee's activities.

## **SPOKESPERSONS**

Ideally the SC will present a united recommendation after considering the different viewpoints of its members, recognizing that each member might have made a somewhat different recommendation as an individual. To consistently represent the committee's united recommendations to participating organizations, the public, and the media, the committee spokesperson will be the *City of Los Angeles Public Information Officer (PIO)*. In the PIO's absence, *the SC Chair will serve as the spokesperson*.

In addition, each member should have a responsibility to represent the SC's recommendation when speaking on plan-related issues as a committee member. Any differing personal or organizational viewpoints should be clearly distinguished from the committee's work. Finally, *committee members will need to assist with presentations given to governing bodies within the planning area as well as during public meetings or presentations*.

## **MEETING DATES**

Meetings generally will be *conducted on the second Thursday of each month from 9:30 a.m. to 11:30 a.m. PST at the City of Los Angeles AT 500 E. Temple Street, Los Angeles, CA. The exact room may fluctuate do to availability and will be listed on the agenda for each meeting. Maps will be distributed as needed*. Members of the SC may also participate via conference call. Conference call information will be sent with the calendar invitation and agenda *approximately one week prior to the meeting*. Meetings will be open to the public and advertised as such with the location of the SC meeting publicly advertised on the project website.

## ATTENDANCE

Participation of all SC members in meetings is important and members should make every effort to attend each meeting. If committee members cannot attend, they should inform the CPT before the meeting is conducted. *If a primary member and his or her alternate miss two consecutive meetings over the course of the planning process, the member will be relieved of his or her membership on the SC.* If a member of the SC needs to resign from the committee, and there is a designated alternate, the alternate will be asked to take his or her place on the SC as the primary member. As a new primary member, an alternate may be designated. If there is no designated alternate, the SC will seek to find a replacement SC member.

## PUBLIC INVOLVEMENT

All SC meetings will be open to the public. Members of the public wishing to address the SC at a meeting may do so based on the following protocol:

- *Requests to be heard must be made to the chairperson of the SC by submitting a completed speaker request form to the chairperson before the meeting is called to order. Speaker request will be available at all SC committee meetings. The speaker request form asks the following information:*
  - *Agenda item number to be discussed or public comment*
  - *If the person is in favor/opposed to the agenda item (if applicable)*
  - *Person's name*
  - *Person's telephone number (optional)*
  - *Person's address (optional)*
  - *Name of organization (if applicable)*
  - *A brief summary of the person's position on the matter (optional).*
- *Persons wishing to speak on items listed on the agenda will be heard when the chair or alternate chair calls for comments from the audience and must have relevance to the hazard mitigation plan and the planning area. Relevance will be determined by the chair or alternate chair.*
- *The chair may specify the number of minutes each person will be permitted to speak based on the number of persons wishing to speak and the time available.*
- *After the public has commented, the item is closed to further public comment and brought to the SC for discussion and action. There is no further comment permitted from the audience unless invited by the SC.*

The SC will strive to post meeting agendas on the City's floodplain management website *one week prior to all scheduled meetings.*

## COURTESY

SC members should treat each other with respect, listen to each other, work cooperatively, and allow all members to voice their opinions.

**ADA and Title VI Accommodations:** Individuals requiring reasonable accommodations, interpretation services, and materials in other languages or in an alternate format may contact the Public Works coordinator at (626) 458-7901. Requests must be made one week in advance of the scheduled meeting date. Individuals with hearing or speech impairment may use California Relay Service 711.

**Acomodamientos ADA y Titulo VI:** Individuos que requieran acomodamiento razonable, servicios de interpretación, y materiales en otros idiomas o formatos alternativos pueden comunicarse con el coordinador del departamento al (626) 458-7901. Las solicitudes deben hacerse una semana antes de la reunión programada. Personas con impedimentos auditivos o del habla pueden usar el Servicio de Relevo de California al 7-1-1.

**STEERING COMMITTEE MEMBERSHIP**

<b>Government Representatives</b>	<b>Department / Bureau</b>	<b>Alternate</b>
1. Frazier, Quentin	Port of Los Angeles	Allen, Randy Reed, Lynette
2. Gross, Aaron	Chief Resiliency Officer-Mayor's Ofc.	Affeldt, Michael
3. Hammett, Mike	Los Angeles Police Department	Hom, Japhet
4. Huynh, Charmie	Department of Building and Safety	Nepomuceno-Juacalla, Carolynn Perez, Michael
5. Ignatczyk, John	Los Angeles Fire Department	
6. Kharaghani, Shahram	Los Angeles Sanitation & Environment	Scaduto, Michael
7. Meyerhofer, Larry	Emergency Management Department	Pijuan, Alen
8. Pallini, Conni	Department of City Planning	Mik, Lena Phinouwong, Nina
9. Shu, Susan	Bureau of Engineering	Lin, Chang-Shien
10. Tan, Emmanuel	Department of Water and Power	Plumb, Cliff Hu, JianPing
<b>Non-Voting Government Representatives</b>		
11. Nemick, Mary	Bureau of Engineering	
12. Santo-Domingo, Cathie	Los Angeles Recreation and Parks	
<b>Non-Government Representatives</b>		
1. Aniolek, Gregg	Community Emergency Response Team	
2. Christiansen, Marissa	Friends of the Los Angeles River	Mejia, Stephen
3. Demesa, Ed	U.S. Army Corp of Engineers	Vivanti, John
4. Duboff, Jessica	Los Angeles Chamber	Asuncion, Kendal
5. Ellis, Dr. Andre	CSULA Geosciences & Environment	
6. Greenspan, Mike	Resident	
7. McOmber, Britta	UCLA Luskin School of Public Affairs	
8. Miranda, Solomon	CA Department of Water Resources	
9. Robinson, Prof. Alex	USC Landscape Architecture	
10. Vega, Norma	Red Cross of Greater Los Angeles	Garcia-Ruiz, Joselito
11. Wood, Patricia	Los Angeles County Flood Control District	Tran, Larry

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City of Los Angeles 2020 Floodplain Management Plan

## **Appendix C. Public Outreach Materials**

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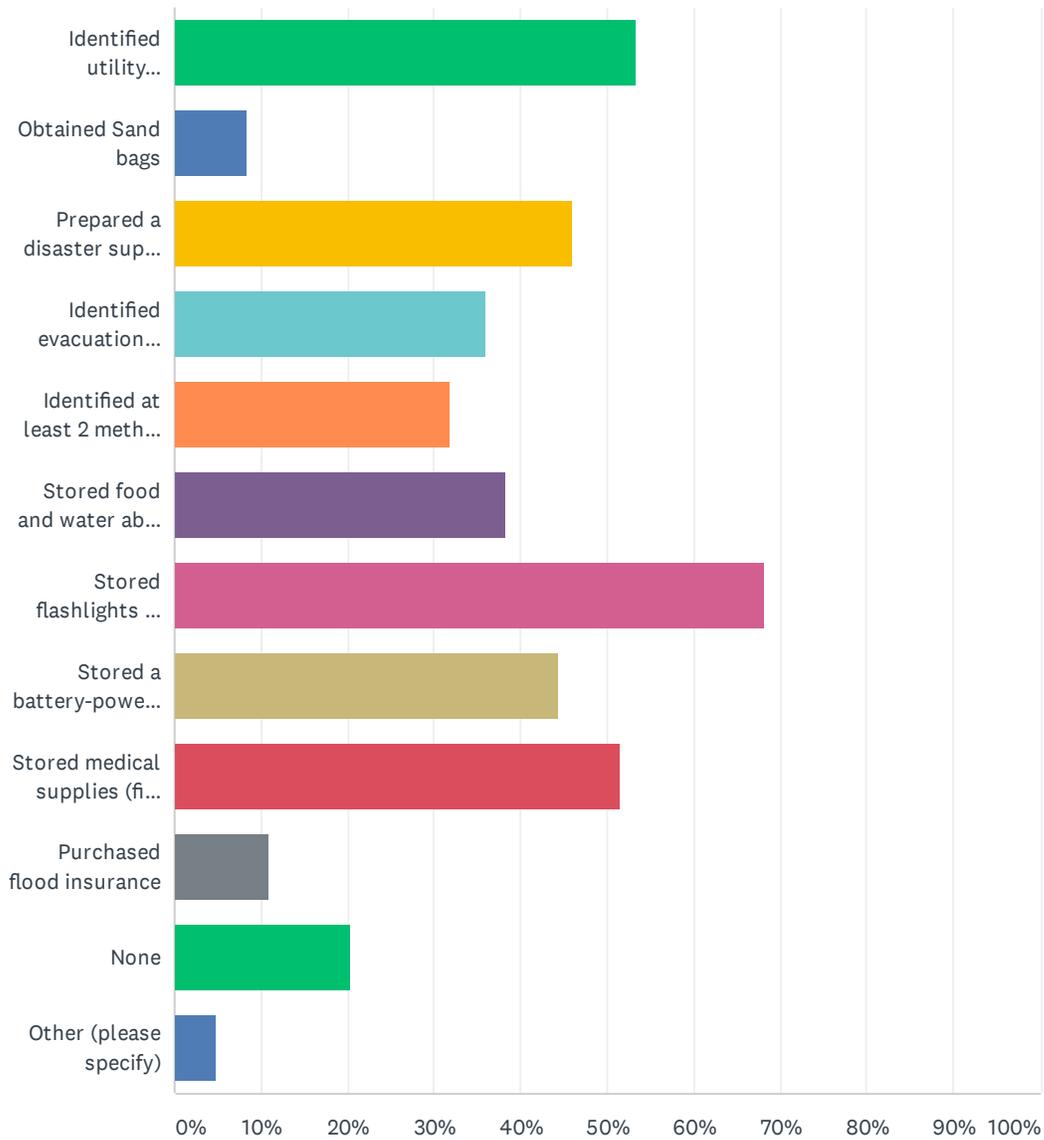


**City of Los Angeles Survey Results**  
**ENGLISH**



# Q1 Which of the following steps has your household taken to prepare for a flood event? (Check all that apply)

Answered: 167 Skipped: 2

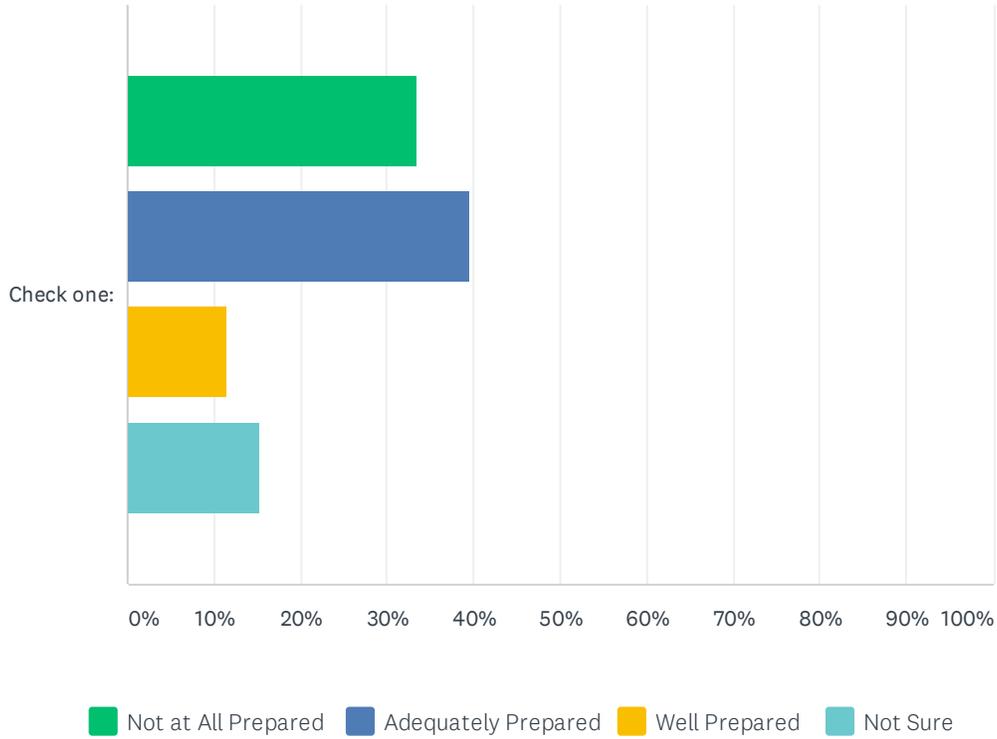


2019, City of Los Angeles Comprehensive Floodplain Management Plan Update

ANSWER CHOICES	RESPONSES	
Identified utility shutoffs	53.29%	89
Obtained Sand bags	8.38%	14
Prepared a disaster supply kit	46.11%	77
Identified evacuation routes	35.93%	60
Identified at least 2 methods for receiving emergency notifications and information during emergencies	31.74%	53
Stored food and water above potential flood levels	38.32%	64
Stored flashlights and batteries	68.26%	114
Stored a battery-powered radio	44.31%	74
Stored medical supplies (first aid kit, medications)	51.50%	86
Purchased flood insurance	10.78%	18
None	20.36%	34
Other (please specify)	4.79%	8
Total Respondents: 167		

## Q2 How prepared is your household to deal with a flood event?

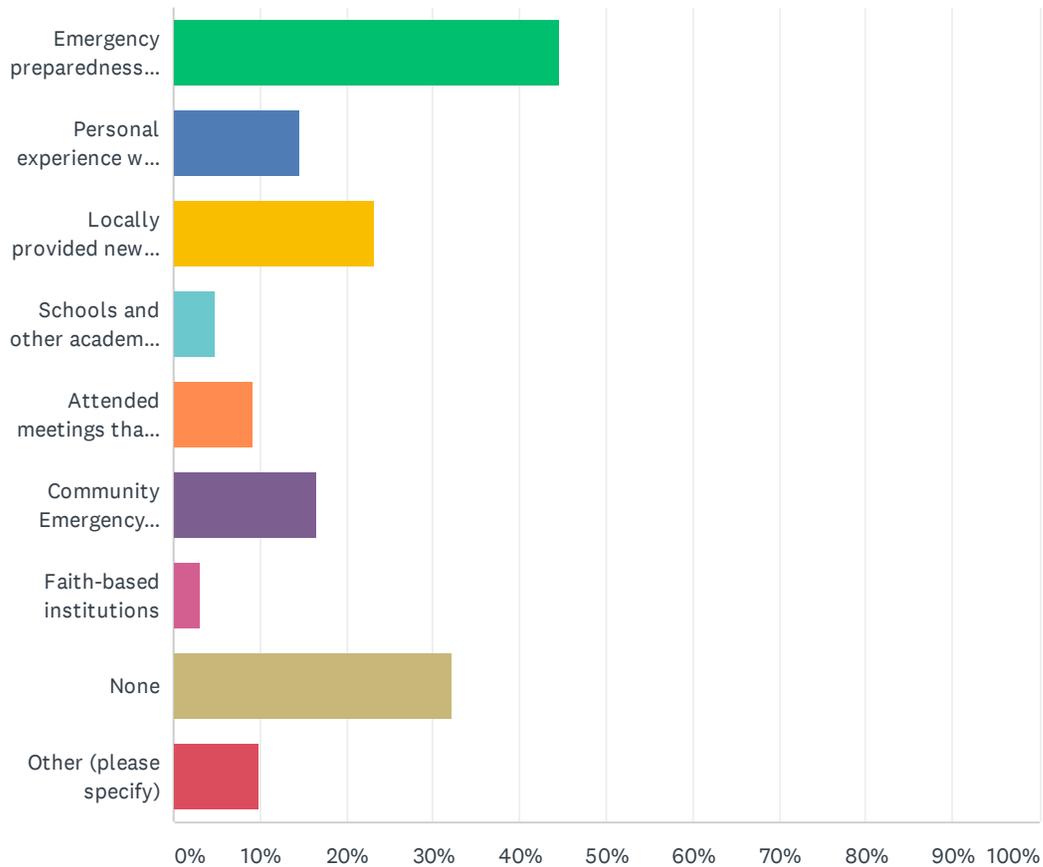
Answered: 164 Skipped: 5



	NOT AT ALL PREPARED	ADEQUATELY PREPARED	WELL PREPARED	NOT SURE	TOTAL	WEIGHTED AVERAGE
Check one:	33.54% 55	39.63% 65	11.59% 19	15.24% 25	164	3.02

### Q3 Which of the following have provided you with useful information to help you be prepared for a flood event? (Check all that apply)

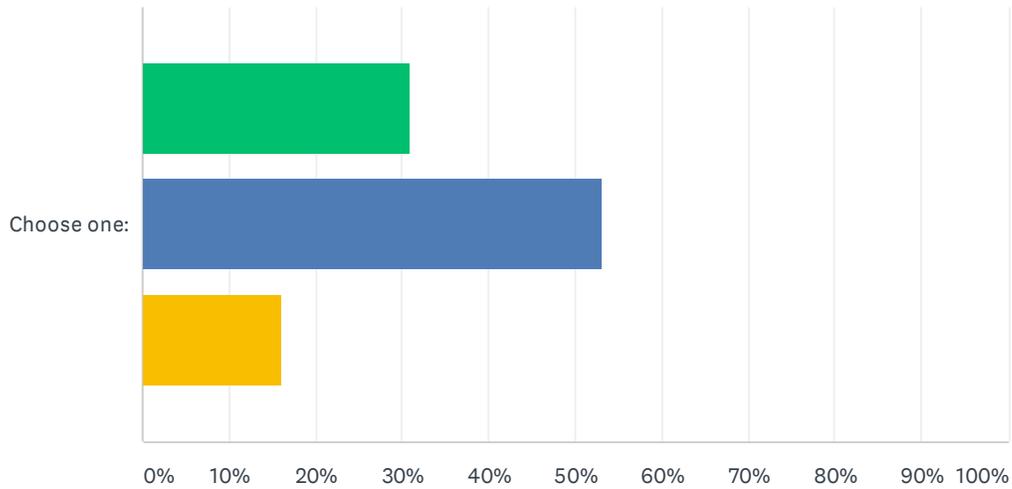
Answered: 164 Skipped: 5



ANSWER CHOICES	RESPONSES	
Emergency preparedness information from a government source (for example, federal, state, or local emergency management)	44.51%	73
Personal experience with flood events	14.63%	24
Locally provided news or other media information	23.17%	38
Schools and other academic institutions	4.88%	8
Attended meetings that have dealt with flood preparedness	9.15%	15
Community Emergency Response Training (CERT)	16.46%	27
Faith-based institutions	3.05%	5
None	32.32%	53
Other (please specify)	9.76%	16
Total Respondents: 164		

**Q4 Please indicate how you feel about the following statement: Information about the risks associated with flood hazards is readily available and easy to locate.**

Answered: 162 Skipped: 7

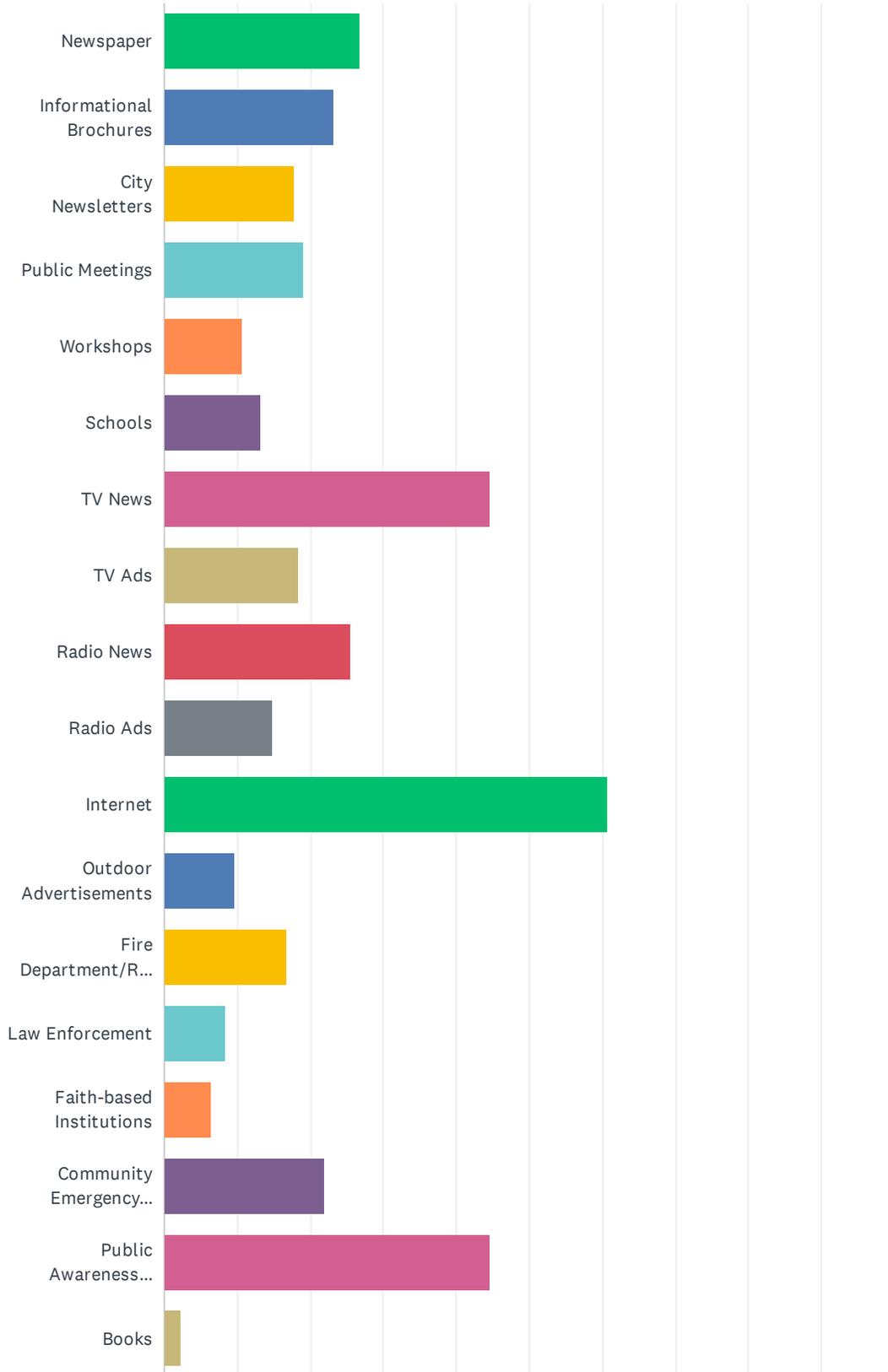


■ Strongly Disagree 
 ■ Neither Agree nor Disagree 
 ■ Strongly Agree

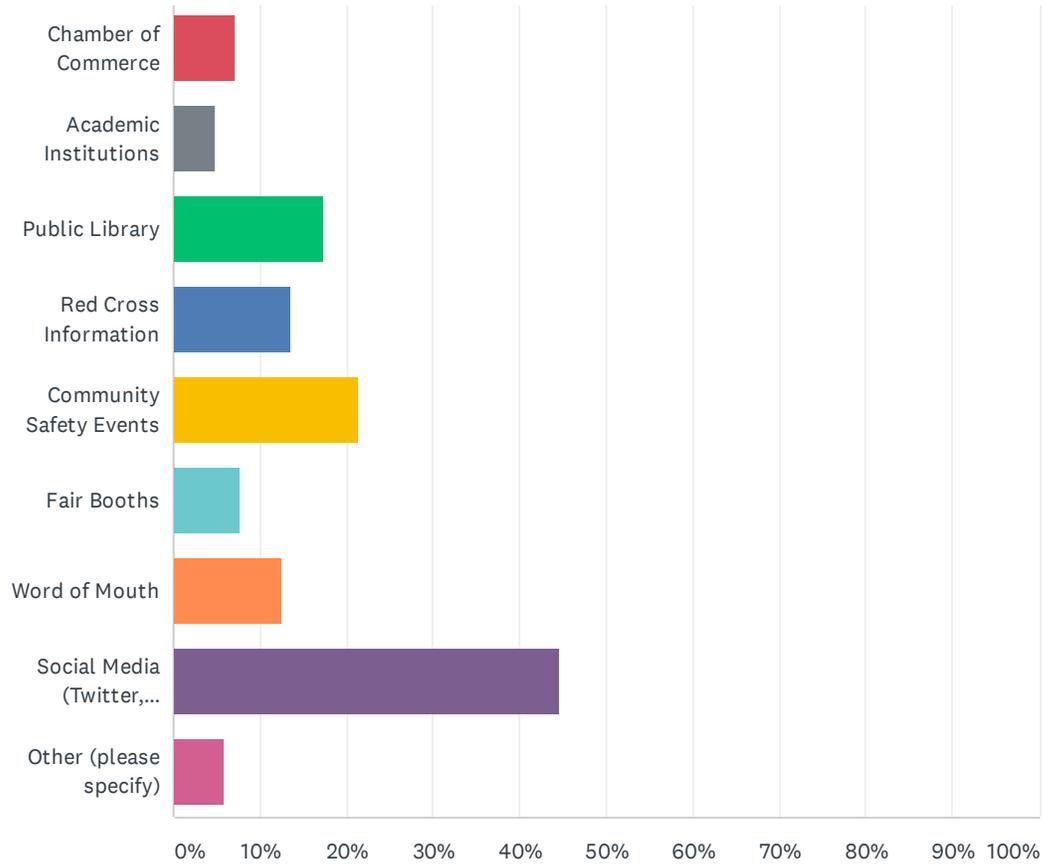
	<b>STRONGLY DISAGREE</b>	<b>NEITHER AGREE NOR DISAGREE</b>	<b>STRONGLY AGREE</b>	<b>TOTAL</b>	<b>WEIGHTED AVERAGE</b>
Choose one:	30.86% 50	53.09% 86	16.05% 26	162	2.70

### Q5 Chose up to 5 of the following methods do you think are most effective for providing flood hazard and disaster information?

Answered: 168 Skipped: 1



# 2019, City of Los Angeles Comprehensive Floodplain Management Plan Update

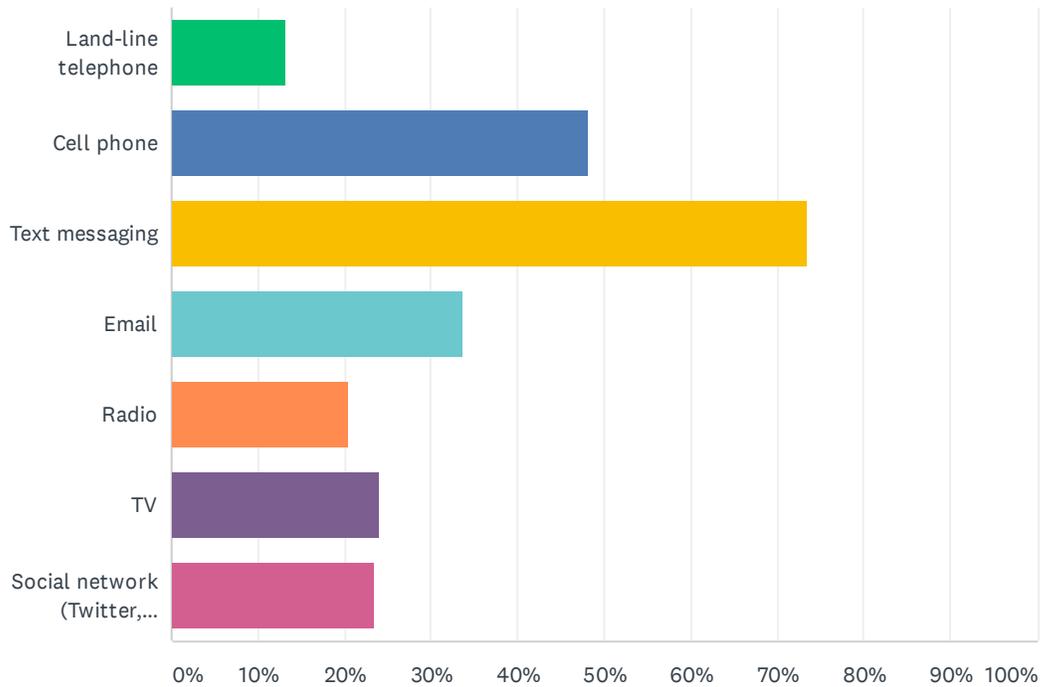


2019, City of Los Angeles Comprehensive Floodplain Management Plan Update

ANSWER CHOICES	RESPONSES	
Newspaper	26.79%	45
Informational Brochures	23.21%	39
City Newsletters	17.86%	30
Public Meetings	19.05%	32
Workshops	10.71%	18
Schools	13.10%	22
TV News	44.64%	75
TV Ads	18.45%	31
Radio News	25.60%	43
Radio Ads	14.88%	25
Internet	60.71%	102
Outdoor Advertisements	9.52%	16
Fire Department/Rescue	16.67%	28
Law Enforcement	8.33%	14
Faith-based Institutions	6.55%	11
Community Emergency Response Team (CERT) Classes	22.02%	37
Public Awareness Campaign (for example, Flood Awareness Week)	44.64%	75
Books	2.38%	4
Chamber of Commerce	7.14%	12
Academic Institutions	4.76%	8
Public Library	17.26%	29
Red Cross Information	13.69%	23
Community Safety Events	21.43%	36
Fair Booths	7.74%	13
Word of Mouth	12.50%	21
Social Media (Twitter, Facebook, etc.)	44.64%	75
Other (please specify)	5.95%	10
Total Respondents: 168		

## Q6 What method is best for you and your family to get time sensitive warning information or instructions for action?

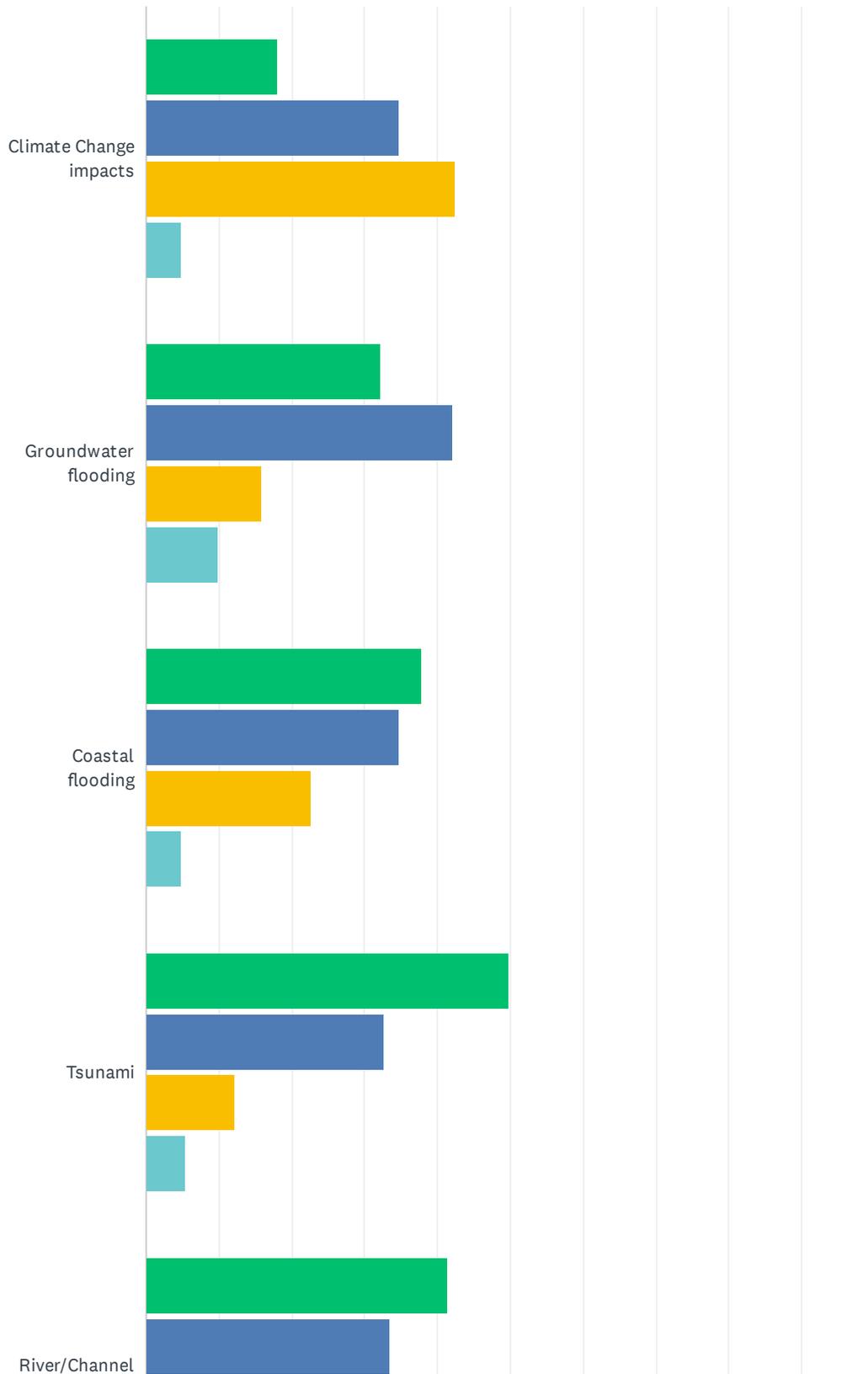
Answered: 166 Skipped: 3

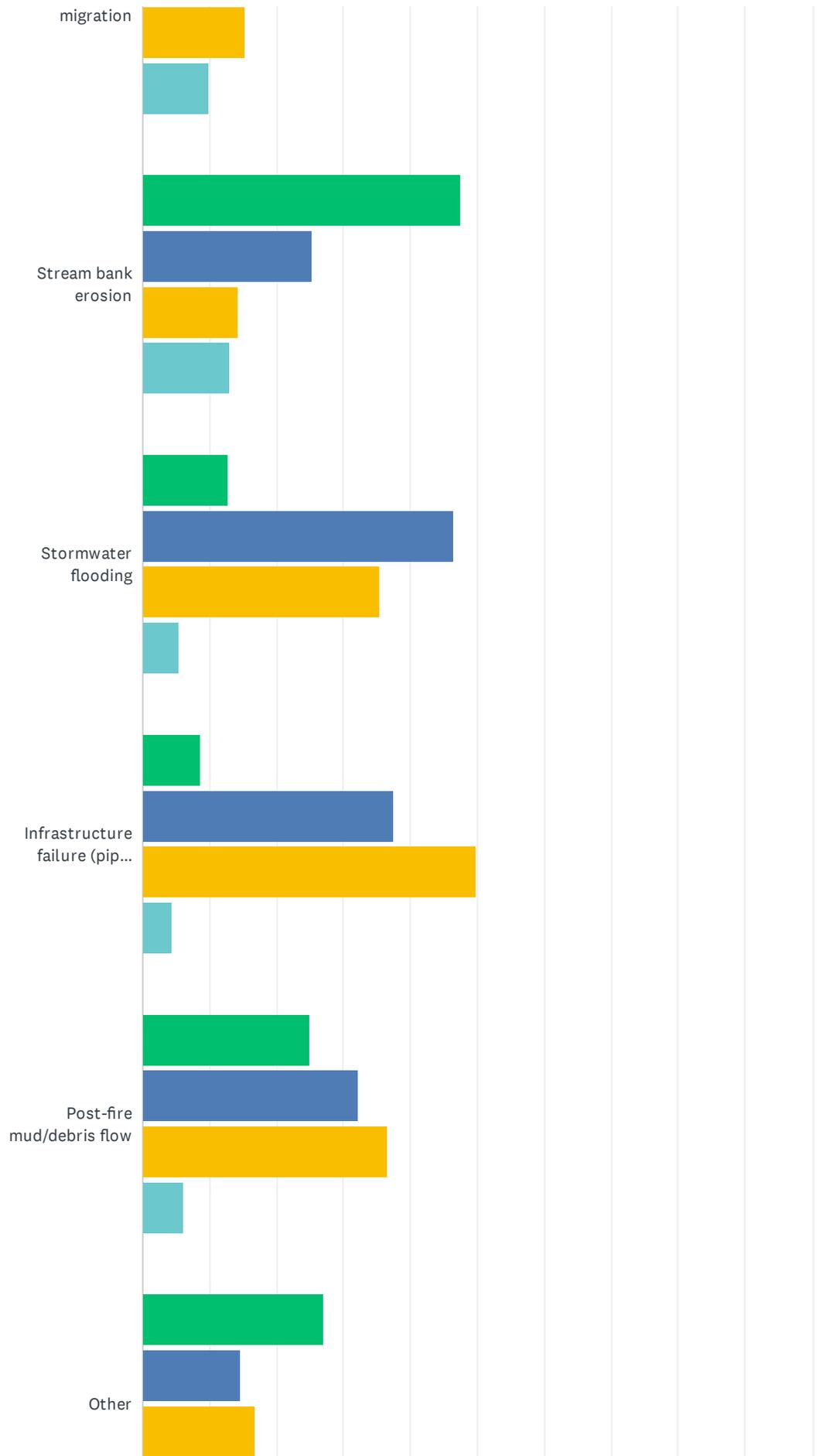


ANSWER CHOICES	RESPONSES	
Land-line telephone	13.25%	22
Cell phone	48.19%	80
Text messaging	73.49%	122
Email	33.73%	56
Radio	20.48%	34
TV	24.10%	40
Social network (Twitter, Facebook, etc.)	23.49%	39
Total Respondents: 166		

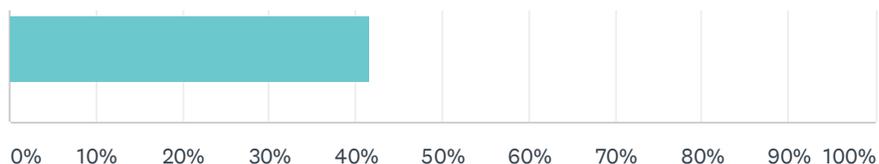
### Q7 How concerned are you about the following flood related hazards in Los Angeles? (Check one response for each hazard)

Answered: 168 Skipped: 1





## 2019, City of Los Angeles Comprehensive Floodplain Management Plan Update

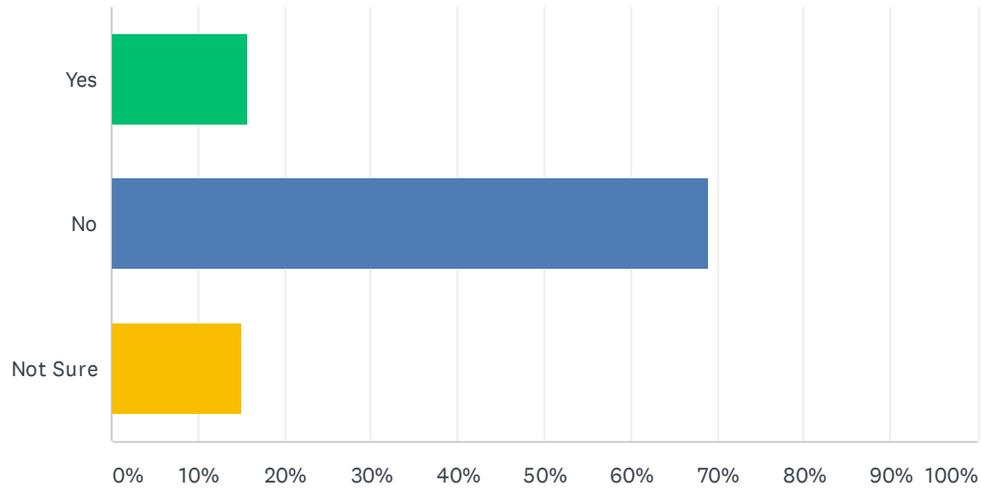


■ Not Concerned   
 ■ Concerned   
 ■ Very Concerned   
 ■ Not Sure

	NOT CONCERNED	CONCERNED	VERY CONCERNED	NOT SURE	TOTAL	WEIGHTED AVERAGE
Climate Change impacts	17.96% 30	34.73% 58	42.51% 71	4.79% 8	167	3.63
Groundwater flooding	32.32% 53	42.07% 69	15.85% 26	9.76% 16	164	2.96
Coastal flooding	37.80% 62	34.76% 57	22.56% 37	4.88% 8	164	2.84
Tsunami	49.70% 82	32.73% 54	12.12% 20	5.45% 9	165	2.41
River/Channel migration	41.46% 68	33.54% 55	15.24% 25	9.76% 16	164	2.77
Stream bank erosion	47.53% 77	25.31% 41	14.20% 23	12.96% 21	162	2.72
Stormwater flooding	12.80% 21	46.34% 76	35.37% 58	5.49% 9	164	3.62
Infrastructure failure (pipes, tanks)	8.59% 14	37.42% 61	49.69% 81	4.29% 7	163	3.95
Post-fire mud/debris flow	25.00% 41	32.32% 53	36.59% 60	6.10% 10	164	3.41
Other	27.08% 13	14.58% 7	16.67% 8	41.67% 20	48	4.04

## Q8 Do you have flood insurance?

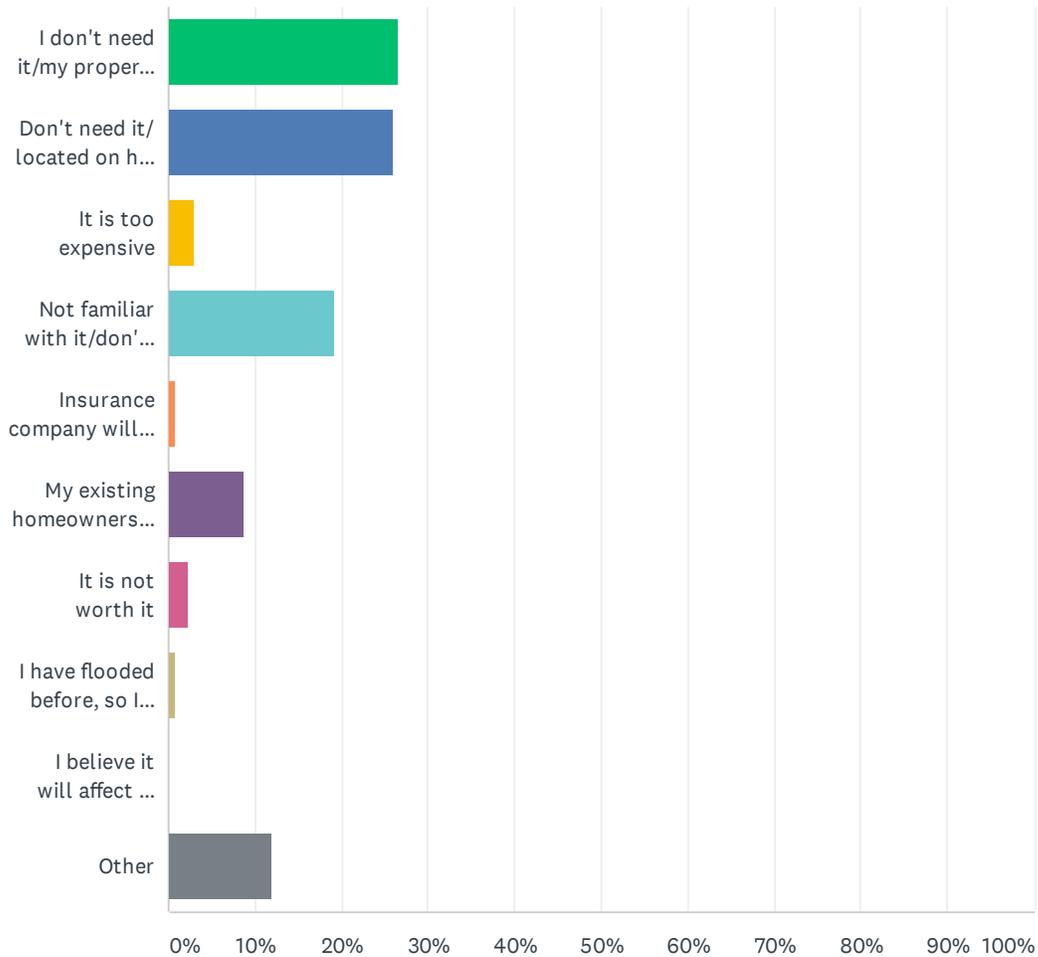
Answered: 165 Skipped: 4



ANSWER CHOICES	RESPONSES	
Yes	15.76%	26
No	69.09%	114
Not Sure	15.15%	25
TOTAL		165

## Q9 If you do not have flood insurance, what is the primary reason?

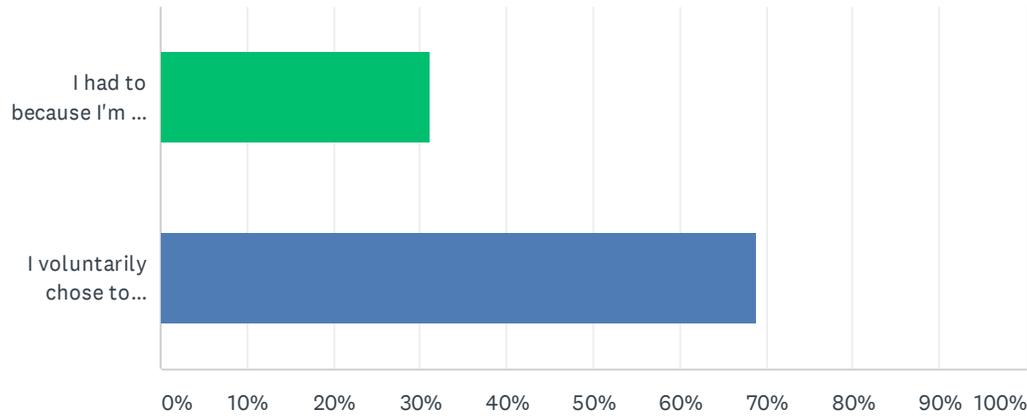
Answered: 135 Skipped: 34



ANSWER CHOICES	RESPONSES	
I don't need it/my property has never flooded	26.67%	36
Don't need it/ located on high ground	25.93%	35
It is too expensive	2.96%	4
Not familiar with it/don't know about it.	19.26%	26
Insurance company will not provide coverage	0.74%	1
My existing homeowners insurance provides coverage	8.89%	12
It is not worth it	2.22%	3
I have flooded before, so I did not think I qualified for coverage	0.74%	1
I believe it will affect the value of my property	0.00%	0
Other	11.85%	16
<b>TOTAL</b>		<b>135</b>

## Q10 If you have flood insurance, why did you purchase it?

Answered: 32 Skipped: 137



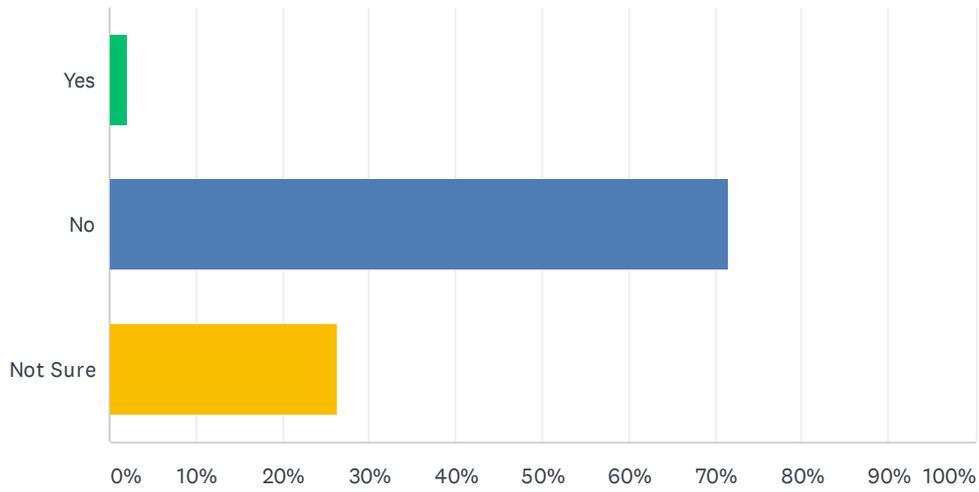
ANSWER CHOICES	RESPONSES	
I had to because I'm in a flood prone area	31.25%	10
I voluntarily chose to purchase it	68.75%	22
Total Respondents: 32		

**Q11 Please tell us why you voluntarily chose to purchase flood insurance, please tell us why.**

Answered: 20 Skipped: 149

## Q12 Do you or did you have problems getting homeowners/renters insurance due to flood risk?

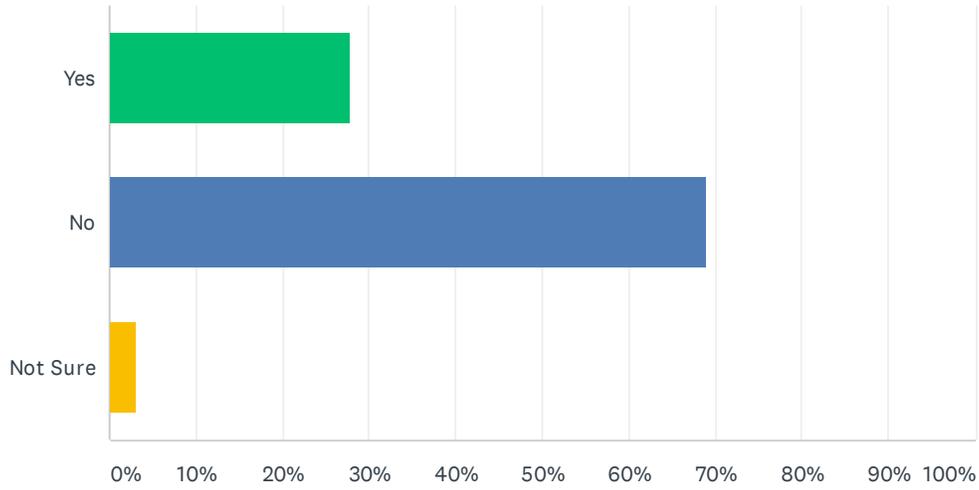
Answered: 144 Skipped: 25



ANSWER CHOICES	RESPONSES
Yes	2.08% 3
No	71.53% 103
Not Sure	26.39% 38
TOTAL	144

### Q13 When you moved into your home, did you consider the impact a flood could have on your home?

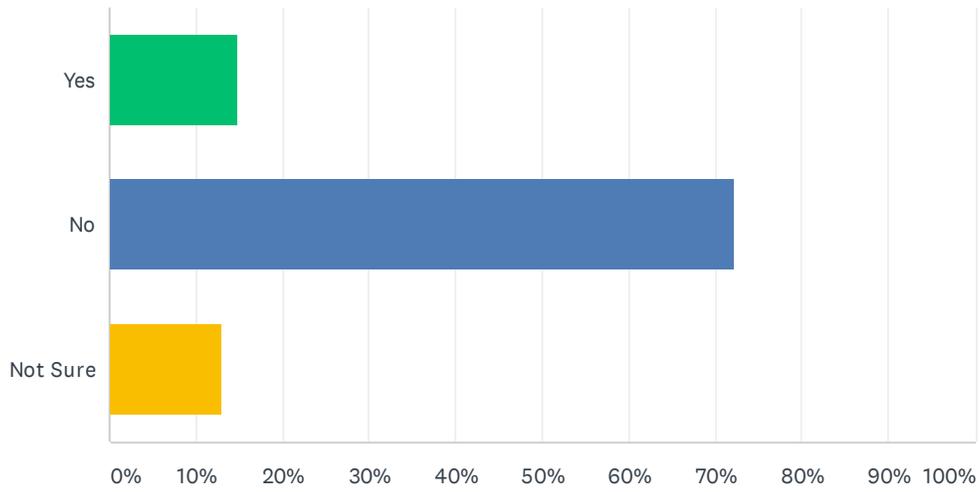
Answered: 155 Skipped: 14



ANSWER CHOICES	RESPONSES	
Yes	27.74%	43
No	69.03%	107
Not Sure	3.23%	5
TOTAL		155

### Q14 Was the presence of a flood hazard disclosed to you by a real estate agent, seller, or landlord before you purchased or moved into your home?

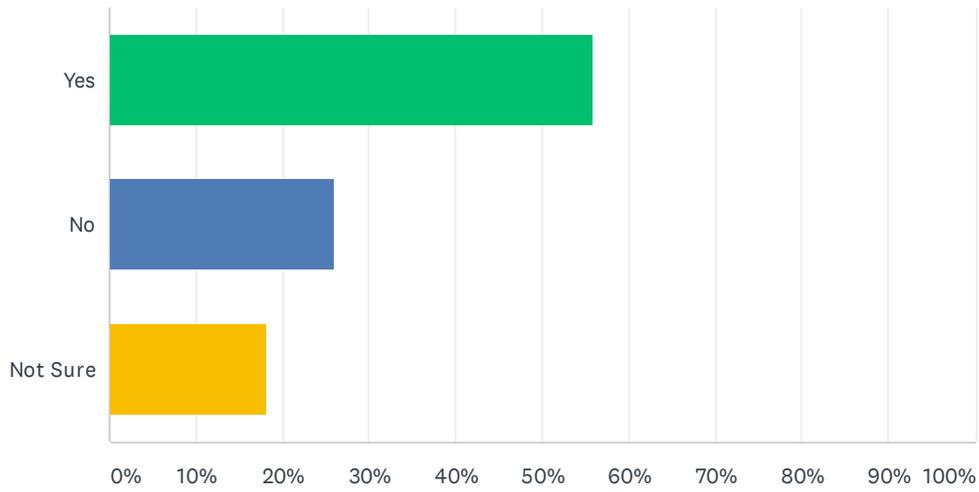
Answered: 155 Skipped: 14



ANSWER CHOICES	RESPONSES	
Yes	14.84%	23
No	72.26%	112
Not Sure	12.90%	20
TOTAL		155

## Q15 Would the disclosure of the flood hazard have influenced your decision to buy or rent a home?

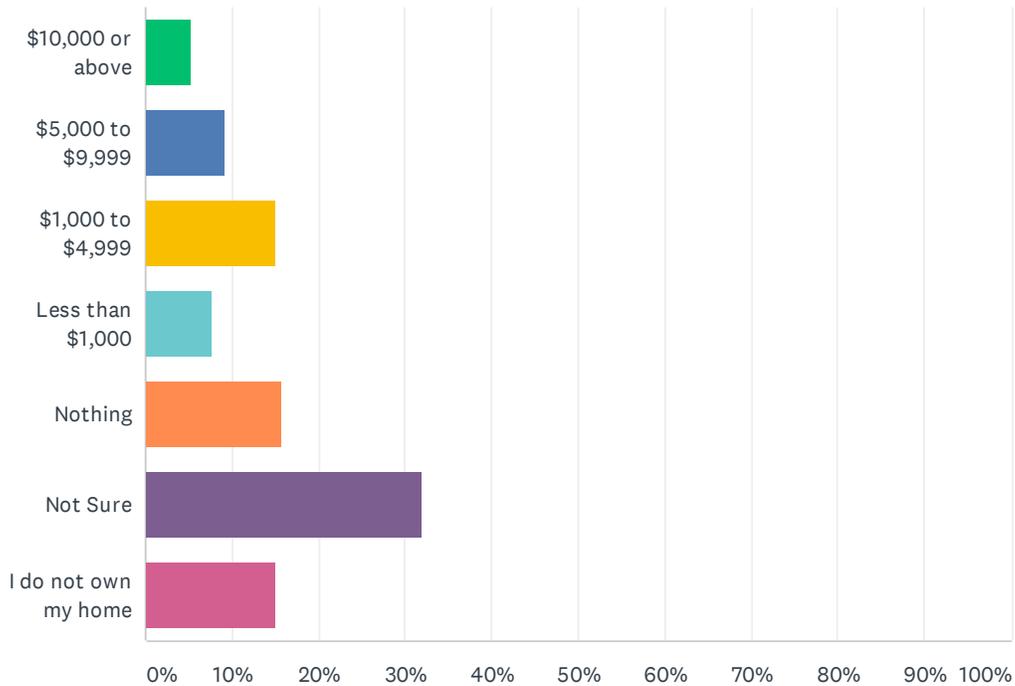
Answered: 154 Skipped: 15



ANSWER CHOICES	RESPONSES	
Yes	55.84%	86
No	25.97%	40
Not Sure	18.18%	28
TOTAL		154

### Q16 How much money would you be willing to spend to retrofit your home to reduce risks associated with flood disasters? (for example, by elevating a home above flood level, flood-proofing, building berms or floodwalls)

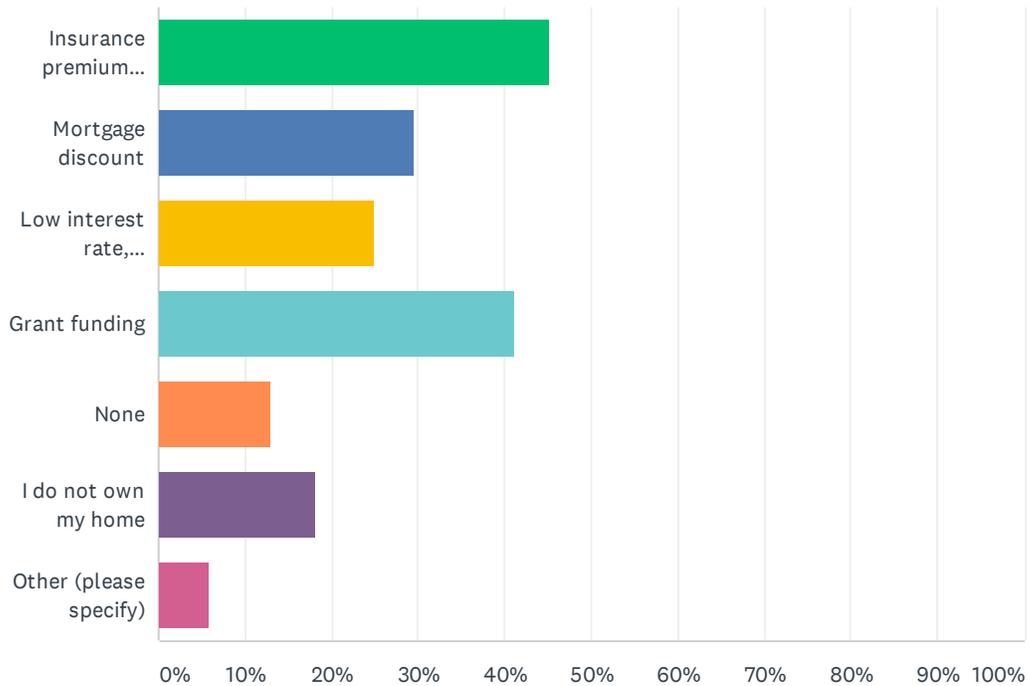
Answered: 153 Skipped: 16



ANSWER CHOICES	RESPONSES	
\$10,000 or above	5.23%	8
\$5,000 to \$9,999	9.15%	14
\$1,000 to \$4,999	15.03%	23
Less than \$1,000	7.84%	12
Nothing	15.69%	24
Not Sure	32.03%	49
I do not own my home	15.03%	23
<b>TOTAL</b>		<b>153</b>

## Q17 Which of the following incentives would encourage you to spend money to retrofit your home to protect against flood disasters? (Check all that apply)

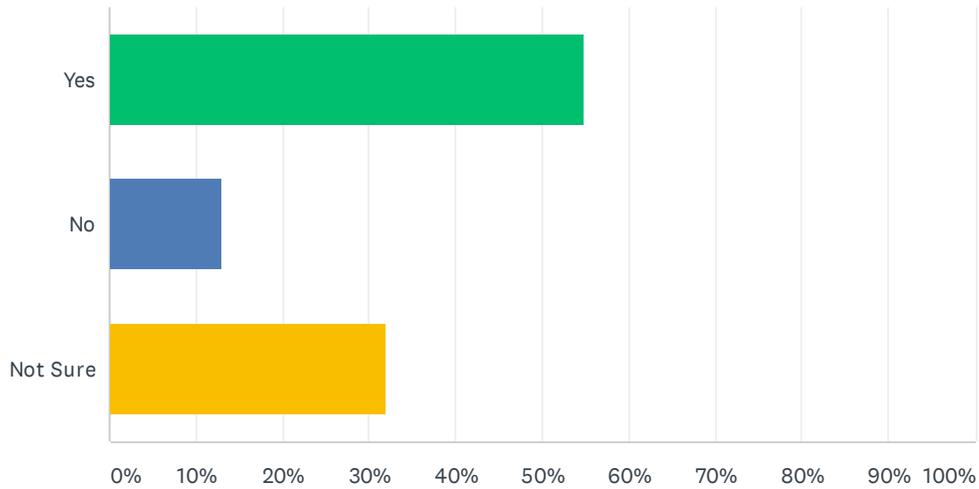
Answered: 153 Skipped: 16



ANSWER CHOICES	RESPONSES	
Insurance premium discount	45.10%	69
Mortgage discount	29.41%	45
Low interest rate, home-improvement loan	24.84%	38
Grant funding	41.18%	63
None	13.07%	20
I do not own my home	18.30%	28
Other (please specify)	5.88%	9
Total Respondents: 153		

### Q18 If your property were located in a designated “high flood hazard” area or had received repetitive damages from flood events, would you consider a “buyout” offered by a public agency?

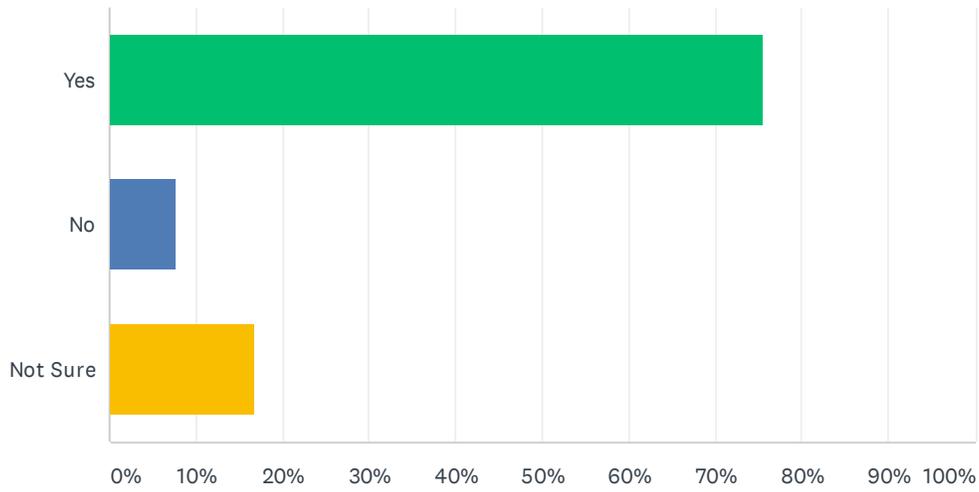
Answered: 153 Skipped: 16



ANSWER CHOICES	RESPONSES	
Yes	54.90%	84
No	13.07%	20
Not Sure	32.03%	49
<b>TOTAL</b>		<b>153</b>

### Q19 Do you support the regulation (restriction) of land uses within known, high risk, flood hazard areas?

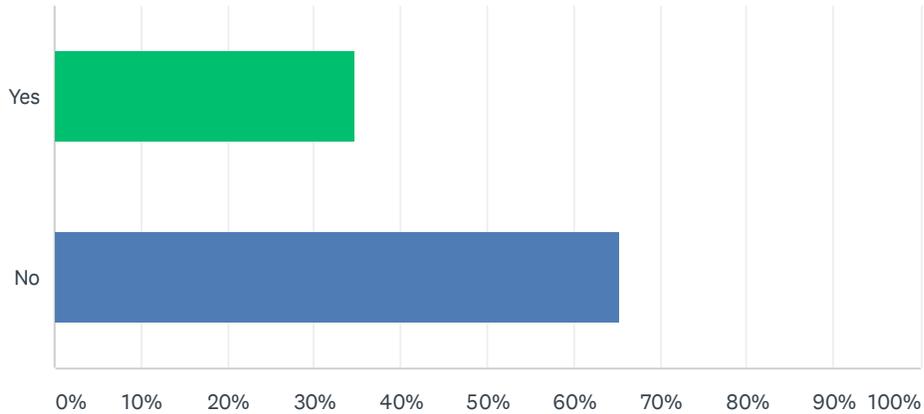
Answered: 155 Skipped: 14



ANSWER CHOICES	RESPONSES	
Yes	75.48%	117
No	7.74%	12
Not Sure	16.77%	26
TOTAL		155

## Q20 Are you aware of the current Floodplain Management Plan's programs and policies to reduce flooding hazards such as: The National Flood Insurance Program, Flood Alert/Warning, Disaster Assistance and grant programs?

Answered: 153 Skipped: 16



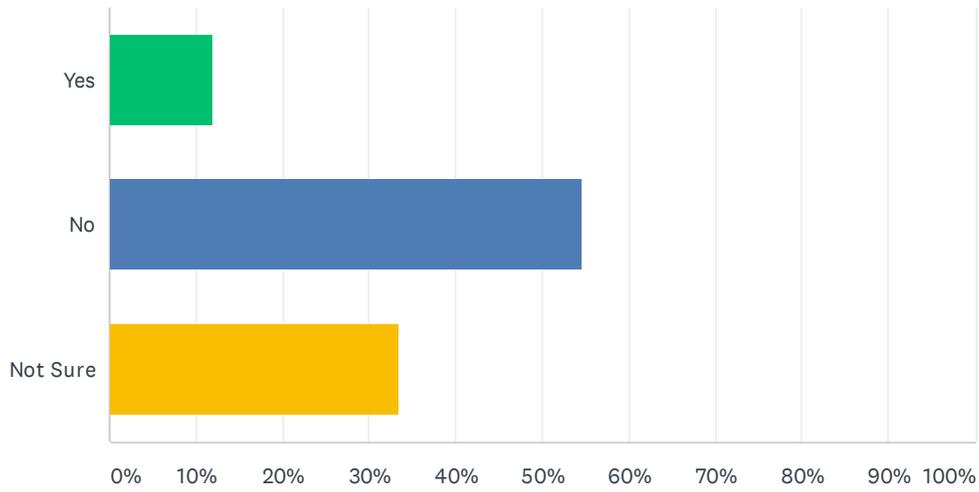
ANSWER CHOICES	RESPONSES	
Yes	34.64%	53
No	65.36%	100
TOTAL		153

**Q21 Where in Los Angeles do you live? Please provide your zip code, nearest cross streets or neighborhood.**

Answered: 148 Skipped: 21

## Q22 Do you live in a known floodplain or an area that has been subject to flooding?

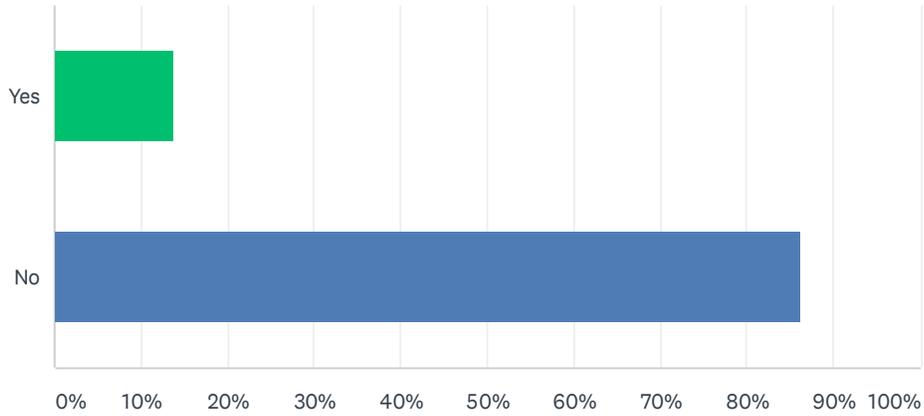
Answered: 152 Skipped: 17



ANSWER CHOICES		RESPONSES	
Yes		11.84%	18
No		54.61%	83
Not Sure		33.55%	51
TOTAL			152

## Q23 Do you have any access or functional needs within your household that would require early warning or response during disasters?

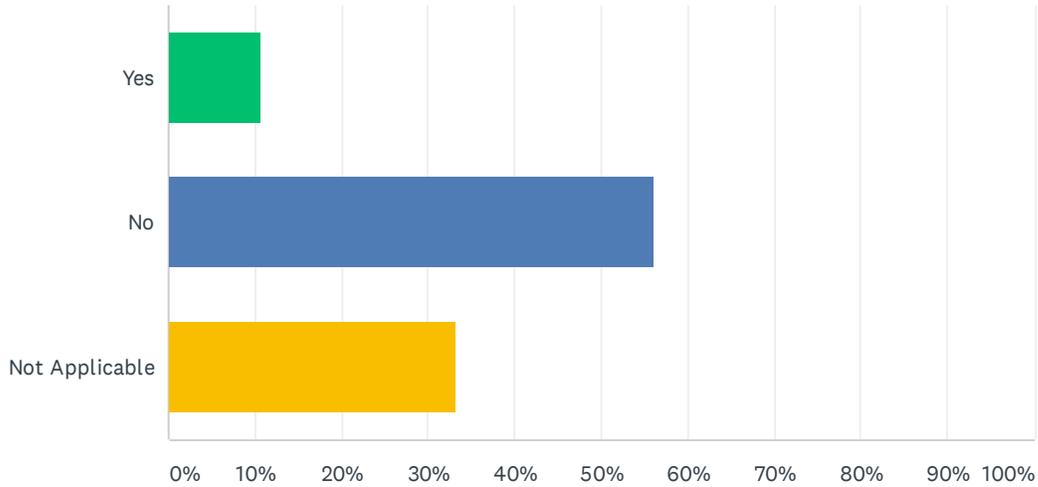
Answered: 153 Skipped: 16



ANSWER CHOICES	RESPONSES	
Yes	13.73%	21
No	86.27%	132
TOTAL		153

**Q24 Would you like personnel from the City Emergency Management to contact you regarding your access and functional needs? If yes, please enter your contact information in the following text box.**

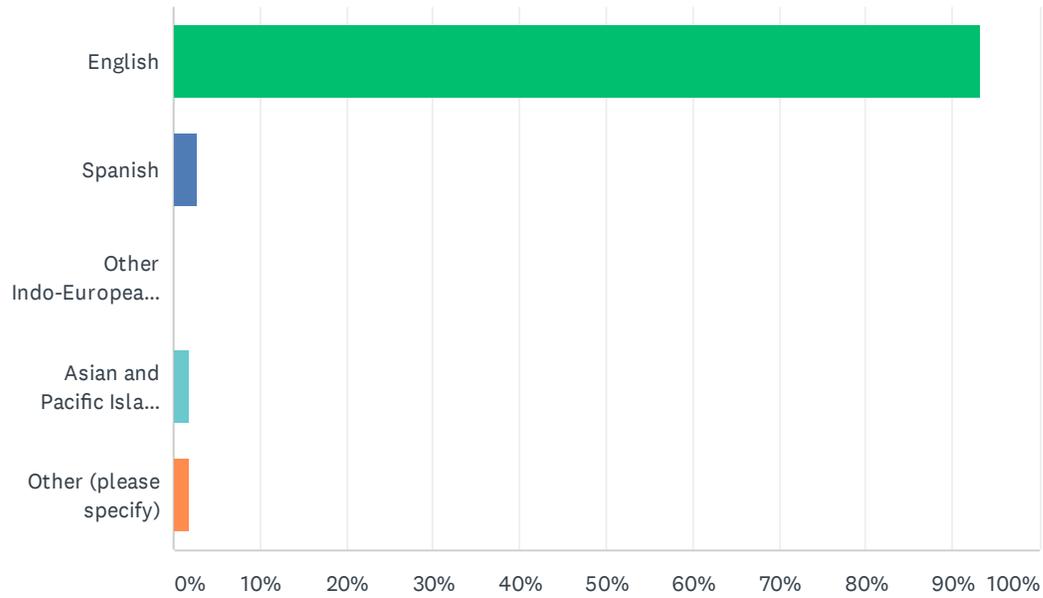
Answered: 150 Skipped: 19



ANSWER CHOICES	RESPONSES	
Yes	10.67%	16
No	56.00%	84
Not Applicable	33.33%	50
<b>TOTAL</b>		<b>150</b>

## Q25 Please indicate the primary language spoken in your household.

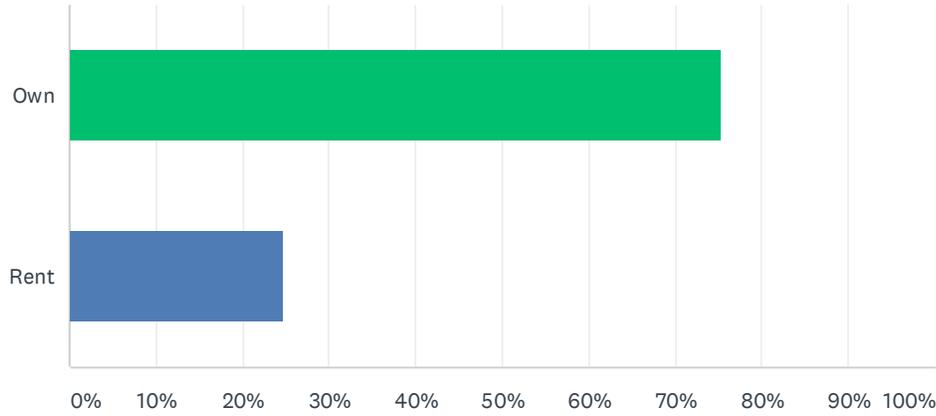
Answered: 151 Skipped: 18



ANSWER CHOICES	RESPONSES	
English	93.38%	141
Spanish	2.65%	4
Other Indo-European Languages	0.00%	0
Asian and Pacific Island Languages	1.99%	3
Other (please specify)	1.99%	3
<b>TOTAL</b>		<b>151</b>

## Q26 Do you own or rent your place of residence?

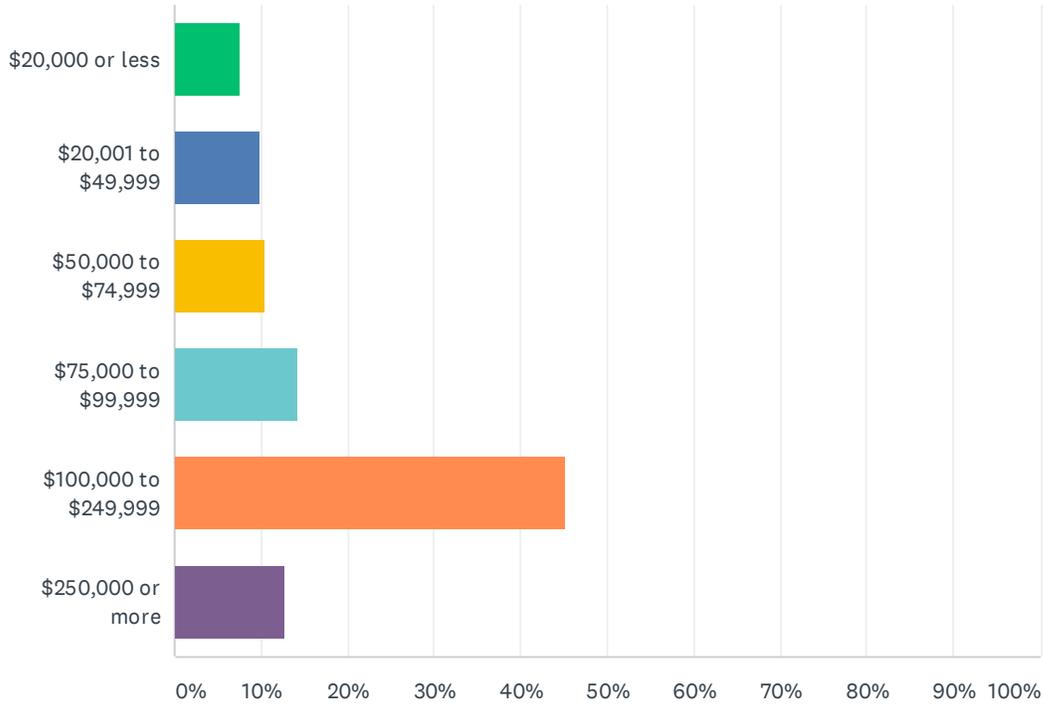
Answered: 150 Skipped: 19



ANSWER CHOICES	RESPONSES	
Own	75.33%	113
Rent	24.67%	37
TOTAL		150

## Q27 How much is your gross household income?

Answered: 133 Skipped: 36



ANSWER CHOICES	RESPONSES
\$20,000 or less	7.52% 10
\$20,001 to \$49,999	9.77% 13
\$50,000 to \$74,999	10.53% 14
\$75,000 to \$99,999	14.29% 19
\$100,000 to \$249,999	45.11% 60
\$250,000 or more	12.78% 17
TOTAL	133

## Q28 Comments

Answered: 24 Skipped: 145



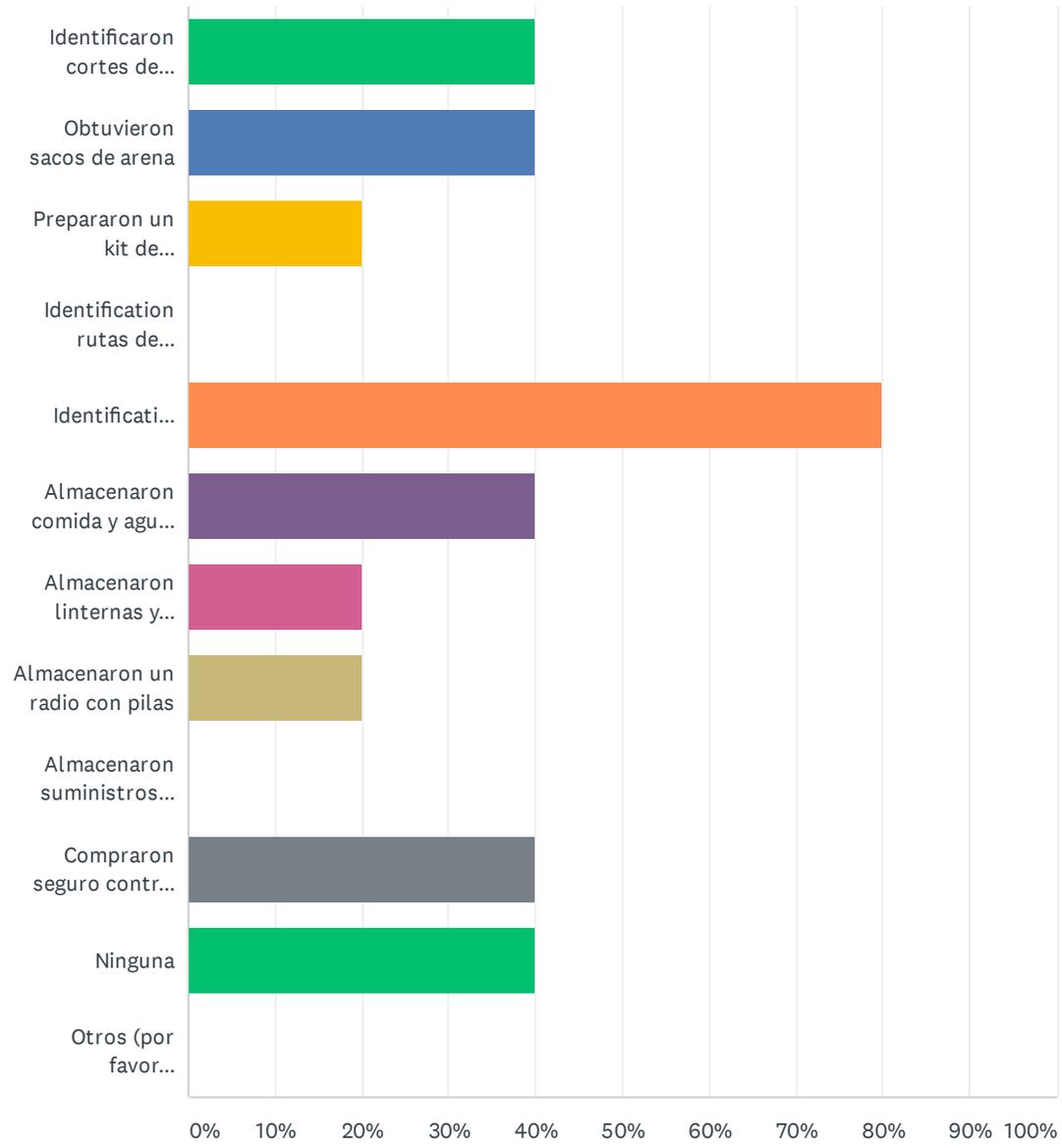
**City of Los Angeles Survey Results**  
**SPANISH**



Q1 ¿Cuál de los siguientes pasos ha tomado su hogar para prepararse para un evento de inundación?(Marque todo lo que corresponda)

Answered: 5 Skipped: 0

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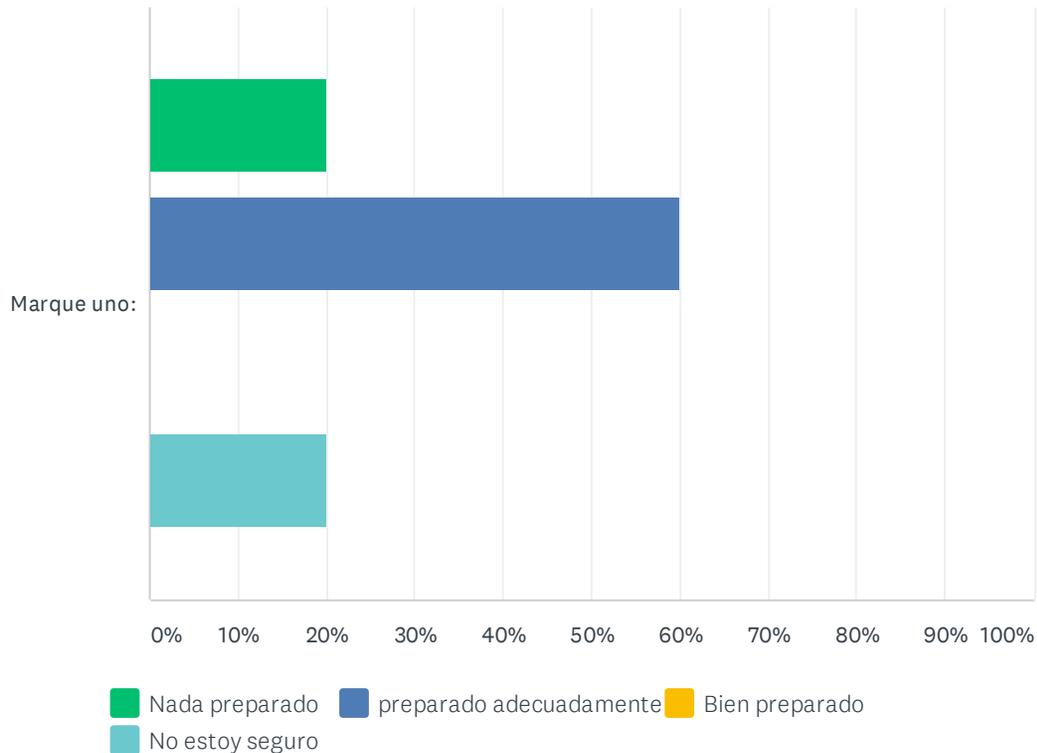


Copy of 2019, City of Los Angeles Comprehensive Floodplain Management Plan Update

ANSWER CHOICES	RESPONSES	
Identificaron cortes de servicios públicos	40.00%	2
Obtuvieron sacos de arena	40.00%	2
Prepararon un kit de suministros para desastres	20.00%	1
Identificación rutas de evacuación	0.00%	0
Identificación al menos 2 métodos para recibir notificaciones e información de emergencia durante emergencias	80.00%	4
Almacenaron comida y agua por encima de los niveles potenciales de inundación.	40.00%	2
Almacenaron linternas y baterías	20.00%	1
Almacenaron un radio con pilas	20.00%	1
Almacenaron suministros médicos (kit de primeros auxilios, medicamentos)	0.00%	0
Compraron seguro contra inundaciones	40.00%	2
Ninguna	40.00%	2
Otros (por favor especifica)	0.00%	0
Total Respondents: 5		

## Q2 ¿Qué tan preparado está su hogar para enfrentar un evento de inundación?

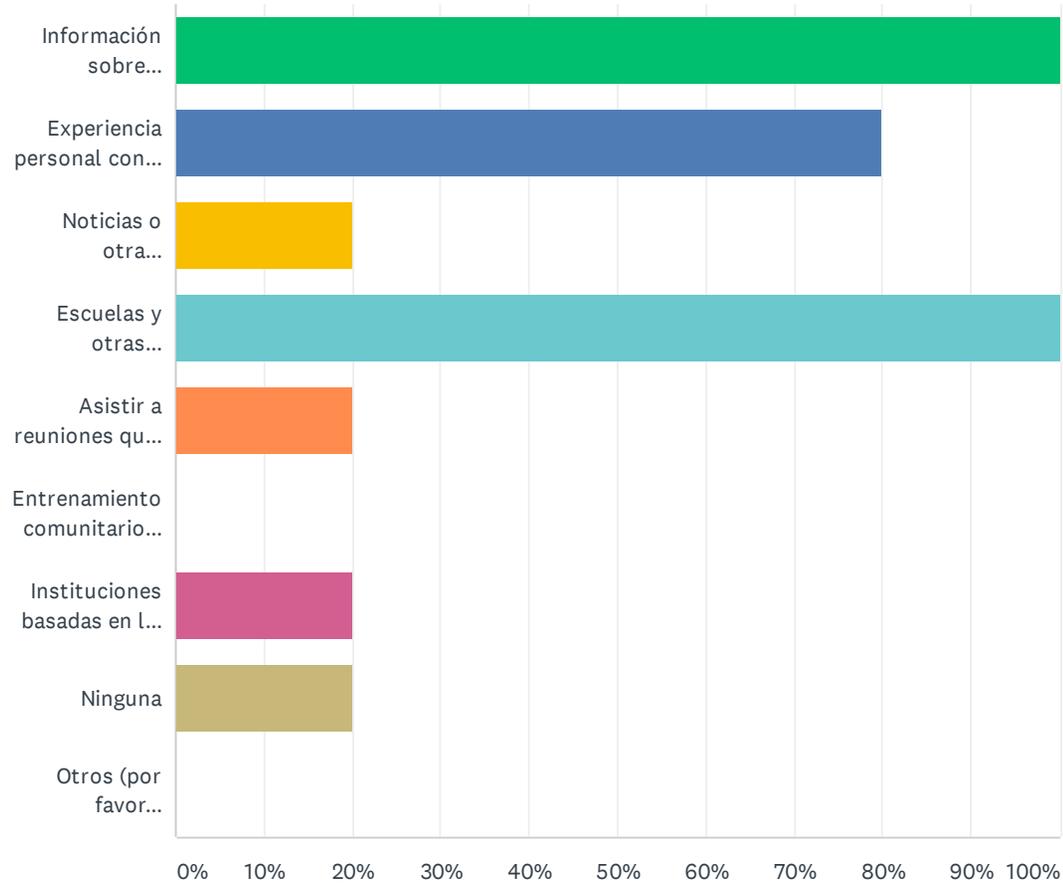
Answered: 5 Skipped: 0



	NADA PREPARADO	PREPARADO ADECUADAMENTE	BIEN PREPARADO	NO ESTOY SEGURO	TOTAL	WEIGHTED AVERAGE
Marque uno:	20.00%	60.00%	0.00%	20.00%	5	3.20
	1	3	0	1		

### Q3 ¿Cual de los siguientes le ha proporcionado información útil para ayudarlo a estar preparado para un evento inundación? (Marque todo lo que corresponda)

Answered: 5 Skipped: 0

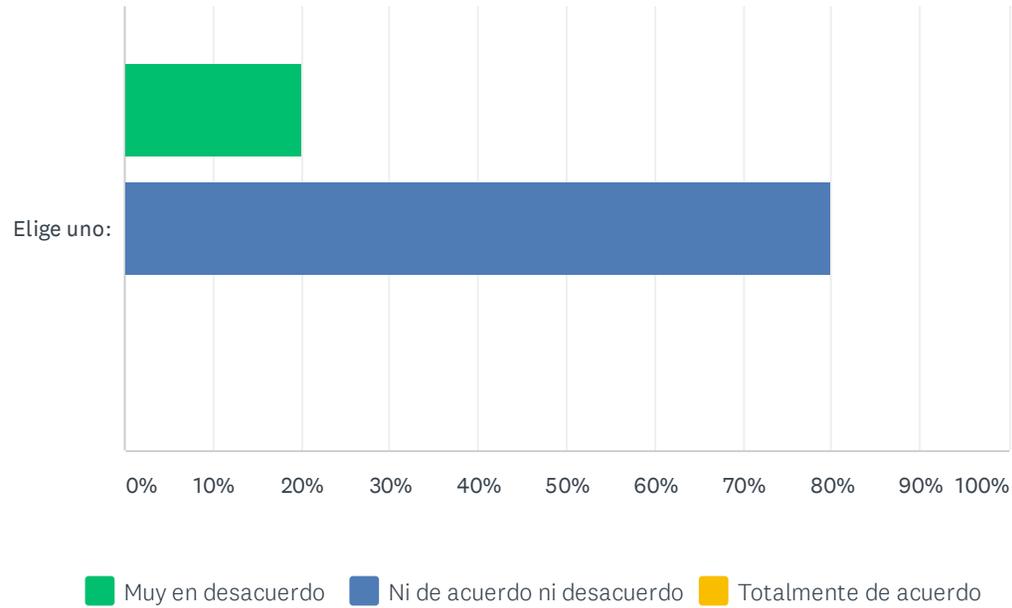


Copy of 2019, City of Los Angeles Comprehensive Floodplain Management Plan Update

ANSWER CHOICES	RESPONSES	
Información sobre preparación para emergencias de una fuente gubernamental (por ejemplo, manejo de emergencia federal, estatal, o local)	100.00%	5
Experiencia personal con eventos de inundación.	80.00%	4
Noticias o otra información de los medios proporcionadas localmente	20.00%	1
Escuelas y otras instituciones académicas	100.00%	5
Asistir a reuniones que se han ocupado de la preparación para inundaciones	20.00%	1
Entrenamiento comunitario respuesta de emergencias (CERT)	0.00%	0
Instituciones basadas en la fe	20.00%	1
Ninguna	20.00%	1
Otros (por favor especifica)	0.00%	0
Total Respondents: 5		

Q4 Indique cómo se siente como la siguiente declaración: Información sobre los riesgos asociados con las inundaciones está disponible y es fácil de localizar.

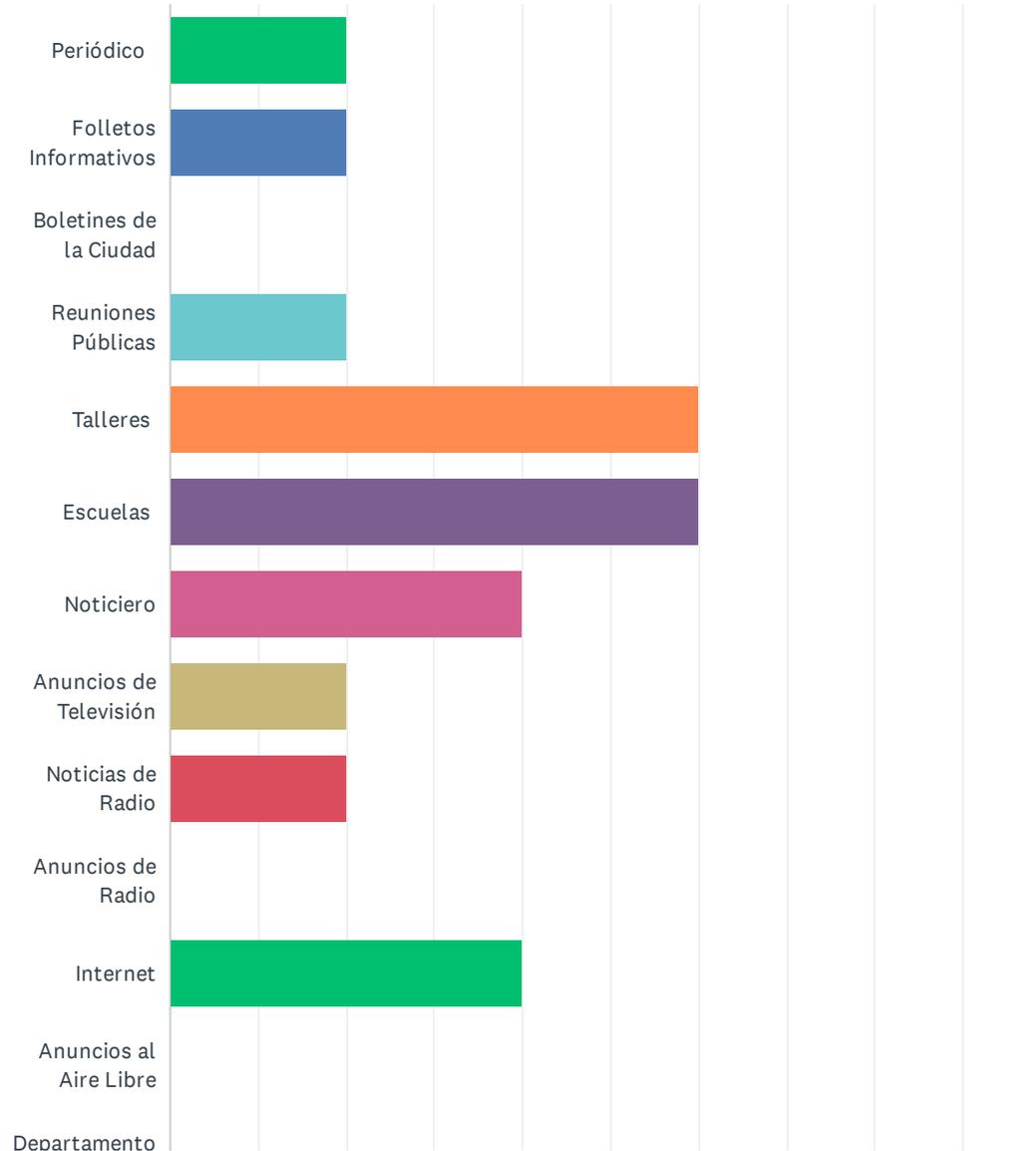
Answered: 5 Skipped: 0



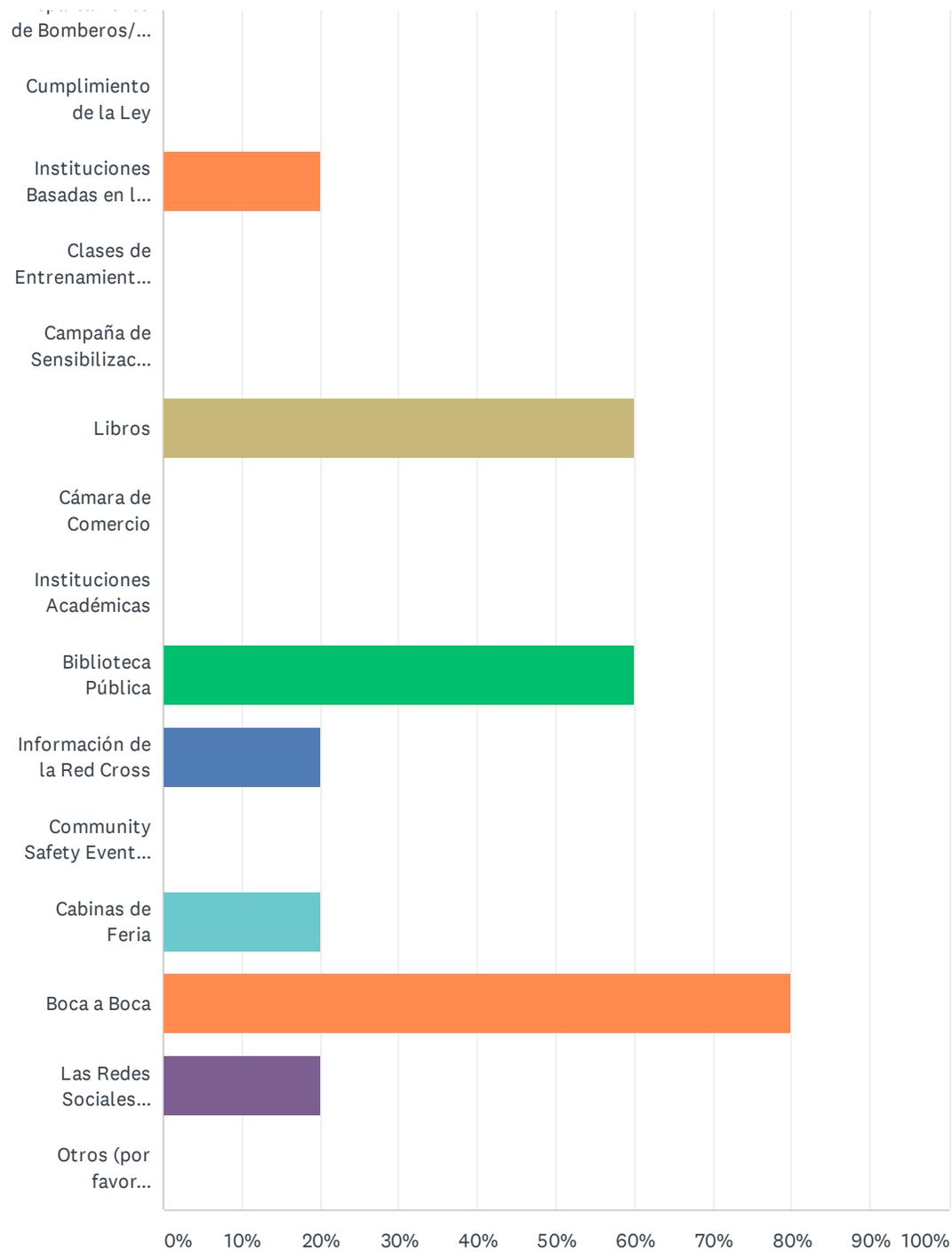
	MUY EN DESACUERDO	NI DE ACUERDO NI DESACUERDO	TOTALMENTE DE ACUERDO	TOTAL	WEIGHTED AVERAGE
Elige uno:	20.00%	80.00%	0.00%	5	2.60
	1	4	0		

### Q5 Elige hasta 5 de los siguientes métodos que creas que son los más efectivos para proporcionar información sobre inundaciones y desastres.

Answered: 5 Skipped: 0



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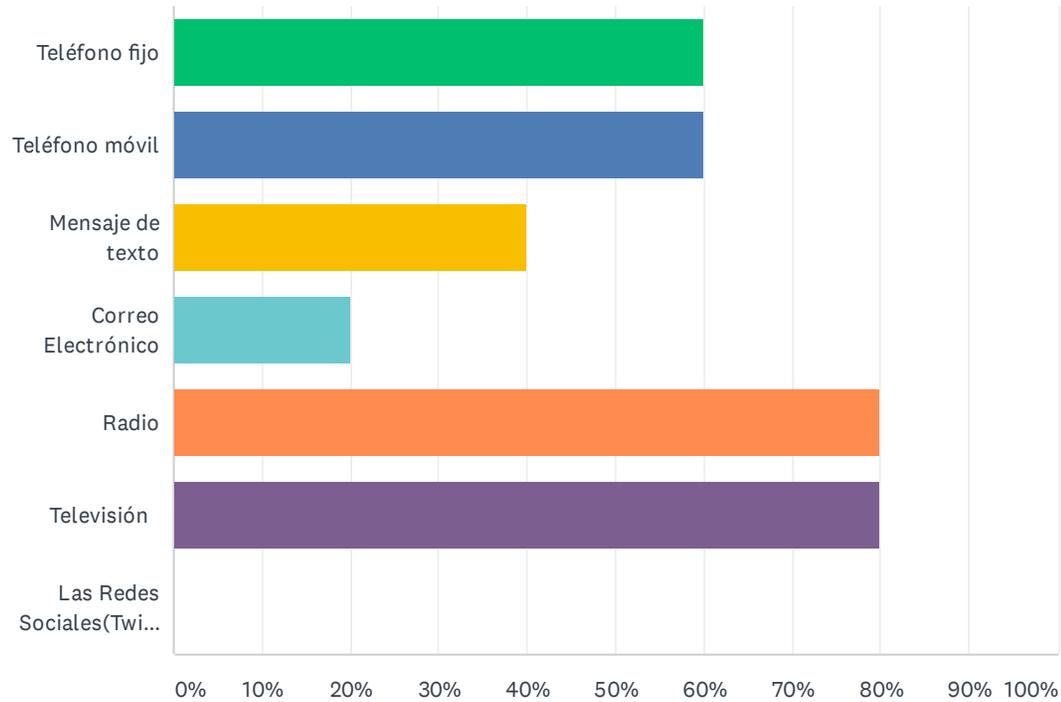
ANSWER CHOICES	RESPONSES	
Periódico	20.00%	1
Folletos Informativos	20.00%	1
Boletines de la Ciudad	0.00%	0
Reuniones Públicas	20.00%	1
Talleres	60.00%	3
Escuelas	60.00%	3
Noticiero	40.00%	2
Anuncios de Televisión	20.00%	1
Noticias de Radio	20.00%	1
Anuncios de Radio	0.00%	0
Internet	40.00%	2
Anuncios al Aire Libre	0.00%	0
Departamento de Bomberos/ Rescate	0.00%	0
Cumplimiento de la Ley	0.00%	0
Instituciones Basadas en la Fe	20.00%	1
Clases de Entrenamiento Comunitario Respuestas de Emergencias (CERT)	0.00%	0
Campaña de Sensibilización Pública (Por Ejemplo, Semana de Concientización Sobre Inundaciones)	0.00%	0
Libros	60.00%	3
Cámara de Comercio	0.00%	0
Instituciones Académicas	0.00%	0
Biblioteca Pública	60.00%	3
Información de la Red Cross	20.00%	1
Community Safety Events Eventos de Seguridad Comunitaria	0.00%	0

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Cabinas de Feria	20.00%	1
Boca a Boca	80.00%	4
Las Redes Sociales (Twitter, Facebook, etc.)	20.00%	1
Otros (por favor especifica)	0.00%	0
Total Respondents: 5		

## Q6 ¿Qué método es mejor para usted y su familia para obtener información de advertencia o instrucciones de acción urgentes?

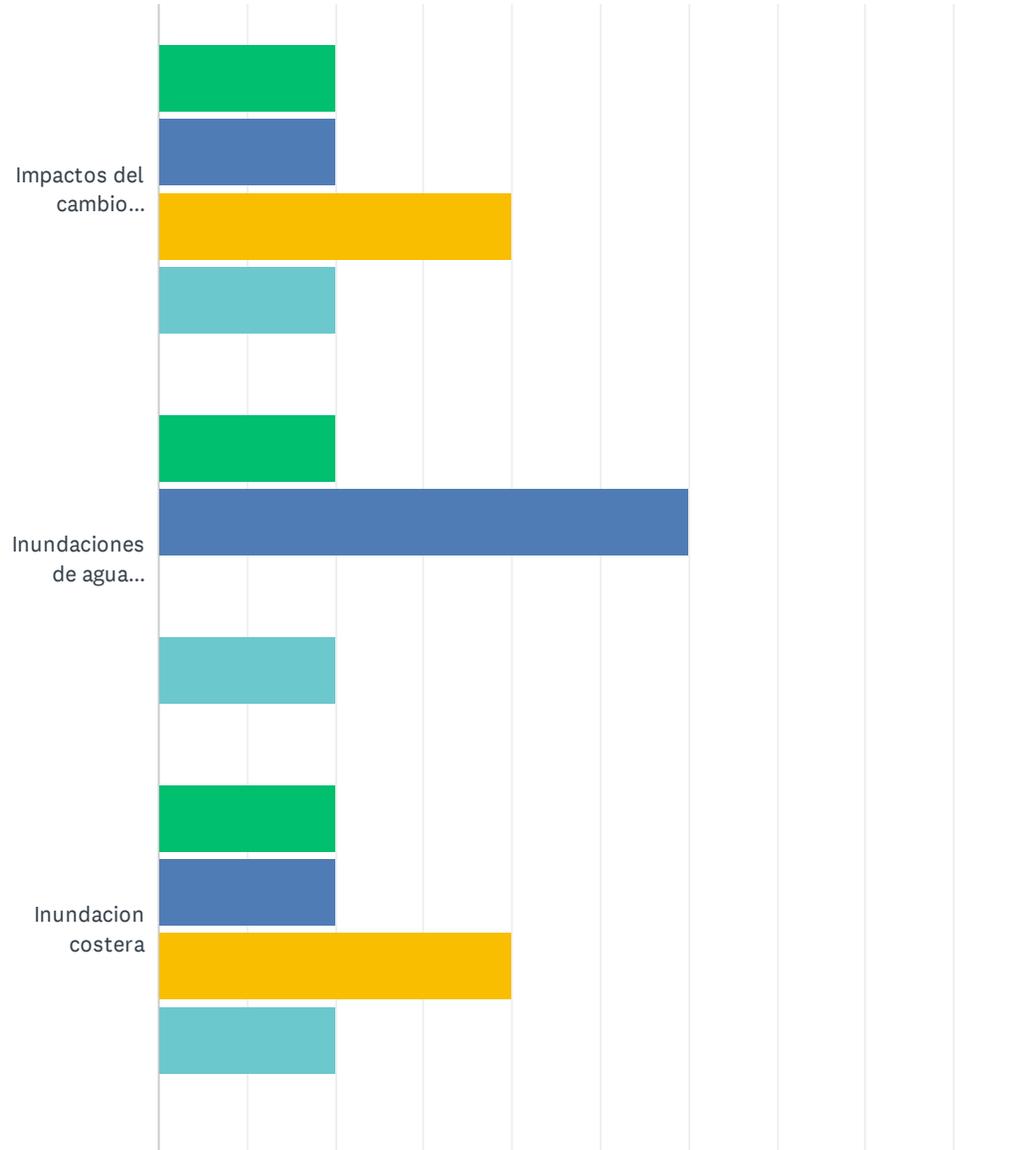
Answered: 5 Skipped: 0

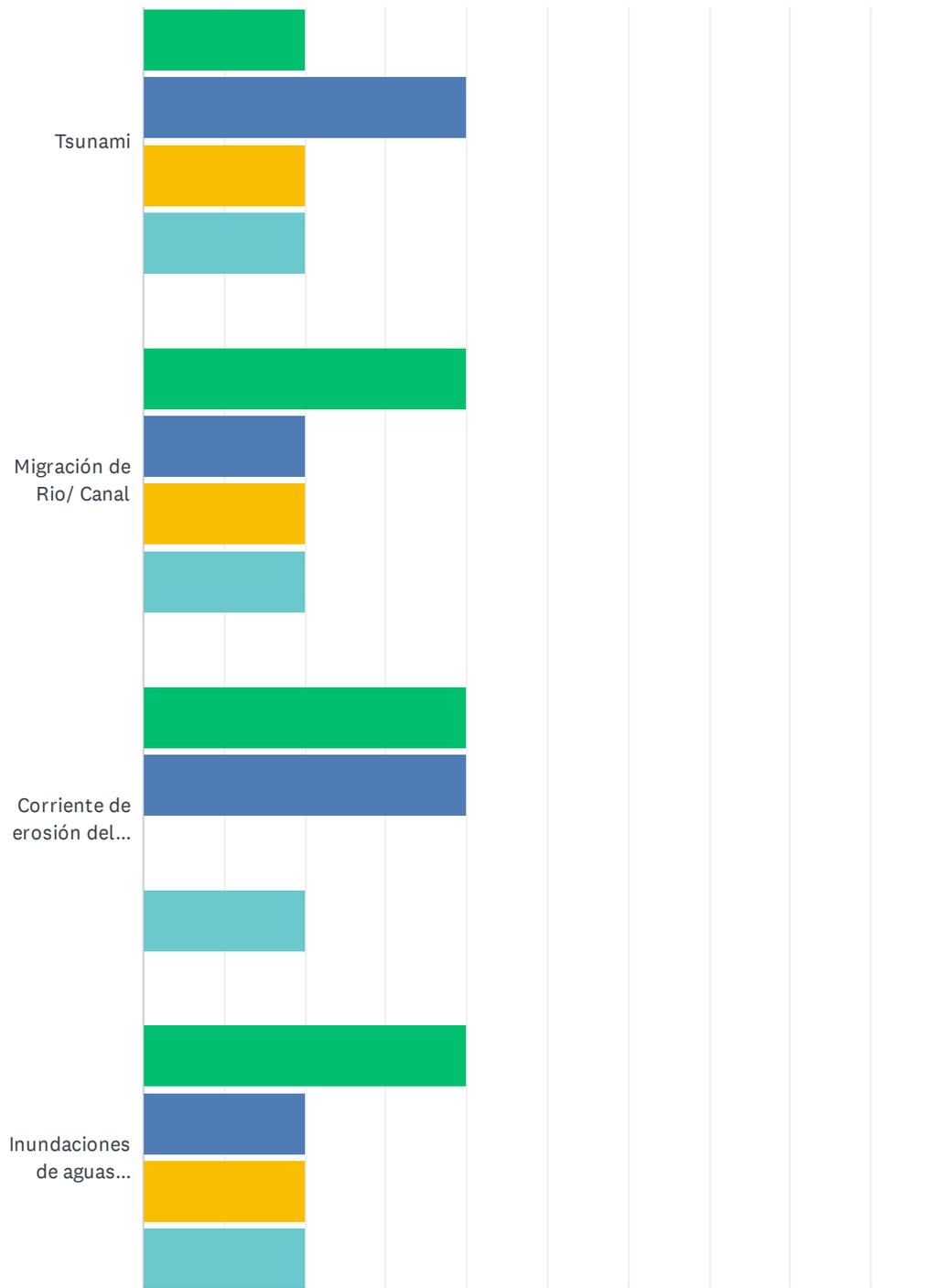


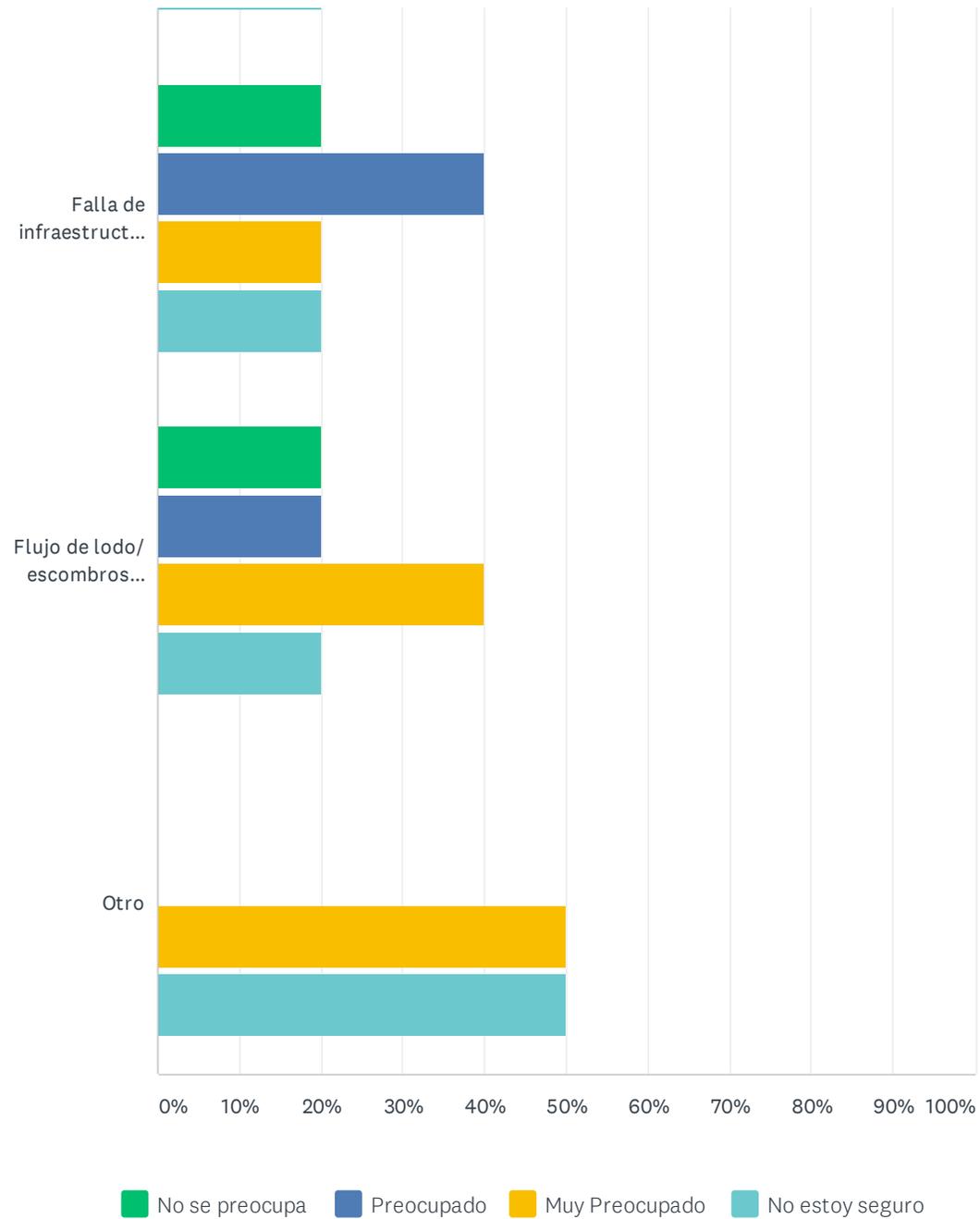
ANSWER CHOICES	RESPONSES	
Teléfono fijo	60.00%	3
Teléfono móvil	60.00%	3
Mensaje de texto	40.00%	2
Correo Electrónico	20.00%	1
Radio	80.00%	4
Televisión	80.00%	4
Las Redes Sociales(Twitter, Facebook, etc.)	0.00%	0
Total Respondents: 5		

# Q7 ¿Que tan preocupado está usted por los siguientes peligros relacionados en Los Ángeles? (Marque una respuesta para cada peligro)

Answered: 5 Skipped: 0





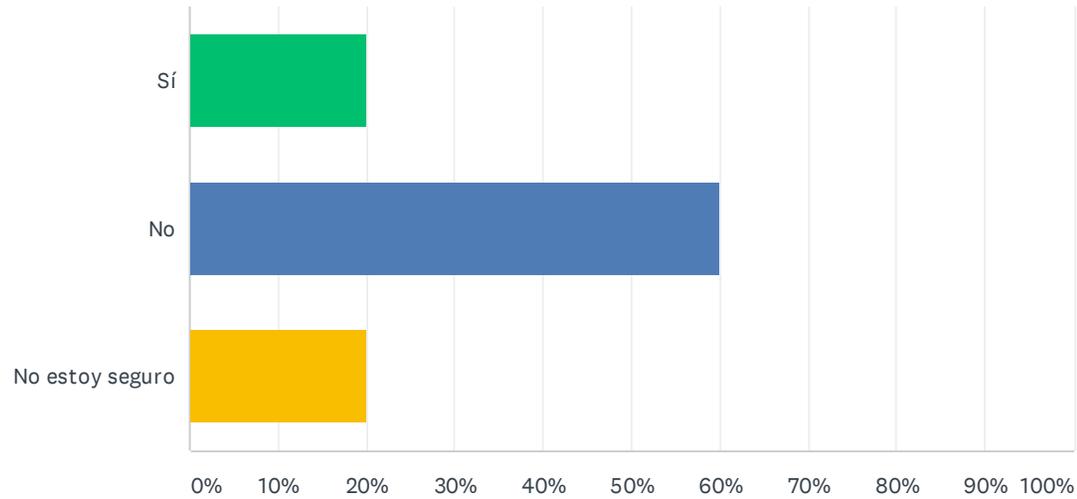


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	NO SE PREOCUPA	PREOCUPADO	MUY PREOCUPADO	NO ESTOY SEGURO	TOTAL	WEIGHTED AVERAGE
Impactos del cambio climático	20.00% 1	20.00% 1	40.00% 2	20.00% 1	5	4.00
Inundaciones de agua subterráneas	20.00% 1	60.00% 3	0.00% 0	20.00% 1	5	3.20
Inundacion costera	20.00% 1	20.00% 1	40.00% 2	20.00% 1	5	4.00
Tsunami	20.00% 1	40.00% 2	20.00% 1	20.00% 1	5	3.60
Migración de Rio/ Canal	40.00% 2	20.00% 1	20.00% 1	20.00% 1	5	3.20
Corriente de erosión del banco	40.00% 2	40.00% 2	0.00% 0	20.00% 1	5	2.80
Inundaciones de aguas pluviales	40.00% 2	20.00% 1	20.00% 1	20.00% 1	5	3.20
Falla de infraestructura (tuberías, tanques)	20.00% 1	40.00% 2	20.00% 1	20.00% 1	5	3.60
Flujo de lodo/ escombros después del incendio	20.00% 1	20.00% 1	40.00% 2	20.00% 1	5	4.00
Otro	0.00% 0	0.00% 0	50.00% 1	50.00% 1	2	5.50

### Q8 ¿Tienes seguro contra inundaciones?

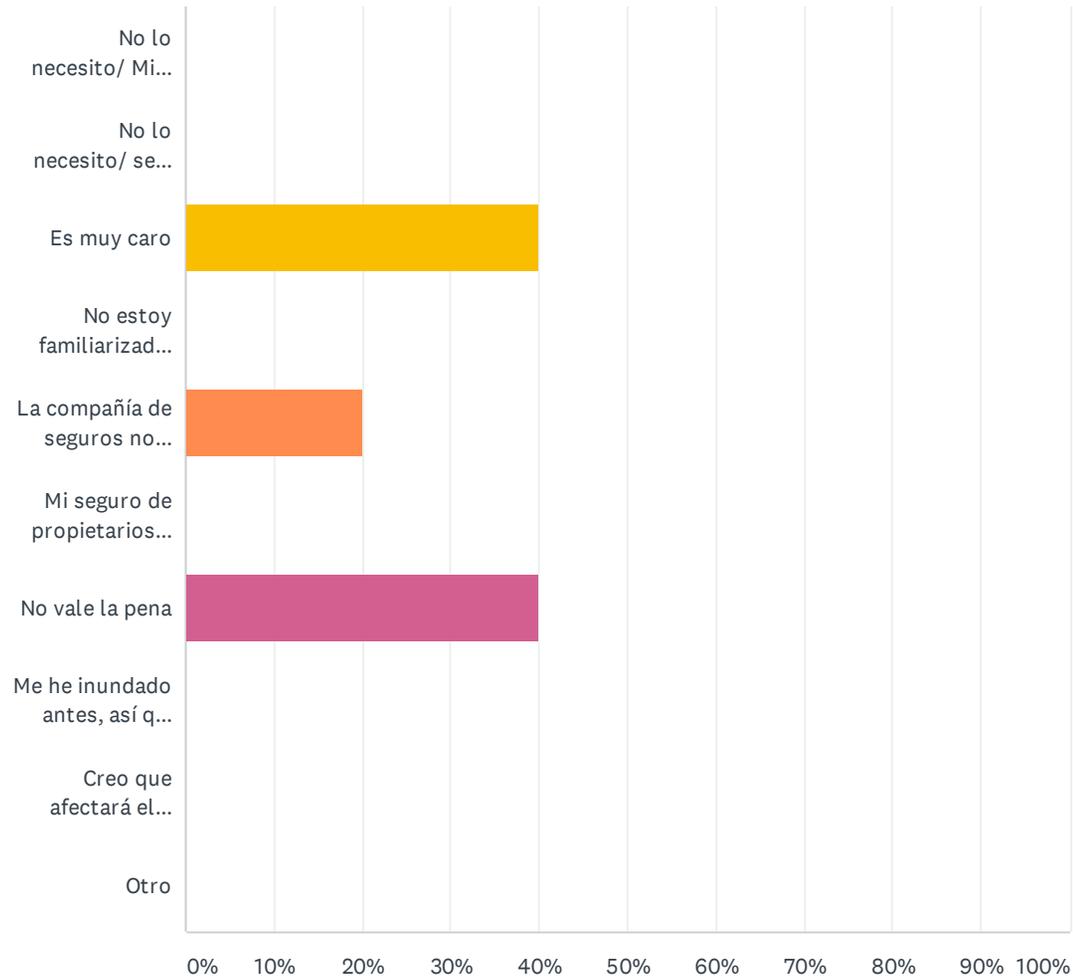
Answered: 5 Skipped: 0



ANSWER CHOICES	RESPONSES	
Sí	20.00%	1
No	60.00%	3
No estoy seguro	20.00%	1
<b>TOTAL</b>		<b>5</b>

### Q9 Si no tiene seguro contra inundaciones, ¿cual es la razón principal?

Answered: 5 Skipped: 0

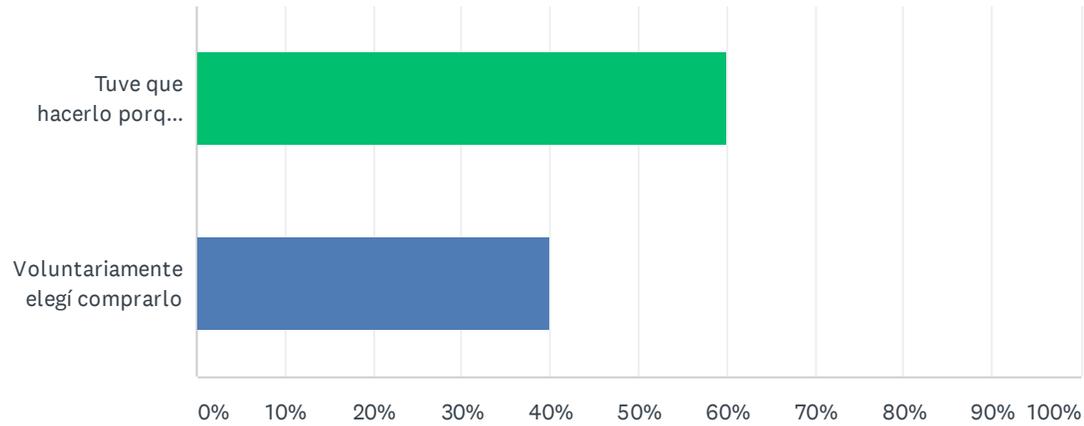


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ANSWER CHOICES	RESPONSES	
No lo necesito/ Mi propiedad nunca ha sido inundada	0.00%	0
No lo necesito/ se encuentra en terreno elevado	0.00%	0
Es muy caro	40.00%	2
No estoy familiarizado con eso/ no lo se sobre este tema	0.00%	0
La compañía de seguros no proporciona cobertura	20.00%	1
Mi seguro de propietarios de viviendas existente brinda cobertura	0.00%	0
No vale la pena	40.00%	2
Me he inundado antes, así que no califique para la cobertura	0.00%	0
Creo que afectará el valor de mi propiedad	0.00%	0
Otro	0.00%	0
<b>TOTAL</b>		<b>5</b>

## Q10 Si tiene seguro contra inundaciones, ¿por qué lo compro?

Answered: 5 Skipped: 0



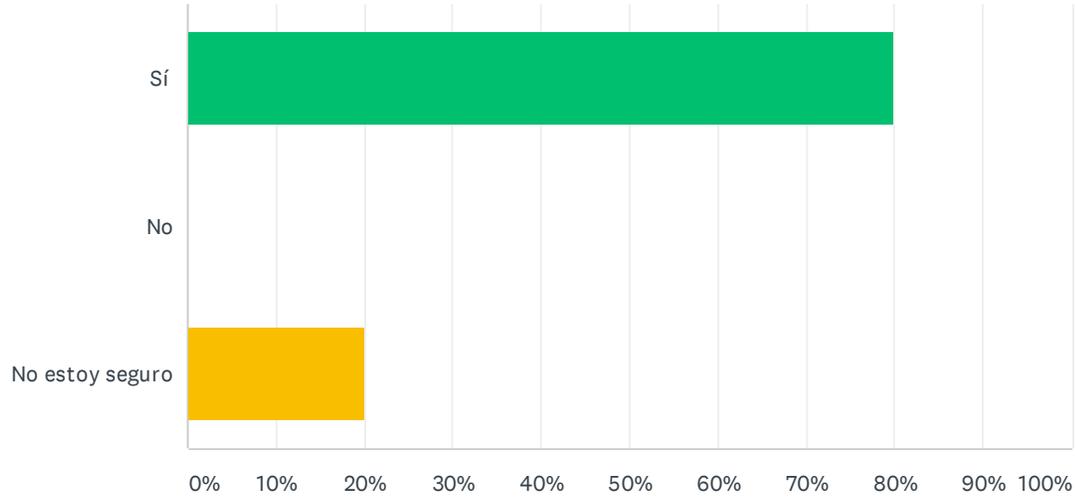
ANSWER CHOICES	RESPONSES	
Tuve que hacerlo porque estoy en un área propensa a inundaciones	60.00%	3
Voluntariamente elegí comprarlo	40.00%	2
Total Respondents: 5		

## Q11 Díganos por qué elige voluntariamente comprar un seguro contra inundaciones

Answered: 0 Skipped: 5

## Q12 ¿Tiene o tuvo problemas para obtener un seguro para propietarios/ inquilinos debido al riesgo de inundación?

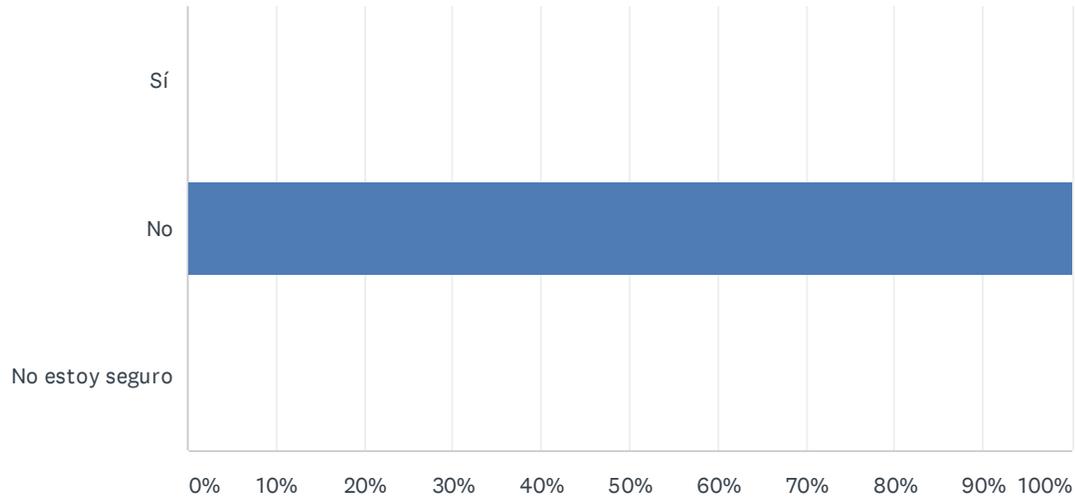
Answered: 5 Skipped: 0



ANSWER CHOICES	RESPONSES	
Sí	80.00%	4
No	0.00%	0
No estoy seguro	20.00%	1
<b>TOTAL</b>		<b>5</b>

### Q13 Cuando se mudó a su hogar, ¿consideró el impacto que una inundación podría tener en su hogar?

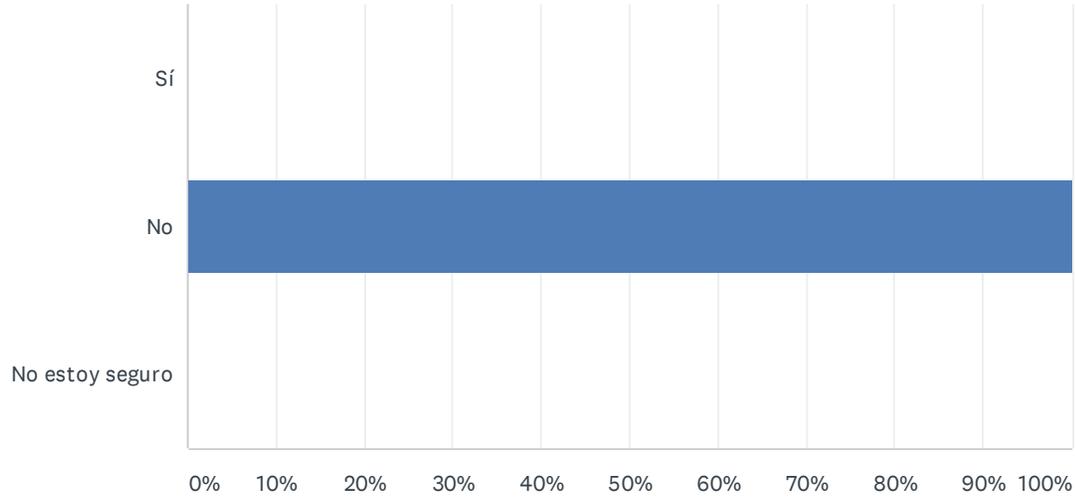
Answered: 5 Skipped: 0



ANSWER CHOICES	RESPONSES	
Sí	0.00%	0
No	100.00%	5
No estoy seguro	0.00%	0
<b>TOTAL</b>		<b>5</b>

### Q14 ¿Un agente de bienes raíces, vendedor o arrendador le reveló la presencia de un riesgo de inundación antes de comprar o mudarse a su casa?

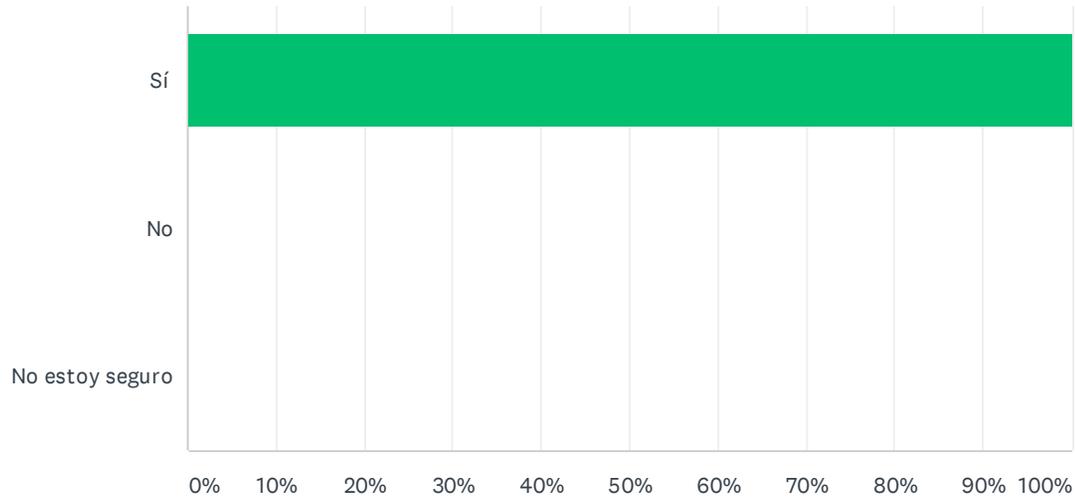
Answered: 4 Skipped: 1



ANSWER CHOICES	RESPONSES	
Sí	0.00%	0
No	100.00%	4
No estoy seguro	0.00%	0
<b>TOTAL</b>		<b>4</b>

### Q15 ¿La divulgación del peligro de inundación habría influido en su decisión de comprar o alquilar una casa?

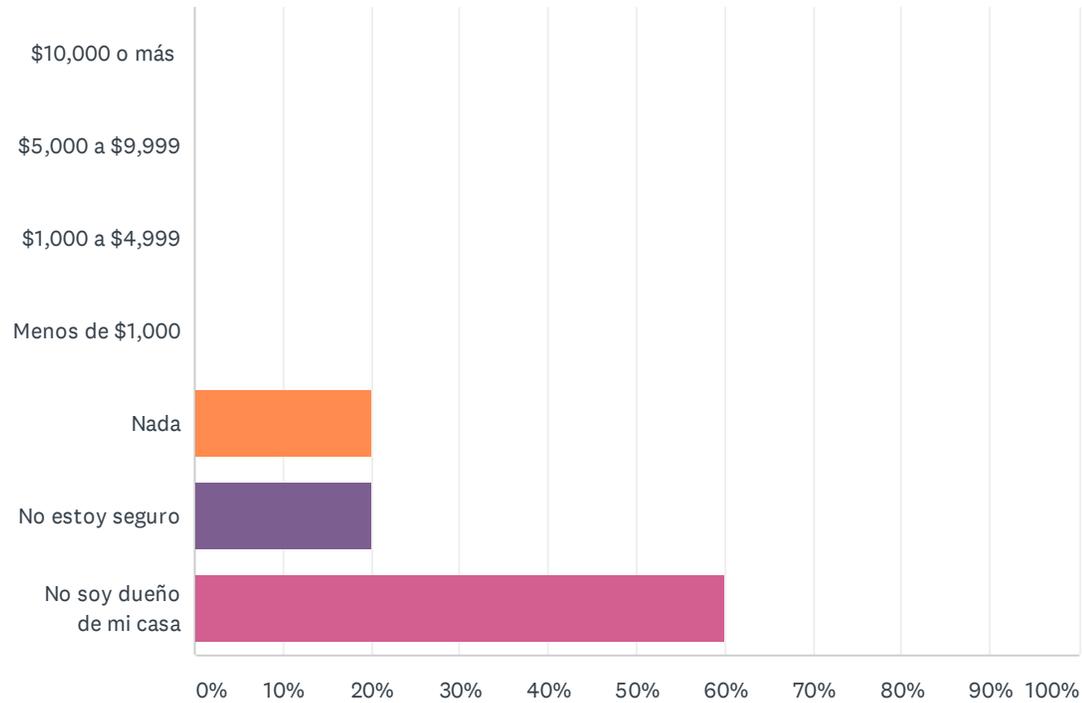
Answered: 5 Skipped: 0



ANSWER CHOICES	RESPONSES	
Sí	100.00%	5
No	0.00%	0
No estoy seguro	0.00%	0
<b>TOTAL</b>		<b>5</b>

### Q16 ¿Cuánto dinero estaría dispuesto a gastar para modernizar su hogar para reducir los riesgos asociados con las inundaciones? (por ejemplo, elevando una casa por encima del nivel de inundación, a prueba de inundaciones, construyendo bermas o muros de inundación)

Answered: 5 Skipped: 0

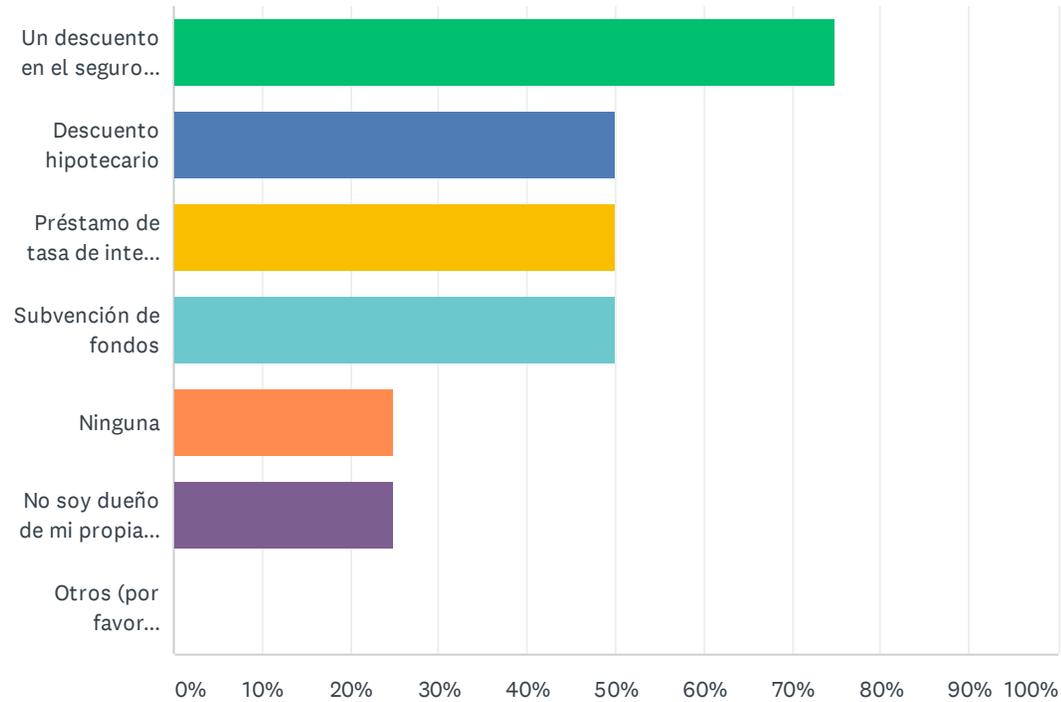


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ANSWER CHOICES	RESPONSES	
\$10,000 o más	0.00%	0
\$5,000 a \$9,999	0.00%	0
\$1,000 a \$4,999	0.00%	0
Menos de \$1,000	0.00%	0
Nada	20.00%	1
No estoy seguro	20.00%	1
No soy dueño de mi casa	60.00%	3
TOTAL		5

### Q17 ¿Cuál de los siguientes incentivos lo alentaría a gastar dinero para modernizar su hogar para protegerse contra desastres por inundaciones? (Marque todo lo que corresponda)

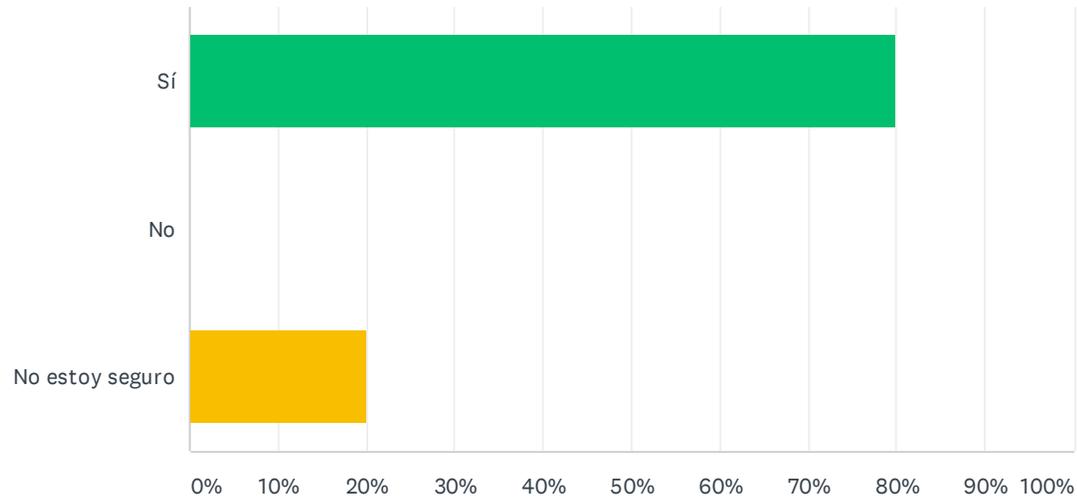
Answered: 4 Skipped: 1



ANSWER CHOICES	RESPONSES	
Un descuento en el seguro premium	75.00%	3
Descuento hipotecario	50.00%	2
Préstamo de tasa de interés baja/ préstamo de mejoras para el hogar	50.00%	2
Subvención de fondos	50.00%	2
Ninguna	25.00%	1
No soy dueño de mi propia casa	25.00%	1
Otros (por favor especifica)	0.00%	0
Total Respondents: 4		

Q18 Si su propiedad estuviera ubicada en un área designada de “alto riesgo de inundación” o hubiera recibido daños repetitivos por eventos de inundación, ¿consideraría una "compra" ofrecida por una agencia pública?

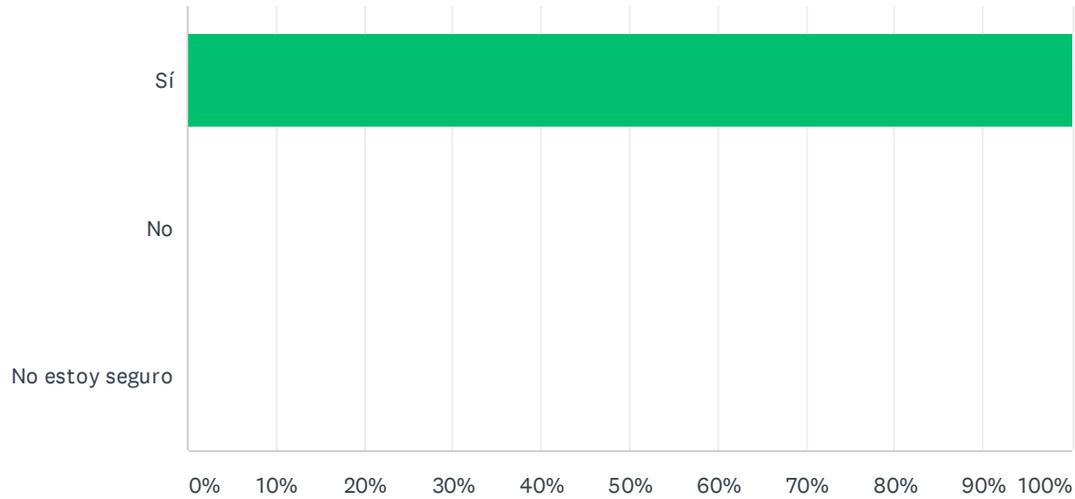
Answered: 5 Skipped: 0



ANSWER CHOICES	RESPONSES	
Sí	80.00%	4
No	0.00%	0
No estoy seguro	20.00%	1
<b>TOTAL</b>		<b>5</b>

### Q19 ¿Apoya la regulación (restricción) de los usos de la tierra dentro de áreas de inundación conocidas de alto riesgo?

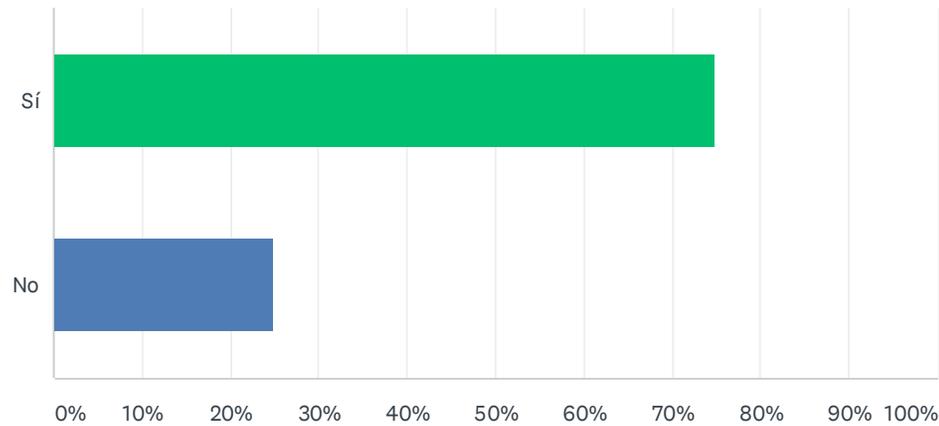
Answered: 5 Skipped: 0



ANSWER CHOICES	RESPONSES	
Sí	100.00%	5
No	0.00%	0
No estoy seguro	0.00%	0
<b>TOTAL</b>		<b>5</b>

Q20 ¿Conoce los programas y políticas actuales del Plan de Manejo de Llanuras de Inundación para reducir los riesgos de inundación, tales como: El Programa Nacional de Seguro contra Inundaciones, Alerta / Advertencia de Inundaciones, Asistencia por Desastre y programas de subvenciones?

Answered: 4 Skipped: 1



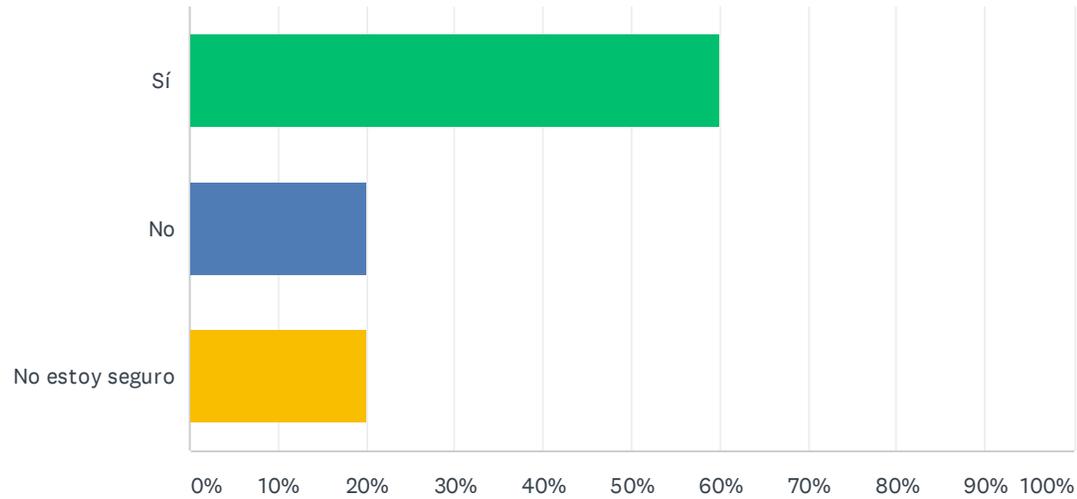
ANSWER CHOICES	RESPONSES	
Sí	75.00%	3
No	25.00%	1
TOTAL		4

**Q21 ¿Donde vives en Los Ángeles? Por favor proporcione su codigo postal, las calles más cercanos o su vecindario**

Answered: 0 Skipped: 5

## Q22 ¿Vive en una llanura de inundación conocida o en un área que ha sido inundada?

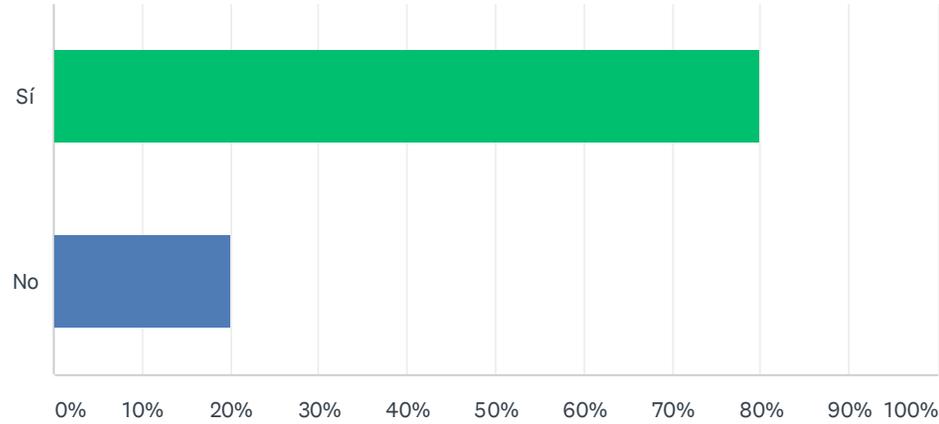
Answered: 5 Skipped: 0



ANSWER CHOICES	RESPONSES	
Sí	60.00%	3
No	20.00%	1
No estoy seguro	20.00%	1
<b>TOTAL</b>		<b>5</b>

### Q23 ¿Tiene alguna necesidad funcional o de acceso dentro de su hogar que requiera advertencia o respuesta temprana durante los desastres?

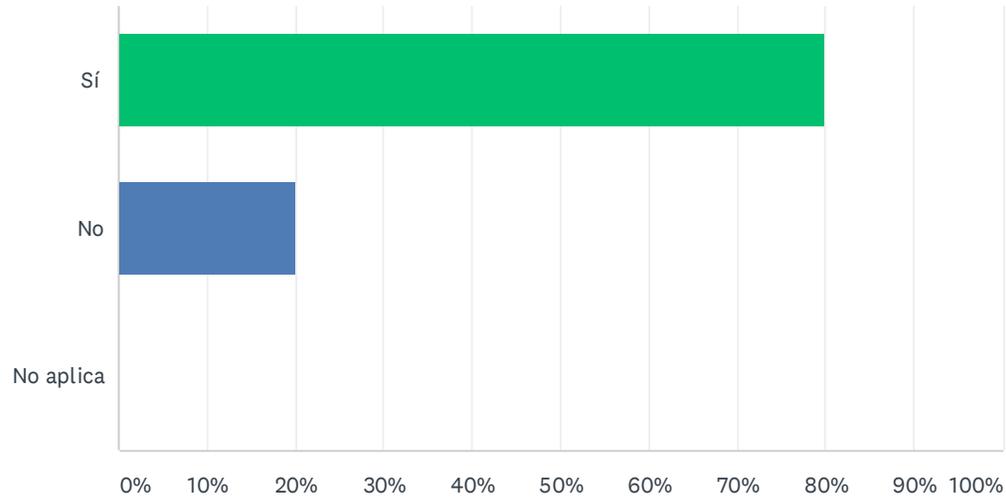
Answered: 5 Skipped: 0



ANSWER CHOICES	RESPONSES	
Sí	80.00%	4
No	20.00%	1
<b>TOTAL</b>		<b>5</b>

Q24 ¿Desea que el personal de la Administración de emergencias de la ciudad lo contacte con respecto a su acceso y necesidades funcionales? En caso afirmativo, ingrese su información de contacto en el siguiente cuadro de texto.

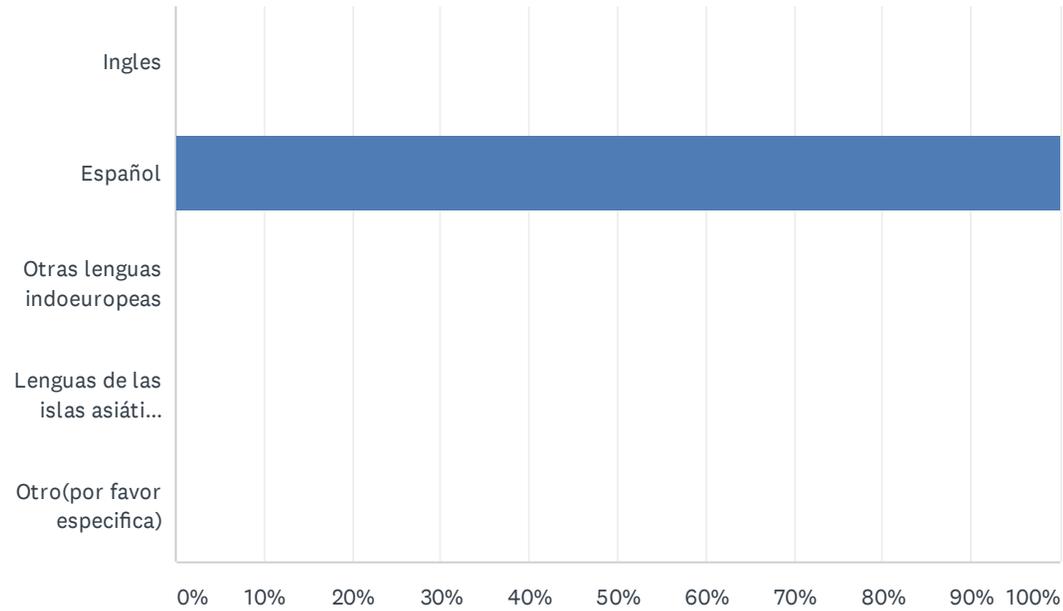
Answered: 5 Skipped: 0



ANSWER CHOICES	RESPONSES	
Sí	80.00%	4
No	20.00%	1
No aplica	0.00%	0
<b>TOTAL</b>		<b>5</b>

## Q25 Indique el idioma principal que se habla en su hogar

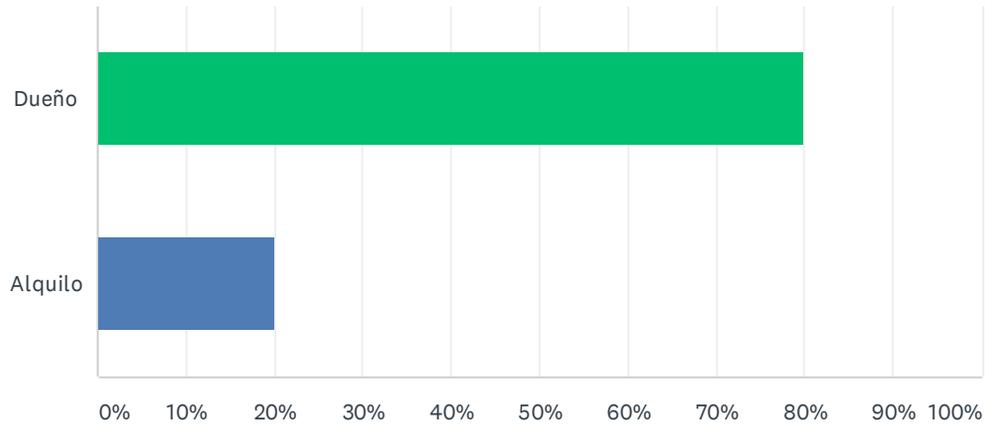
Answered: 5 Skipped: 0



ANSWER CHOICES	RESPONSES	
Inglés	0.00%	0
Español	100.00%	5
Otras lenguas indoeuropeas	0.00%	0
Lenguas de las islas asiáticas y del pacífico	0.00%	0
Otro (por favor especifica)	0.00%	0
<b>TOTAL</b>		<b>5</b>

## Q26 ¿Es dueño o alquila su lugar de resistencia?

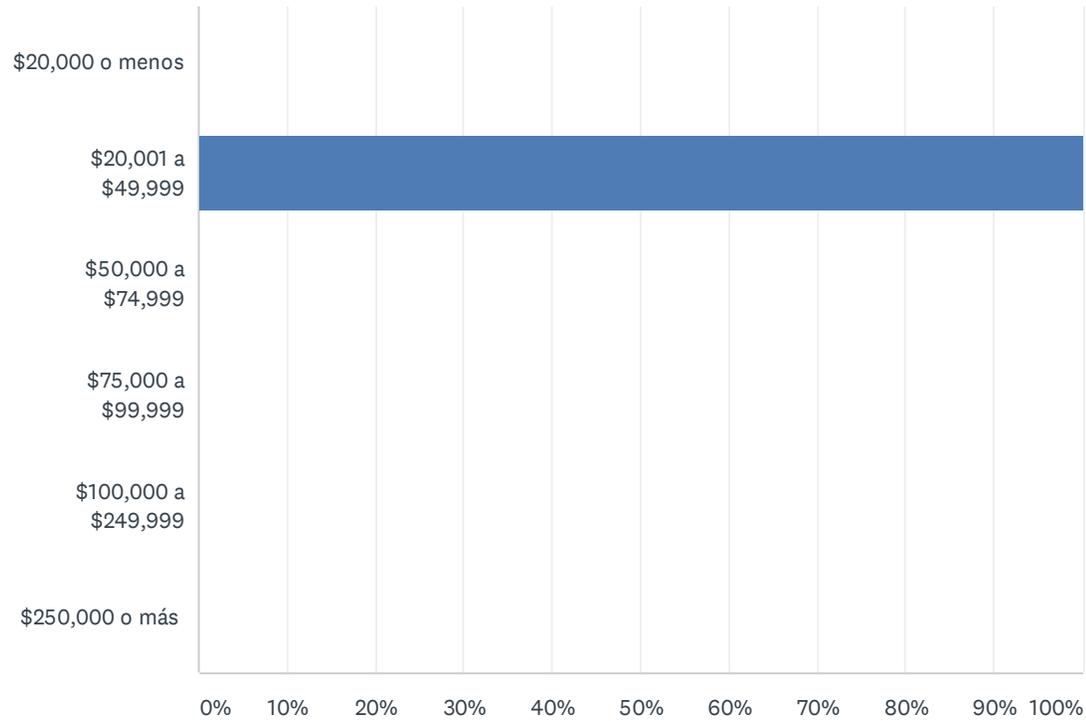
Answered: 5 Skipped: 0



ANSWER CHOICES	RESPONSES	
Dueño	80.00%	4
Alquilo	20.00%	1
TOTAL		5

## Q27 ¿Cuánto es el ingreso bruto de su hogar?

Answered: 5 Skipped: 0



ANSWER CHOICES	RESPONSES	
\$20,000 o menos	0.00%	0
\$20,001 a \$49,999	100.00%	5
\$50,000 a \$74,999	0.00%	0
\$75,000 a \$99,999	0.00%	0
\$100,000 a \$249,999	0.00%	0
\$250,000 o más	0.00%	0
TOTAL		5

## Q28 Comentarios

Answered: 0 Skipped: 5



**City and County of Los Angeles  
COMBINED SURVEY RESULTS**



NOTE: Orange cells denote a question or response that was not provided for the indicated survey.

	Survey			Total	
	City English	City Spanish	County	Count	Percent
<b>Q1 Which of the following steps has your household taken to prepare for a flood event?</b>					
<b>(Check all that apply)</b>					
Identified utility shutoffs	89	2	33	124	51.2%
Obtained Sand bags	14	2	18	34	14.0%
Prepared a disaster supply kit	77	1	33	111	45.9%
Identified evacuation routes	60	0	32	92	38.0%
Identified at least 2 methods for receiving emergency notifications and information during emergencies	53	4	19	76	31.4%
Stored food and water above potential flood levels	64	2	36	102	42.1%
Stored flashlights and batteries	114	11	44	169	69.8%
Stored a battery-powered radio	74	1	25	100	41.3%
Stored medical supplies (first aid kit, medications)	86	0	34	120	49.6%
Purchased flood insurance	18	2	22	42	17.4%
None	34	2	11	47	19.4%
Other (please specify)	8	0	6	14	5.8%
<b>Total Responses</b>	<b>167</b>	<b>5</b>	<b>70</b>		

<b>Q2 How prepared is your household to deal with a flood event?</b>					
Not at All Prepared	55	1	13	69	29.2%
Somewhat Prepared			19	19	8.1%
Adequately Prepared	65	3	23	91	38.6%
Well Prepared	19	0	7	26	11.0%
Very Well Prepared			5	5	2.1%
Not Sure	25	1		26	11.0%
<b>Total Responses</b>	<b>164</b>	<b>5</b>	<b>67</b>		

NOTE: Orange cells denote a question or response that was not provided for the indicated survey.

	Survey			Total	
	City English	City Spanish	County	Count	Percent
<b>Q3 Which of the following have provided you with useful information to help you be prepared for a flood event? (Check all that apply)</b>					
Emergency preparedness information from a government source (for example, federal, state, or local emergency man	73	5	14	92	38.8%
Personal experience with flood events	24	4	35	63	26.6%
Locally provided news or other media information	38	1	12	51	21.5%
Schools and other academic institutions	8	5	4	17	7.2%
Attended meetings that have dealt with flood preparedness	15	1	7	23	9.7%
Community Emergency Response Training (CERT)	27	0	10	37	15.6%
Faith-based institutions	5	1	1	7	3.0%
Homeowners Associations			4	4	1.7%
None	53	1	19	73	30.8%
Other (please specify)	16	0	4	20	8.4%
<b>Total Responses</b>	<b>164</b>	<b>5</b>	<b>68</b>	<b>237</b>	<b>1</b>

<b>Q4 Please indicate how you feel about the following statement: Information about the risks associated with flood hazards is readily available and easy to locate.</b>					
Stongly Disagree	50	1	3	54	23.4%
Somewhat Disagree			11	11	4.8%
Neither Agree nor Disagree	86	4	13	103	44.6%
Somewhat Agree			31	31	13.4%
Strongly Agree	26	0	6	32	13.9%
<b>Total Responses</b>	<b>162</b>	<b>5</b>	<b>64</b>		

NOTE: Orange cells denote a question or response that was not provided for the indicated survey.

	Survey			Total	
	City English	City Spanish	County	Count	Percent
<b>Q5 Chose up to 5 of the following methods do you think are most effective for providing flood hazard and disaster information?</b>					
Newspaper	45	1	17	63	25.7%
Informational Brochures	39	1	8	48	19.6%
City Newsletters	30	0	8	38	15.5%
Public Meetings	32	1	16	49	20.0%
Workshops	18	3	9	30	12.2%
Schools	22	3	7	32	13.1%
TV News	75	2	40	117	47.8%
TV Ads	31	1	5	37	15.1%
Radio News	43	1	30	74	30.2%
Radio Ads	25	0	13	38	15.5%
Internet	102	2	49	153	62.4%
Outdoor Advertisements	16	0	3	19	7.8%
Fire Department/Rescue	28	0	13	41	16.7%
Law Enforcement	14	0	7	21	8.6%
Faith-based Institutions	11	1	2	14	5.7%
Community Emergency Response Team (CERT) Classes	37	0	6	43	17.6%
Public Awareness Campaign (for example, Flood Awareness Week)	75	0	16	91	37.1%
Books	4	3	0	7	2.9%
Chamber of Commerce	12	0	2	14	5.7%
Academic Institutions	8	0	0	8	3.3%
Public Library	29	3	8	40	16.3%
Red Cross Information	23	1	2	26	10.6%
Community Safety Events	36	0	11	47	19.2%
Fair Booths	13	1	1	15	6.1%
Word of Mouth	21	4	15	40	16.3%
Social Media (Twitter, Facebook, etc.)	75	1	8	84	34.3%
Telephone Book			4	4	1.6%
Other (please specify)	10	0	3	13	5.3%
<b>Total Responses</b>	<b>168</b>	<b>5</b>	<b>72</b>		

NOTE: Orange cells denote a question or response that was not provided for the indicated survey.

	Survey			Total	
	City English	City Spanish	County	Count	Percent
<b>Q6 What method is best for you and your family to get time sensitive warning information or instructions for action?</b>					
Land-line telephone	22	3	14	39	16.0%
Cell phone	80	3	36	119	49.0%
Text messaging	122	2	53	177	72.8%
Email	56	1	37	94	38.7%
Radio	34	4	24	62	25.5%
TV	40	4	16	60	24.7%
Social network (Twitter, Facebook, etc.)	39	0	28	67	27.6%
Other (please specify)	0	0	1	1	0.4%
<b>Total Responses</b>	<b>166</b>	<b>5</b>	<b>72</b>		

<b>Q7 How concerned are you about the following flood related hazards in Los Angeles? (Check one response for each hazard)</b>					
<b>Climate Change Impacts</b>					
Not Concerned	30	1	24	55	22.7%
Somewhat Concerned			10	10	4.1%
Concerned	58	1	15	74	30.6%
Very Concerned	71	2	13	86	35.5%
Extremely Concerned			8	8	3.3%
Not Sure	8	1		9	3.7%
<b>Total Responses</b>	<b>167</b>	<b>5</b>	<b>70</b>		
<b>Groundwater Flooding</b>					
Not Concerned	53	1	32	86	35.8%
Somewhat Concerned			17	17	7.1%
Concerned	69	3	18	90	37.5%
Very Concerned	26	0	1	27	11.3%
Extremely Concerned			3	3	1.3%
Not Sure	16	1		17	7.1%
<b>Total Responses</b>	<b>164</b>	<b>5</b>	<b>71</b>		

NOTE: Orange cells denote a question or response that was not provided for the indicated survey.

	Survey			Total	
	City English	City Spanish	County	Count	Percent
<b>Coastal Flooding</b>					
Not Concerned	62	1	41	104	43.5%
Somewhat Concerned			14	14	5.9%
Concerned	57	1	11	69	28.9%
Very Concerned	37	2	3	42	17.6%
Extremely Concerned			1	1	0.4%
Not Sure	8	1		9	3.8%
<b>Total Responses</b>	<b>164</b>	<b>5</b>	<b>70</b>		
<b>Tsunami</b>					
Not Concerned	82	1	47	130	54.2%
Somewhat Concerned			9	9	3.8%
Concerned	54	2	8	64	26.7%
Very Concerned	20	1	5	26	10.8%
Extremely Concerned			1	1	0.4%
Not Sure	9	1		10	4.2%
<b>Total Responses</b>	<b>165</b>	<b>5</b>	<b>70</b>		
<b>River/Channel Migration</b>					
Not Concerned	68	2	32	102	42.7%
Somewhat Concerned			17	17	7.1%
Concerned	55	1	15	71	29.7%
Very Concerned	25	1	1	27	11.3%
Extremely Concerned			5	5	2.1%
Not Sure	16	1		17	7.1%
<b>Total Responses</b>	<b>164</b>	<b>5</b>	<b>70</b>		
<b>Streambank Erosion</b>					
Not Concerned	77	2	32	111	46.6%
Somewhat Concerned			15	15	6.3%
Concerned	41	2	14	57	23.9%
Very Concerned	23	0	6	29	12.2%
Extremely Concerned			4	4	1.7%
Not Sure	21	1		22	9.2%
<b>Total Responses</b>	<b>162</b>	<b>5</b>	<b>71</b>		

NOTE: Orange cells denote a question or response that was not provided for the indicated survey.

	Survey			Total	
	City English	City Spanish	County	Count	Percent
<b>Stormwater Flooding [Urban Flooding/Drainage Issues in County Survey]</b>					
Not Concerned	21	2	17	40	16.7%
Somewhat Concerned			13	13	5.4%
Concerned	76	1	18	95	39.7%
Very Concerned	58	1	14	73	30.5%
Extremely Concerned			8	8	3.3%
Not Sure	9	1		10	4.2%
<b>Total Responses</b>	<b>164</b>	<b>5</b>	<b>70</b>		
<b>Infrastructure Failure (pipes, tanks)</b>					
Not Concerned	14	1		15	8.9%
Somewhat Concerned				0	0.0%
Concerned	61	2		63	37.5%
Very Concerned	81	1		82	48.8%
Extremely Concerned				0	0.0%
Not Sure	7	1		8	4.8%
<b>Total Responses</b>	<b>163</b>	<b>5</b>			
<b>Post-Fire Mud/Debris Flow</b>					
Not Concerned	41	1	25	67	27.9%
Somewhat Concerned			14	14	5.8%
Concerned	53	1	15	69	28.8%
Very Concerned	60	2	6	68	28.3%
Extremely Concerned			11	11	4.6%
Not Sure	10	1		11	4.6%
<b>Total Responses</b>	<b>164</b>	<b>5</b>	<b>71</b>		
<b>Coastal Erosion</b>					
Not Concerned			38	38	54.3%
Somewhat Concerned			13	13	18.6%
Concerned			16	16	22.9%
Very Concerned			2	2	2.9%
Extremely Concerned			1	1	1.4%
<b>Total Responses</b>			<b>70</b>		

NOTE: Orange cells denote a question or response that was not provided for the indicated survey.

	Survey			Total	
	City English	City Spanish	County	Count	Percent
<b>Land Subsidence</b>					
Not Concerned			36	36	52.2%
Somewhat Concerned			16	16	23.2%
Concerned			11	11	15.9%
Very Concerned			5	5	7.2%
Extremely Concerned			1	1	1.4%
<b>Total Responses</b>			69		
<b>Mud-Flow Hazards</b>					
Not Concerned			23	23	32.4%
Somewhat Concerned			14	14	19.7%
Concerned			17	17	23.9%
Very Concerned			10	10	14.1%
Extremely Concerned			7	7	9.9%
<b>Total Responses</b>			71		
<b>Other</b>					
Not Concerned	13	0	0	13	26.0%
Somewhat Concerned			0	0	0.0%
Concerned	7	0	0	7	14.0%
Very Concerned	8	1	0	9	18.0%
Extremely Concerned			0	0	0.0%
Not Sure	20	1		21	42.0%
<b>Total Responses</b>	48	2	0		
<b>Q8 Do you have flood insurance?</b>					
Yes	26	1	24	51	21.3%
No	114	3	36	153	63.8%
Not Sure	25	1	10	36	15.0%
<b>Total Responses</b>	165	5	70		

NOTE: Orange cells denote a question or response that was not provided for the indicated survey.

	Survey			Total	
	City English	City Spanish	County	Count	Percent
<b>Q9 If you do not have flood insurance, what is the primary reason?</b>					
I don't need it/my property has never flooded	36	0	15	51	27.7%
Don't need it/ located on high ground	35	0	11	46	25.0%
It is too expensive	4	2	6	12	6.5%
Not familiar with it/don't know about it.	26	0	5	31	16.8%
Insurance company will not provide coverage	1	1	1	3	1.6%
My existing homeowners insurance provides coverage	12	0	0	12	6.5%
It is not worth it	3	2	1	6	3.3%
I have flooded before, so I did not think I qualified for coverage	1	0	1	2	1.1%
I believe it will affect the value of my property	0	0	0	0	0.0%
Other	16	0	5	21	11.4%
Flood Insurance does not provide enough coverage			0	0	0.0%
My existing renters insurance provides coverage			0	0	0.0%
I don't have a mortgage, my home is paid off			0	0	0.0%
<b>Total Responses</b>	<b>135</b>	<b>5</b>	<b>44</b>		

<b>Q10 If you have flood insurance, why did you purchase it?</b>					
I had to because I'm in a flood prone area	10	3		13	35.1%
I voluntarily chose to purchase it	22	2		24	64.9%
<b>Total Responses</b>	<b>32</b>	<b>5</b>			

**Q11 Please tell us why you voluntarily chose to purchase flood insurance, please tell us why.**

<b>Q12 Do you or did you have problems getting homeowners/renters insurance due to flood risk?</b>					
Yes	3	4		7	4.7%
No	103	0		103	69.1%
Not Sure	38	1		39	26.2%
<b>Total Responses</b>	<b>144</b>	<b>5</b>			

<b>Q13 When you moved into your home, did you consider the impact a flood could have on your home?</b>					
Yes	43	0	22	65	29.4%
No	107	5	32	144	65.2%
Not Sure	5	0	7	12	5.4%
<b>Total Responses</b>	<b>155</b>	<b>5</b>	<b>61</b>		

NOTE: Orange cells denote a question or response that was not provided for the indicated survey.



	Survey			Total	
	City English	City Spanish	County	Count	Percent

**Q14 Was the presence of a flood hazard disclosed to you by a real estate agent, seller, or landlord before you purchased or moved into your home?**

Yes	23	0	19	42	19.1%
No	112	4	32	148	67.3%
Not Sure	20	0	10	30	13.6%
<b>Total Responses</b>	<b>155</b>	<b>4</b>	<b>61</b>		

**Q15 Would the disclosure of the flood hazard have influenced your decision to buy or rent a home?**

Yes	86	5	32	123	55.4%
No	40	0	20	60	27.0%
Not Sure	28	0	11	39	17.6%
<b>Total Responses</b>	<b>154</b>	<b>5</b>	<b>63</b>		

**Q16 How much money would you be willing to spend to retrofit your home to reduce risks associated with flood disasters? (for example, by elevating a home above flood level, flood-proofing, building berms or floodwalls)**

\$10,000 or above	8	0	5	13	6.0%
\$5,000 to \$9,999	14	0	3	17	7.8%
\$1,000 to \$4,999	23	0	8	31	14.2%
Less than \$1,000	12	0	7	19	8.7%
Nothing	24	1	14	39	17.9%
Not Sure	49	1	23	73	33.5%
I do not own my home	23	3		26	11.9%
<b>Total Responses</b>	<b>153</b>	<b>5</b>	<b>60</b>		

NOTE: Orange cells denote a question or response that was not provided for the indicated survey.



	Survey			Total	
	City English	City Spanish	County	Count	Percent
<b>Q17 Which of the following incentives would encourage you to spend money to retrofit your home to protect against flood disasters? (Check all that apply)</b>					
Insurance premium discount	69	3	24	96	44.4%
Mortgage discount	45	2		47	21.8%
Low interest rate, home-improvement loan	38	2	13	53	24.5%
Grant funding	63	2	34	99	45.8%
None	20	1	13	34	15.7%
I do not own my home	28	1		29	13.4%
Other (please specify)	9	0	8	17	7.9%
<b>Total Responses</b>	<b>153</b>	<b>4</b>	<b>59</b>	<b>216</b>	<b>1</b>

<b>Q18 If your property were located in a designated "high flood hazard" area or had received repetitive damages from flood events, would you consider a "buyout" offered by a public agency?</b>					
Yes	84	4		88	55.7%
No	20	0		20	12.7%
Not Sure	49	1		50	31.6%
<b>Total Responses</b>	<b>153</b>	<b>5</b>			

<b>Q19 Do you support the regulation (restriction) of land uses within known, high risk, flood hazard areas?</b>					
Yes	117	5	34	156	71.2%
No	12	0	17	29	13.2%
Not Sure	26	0	8	34	15.5%
<b>Total Responses</b>	<b>155</b>	<b>5</b>	<b>59</b>		

<b>Q20 Are you aware of the current Floodplain Management Plan's programs and policies to reduce flooding hazards such as :The National Flood Insurance Program, Flood Alert/Warning, Disaster Assistance and grant programs?</b>					
Yes	53	3	10	66	30.0%
No	100	1	53	154	70.0%
<b>Total Responses</b>	<b>153</b>	<b>4</b>	<b>63</b>		

NOTE: Orange cells denote a question or response that was not provided for the indicated survey.



	Survey			Total	
	City English	City Spanish	County	Count	Percent

**Q21 Where in Los Angeles do you live? Please provide your zip code, nearest cross streets or neighborhood.**

**Q22 Do you live [COUNTY: or own a business] in a known floodplain or an area that has been subject to flooding?**

Yes	18	3	35	56	24.0%
No	83	1	30	114	48.9%
Not Sure	51	1	11	63	27.0%
<b>Total Responses</b>	<b>152</b>	<b>5</b>	<b>76</b>		

**Q23 Do you have any access or functional needs within your household that would require early warning or response during disasters?**

Yes	21	4	7	32	14.7%
No	132	1	52	185	85.3%
<b>Total Responses</b>	<b>153</b>	<b>5</b>	<b>59</b>		

**Q24 Would you like personnel from the City Emergency Management to contact you regarding your access and functional needs? If yes, please enter your contact information in the following text box.**

Yes	16	4		20	12.9%
No	84	1		85	54.8%
Not Applicable	50	0		50	32.3%
<b>Total Responses</b>	<b>150</b>	<b>5</b>			

**Q25 Please indicate the primary language spoken in your household.**

English	141	0		141	90.4%
Spanish	4	5		9	5.8%
Other Indo-European Languages	0	0		0	0.0%
Asian and Pacific Island Languages	3	0		3	1.9%
Other (please specify)	3	0		3	1.9%
<b>Total Responses</b>	<b>151</b>	<b>5</b>			

NOTE: Orange cells denote a question or response that was not provided for the indicated survey.

	Survey			Total	
	City English	City Spanish	County	Count	Percent
<b>Q26 Do you own or rent your place of residence?</b>					
Own	113	4	50	167	75.9%
Rent	37	1	15	53	24.1%
<b>Total Responses</b>	<b>150</b>	<b>5</b>	<b>65</b>		

<b>Q27 How much is your gross household income?</b>					
\$20,000 or less	10	0	2	12	6.1%
\$20,001 to \$49,999	13	5	8	26	13.3%
\$50,000 to \$74,999	14	0	8	22	11.2%
\$75,000 to \$99,999	19	0	10	29	14.8%
\$100,000 to \$249,999	60	0	22	82	41.8%
\$250,000 or more	17	0	6	23	11.7%
Prefer Not to Answer	0	0	2	2	1.0%
<b>Total Responses</b>	<b>133</b>	<b>5</b>	<b>58</b>		

**Q28 Comments**

<b>County Q2 If you answered yes to Question #1, is this property your home, residence or business?</b>					
Home or residence			34	34	63.0%
Business			3	3	5.6%
Not applicable			17	17	31.5%
<b>Total Responses</b>	<b>0</b>	<b>0</b>	<b>54</b>		

<b>County Q4 Do you have a mortgage on this property?</b>					
Yes			37	37	56.9%
Not applicable			28	28	43.1%
<b>Total Responses</b>	<b>0</b>	<b>0</b>	<b>65</b>		

<b>County Q5 How long have you lived or done business at that property?</b>					
Less than 1 year			3	3	4.7%
1 to 5 years			16	16	25.0%
6 to 10 years			16	16	25.0%
11 to 20 years			14	14	21.9%
More than 20 years			15	15	23.4%
<b>Total Responses</b>	<b>0</b>	<b>0</b>	<b>64</b>		

NOTE: Orange cells denote a question or response that was not provided for the indicated survey.

	Survey			Total	
	City English	City Spanish	County	Count	Percent

**County Q19 Do you support the preservation of natural land that contains a flood hazard?**

Do support - for all natural lands			34	34	57.6%
Do support - as long as it is not my property			17	17	28.8%
Do not support			8	8	13.6%
<b>Total Responses</b>	0	0	59		

**County Q20 What types of projects do you believe the County, State or Federal government agencies should consider to reduce damage and disruption from flooding?**

<b>Retrofit infrastructure, such as improving culverts, bridges, and local drainage.</b>					
High			43	43	71.7%
Medium			17	17	28.3%
Low			0	0	0.0%
<b>Total Responses</b>	0	0	60		
<b>Capital projects such as dams, levees, flood walls and drainage improvements.</b>					
High			31	31	50.8%
Medium			25	25	41.0%
Low			5	5	8.2%
<b>Total Responses</b>	0	0	61		
<b>Strengthen codes and regulations to include higher regulatory standards in flood hazard areas.</b>					
High			23	23	40.4%
Medium			17	17	29.8%
Low			17	17	29.8%
<b>Total Responses</b>	0	0	57		
<b>Acquire vulnerable properties and maintain as open space.</b>					
High			23	23	39.7%
Medium			16	16	27.6%
Low			19	19	32.8%
<b>Total Responses</b>	0	0	58		
<b>Assist vulnerable property owners with securing funding for mitigation.</b>					
High			22	22	37.9%
Medium			26	26	44.8%
Low			10	10	17.2%
<b>Total Responses</b>	0	0	58		

NOTE: Orange cells denote a question or response that was not provided for the indicated survey.

	Survey			Total	
	City English	City Spanish	County	Count	Percent
<b>Provide better information about flood risk to the public.</b>					
High			30	30	50.8%
Medium			21	21	35.6%
Low			8	8	13.6%
<b>Total Responses</b>	0	0	59		
<b>Projects that will mitigate future flood impacts caused by climate change</b>					
High			23	23	39.7%
Medium			22	22	37.9%
Low			13	13	22.4%
<b>Total Responses</b>	0	0	58		
<b>Other</b>					
High			6	6	31.6%
Medium			10	10	52.6%
Low			3	3	15.8%
<b>Total Responses</b>	0	0	19		

<b>County Q21 Please indicate how you feel about the following statement:It is the responsibility of government (local, state and federal) to provide education and awareness programs that promote actions by the community to reduce their exposure to the risks associated with flood hazards.</b>					
Strongly Disagree			4	4	6.6%
Somewhat Disagree			4	4	6.6%
Neither Agree or Disagree			8	8	13.1%
Somewhat Agree			26	26	42.6%
Strongly Agree			19	19	31.1%
<b>Total Responses</b>	0	0	61		

NOTE: Orange cells denote a question or response that was not provided for the indicated survey.

	Survey			Total	
	City English	City Spanish	County	Count	Percent
<b>County Q22 Please indicate how you feel about the following statement:It is my responsibility to educate myself and take actions that will reduce my exposure to the risks associated with flood hazards.</b>					
Strongly Disagree			4	4	6.6%
Somewhat Disagree			0	0	0.0%
Neither Agree or Disagree			6	6	9.8%
Somewhat Agree			24	24	39.3%
Strongly Agree			27	27	44.3%
<b>Total Responses</b>	<b>0</b>	<b>0</b>	<b>61</b>		

<b>County Q27 Please indicate your age range</b>					
Under 18			0	0	0.0%
18 to 30			7	7	11.5%
31 to 40			17	17	27.9%
41 to 50			8	8	13.1%
51 to 60			19	19	31.1%
61 or older			10	10	16.4%
<b>Total Responses</b>	<b>0</b>	<b>0</b>	<b>61</b>		

<b>County Q28 Please indicate your gender</b>					
Male			35	35	58.3%
Female			21	21	35.0%
Transgender Female			1	1	1.7%
Transgender Male			0	0	0.0%
Gender Variant/ Non-conforming			0	0	0.0%
Not Listed			0	0	0.0%
Prefer not to answer			3	3	5.0%
<b>Total Responses</b>	<b>0</b>	<b>0</b>	<b>60</b>		

NOTE: Orange cells denote a question or response that was not provided for the indicated survey.

	Survey			Total	
	City English	City Spanish	County	Count	Percent
<b>County Q29 Please indicate your highest level of education</b>					
Grade school/No schooling			1	1	1.7%
Some high school			1	1	1.7%
High school graduate/GED			8	8	13.3%
Some college/Trade school			15	15	25.0%
College degree			19	19	31.7%
Graduate degree			16	16	26.7%
Other (please specify)			0	0	0.0%
<b>Total Responses</b>	<b>0</b>	<b>0</b>	<b>60</b>		

**Steering Committee Meetings  
AGENDAS AND SUMMARIES**





**City of Los Angeles**  
**Floodplain Management Plan Revision**  
Steering Committee (SC) Kick-Off Meeting  
Wednesday, July 24, 2019  
9:30 a.m. – 11:30 a.m.  
500 E. Temple Street, Los Angeles, CA 90012  
Training Conference Room #157

Call-in Number: 1-800-523-8437 Conference ID: 6895 8471 58 #

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### **Welcome and Introductions**

- Group Introductions
- Review Agenda

### **Project Overview**

#### **Workplan**

1. Organize Resources
2. Risk Assessment
3. Public Information
4. Goal Setting
5. Plan Maintenance
6. Plan Development
7. Plan Submittal and Adoption

#### **Timeline**

#### **Important Milestones**

#### **The Steering Committee Charter**

- SC Role
- SC Chair and Vice-Chair
- SC Quorum
- SC Decision Making
- Public Involvement
- Meeting Date and Time
- Public Involvement
- Courtesy

#### **Plan Review**

- Review Existing FMP, HMP and Safety Element of General Plan

#### **Public Outreach**

- Public Engagement Meetings
- Additional Outreach Capabilities

#### **Action Items and Next Steps**

#### **Adjourn**



**City of Los Angeles**  
**Floodplain Management Plan Revision**  
Steering Committee (SC) Kick-Off Meeting  
Wednesday, July 24, 2019  
9:30 a.m. – 11:30 a.m.  
500 E. Temple Street, Los Angeles, CA 90012  
Training Conference Room #157

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The 2015 SC identified a mission statement, goals and objectives for the FMP. These planning components all directly support one another. Goals were selected that support the mission statement, and objectives were identified that fulfill multiple goals. Mitigation initiatives were identified that achieve multiple objectives.

### **Mission Statement**

Through partnerships and careful planning, identify and reduce flood hazards to protect the health, safety, quality of life, environment, and economy of the City of Los Angeles.

### **Goals**

1. Protect life.
2. Protect property.
3. Increase resilience of critical facilities and infrastructure.
4. Increase public awareness.
5. Pursue cost-effective and environmentally sound mitigation measures.
6. Coordinate with other programs that can support or enhance flood mitigation

### **Objectives**

1. Provide, improve and maintain flood protection.
2. Use the best available data, science and technologies to improve understanding of the locations and potential impacts of flood hazards, the vulnerability of building types and community development patterns, and the measures needed to protect life and safety.
3. Minimize the impacts of flood hazards on current and future land uses through implementation of appropriate codes, standards, and ordinances.
4. Retrofit, purchase, and relocate structures that are in flood hazard areas, especially those known to be repetitively damaged.
5. Maintain or enhance early warning emergency response systems, evacuation procedures, training and equipment.
6. Increase resilience and continuity of operations of critical facilities and infrastructure.
7. Pursue effective and efficient approaches to reducing stormwater runoff, protecting water quality and water resources.
8. Increase public awareness of existing flood risks and the means to reduce these risks by conducting educational and outreach programs.
9. Encourage and support leadership within the private sector, nonprofit agencies and community-based organizations to promote and implement local flood hazard mitigation activities.
10. Review future effects of global climate change on flood risks.



**City of Los Angeles Bureau of Engineering**  
**2020 Floodplain Management Plan Revision**  
 Steering Committee Meeting #1  
 Tuesday, July 24, 2019, 9:30 a.m. to 11:30 p.m.



**Meeting Participants**

1. Government	Frazier, Quentin	Port of Los Angeles
Government	Reed, Lynette	Alternate, Port of Los Angeles
2. Government	Gross, Aaron	Chief Resiliency Officer-Mayor's Ofc.
3. Government	Affeldt, Michael	Director, LA RiverWorks – Mayor's Office
4. Government	Nepomuceno-Juacalla, Carolynn	<i>Alternate</i> -Department of Building and Safety
Government	Perez, Michael	<i>Alternate</i> -Department of Building and Safety
5. Government	Neville, Robert	<i>Alternate</i> , Los Angeles Police Department
6. Government	Ignatczyk, John	Los Angeles Fire Department
7. Government	Scaduto, Michael	<i>Alternate</i> -LA Sanitation & Environment
8. Government	Pijuan, Alen	<i>Alternate</i> -Emergency Management Department
9. Government	Pallini, Conni	Department of City Planning
Government	Phinouwong, Nina	<i>Alternate</i> -Department of City Planning
10. Government	Shu, Susan	Bureau of Engineering
Government	Lin, Chang	<i>Alternate</i> -Bureau of Engineering
11. Government	Tan, Emmanuel	Department of Water and Power
Government	Plumb, Cliff	<i>Alternate</i> -Department of Water and Power
Government	Hu, JianPing	<i>Alternate</i> -Department of Water and Power
Government (NV)	Bulkacz, Vanessa	Public Affairs, Department of Public Works
Government (NV)	Nemick, Mary	Bureau of Engineering Public Relations
1. Non-Government	Duong, Tina	<i>Alternate</i> -U.S. Army Corp of Engineers
2. Non-Government	Duboff, Jessica	Los Angeles Chamber
3. Non-Government	Ellis, Dr. Andre	CSULA Geosciences & Environment
4. Non-Government	Greenspan, Mike	Resident
5. Non-Government	McOmber, Britta	UCLA Luskin School of Public Affairs
6. Non-Government	Robinson, Prof. Alex	USC Landscape Architecture
7. Non-Government	Garcia-Ruiz, Joselito	<i>Alternate</i> -Red Cross of Greater Los Angeles
8. Non-Government	Wood, Patricia	Los Angeles County Flood Control District
Non-Government	Tran, Larry	<i>Alternate</i> -Los Angeles County Flood Control District
9. Non-Government	Mejia, Stephen	Friends of Los Angeles River
Non-Government	Gomez, Manny	<i>Alternate</i> -Friends of Los Angeles River
Non-Government	Griego, Liliana	<i>Alternate</i> -Friends of Los Angeles River
Public	Winter, Melanie	The River Project
Planning Team	Artz, Ira	Tetra Tech, Inc.
Planning Team	Davis, Denise	Tetra Tech, Inc.
Planning Team	Flaner, Rob	Tetra Tech, Inc.
Planning Team	Parker, Steve	Tetra Tech, Inc.
Planning Team	Cindy Suh	KPA
Planning Team	Lorena Hernandez	KPA



## Welcome and Introductions

Susan Shu, Bureau of Engineering, welcomed everyone to the meeting. Chang Lin is the Project Manager for this plan revision along with Tetra Tech, which is the consulting company performing the update. Chang and Susan will oversee the City's participation in the National Flood Insurance Program. The Steering Committee (SC) participated in self-introductions, along with SC members on the conference call. Rob Flaner with Tetra Tech will serve as the Lead Project Planner, was introduced and reviewed the agenda.

Rob said the SC will go through the agenda today, which will explain the SC's responsibilities throughout the project.

## Project Overview

Rob stated the objective of the revision process is to update the 2015 Floodplain Management Plan (FMP) and will follow an arduous process laid out by the Community Rating System (CRS). The CRS is within the National Flood Insurance Program (NFIP), sponsored by the Federal Emergency Management System (FEMA). It is a voluntary program put out by FEMA and is an incentive-based program. Communities that participate agree to do minimum floodplain management standards in exchange for the federal government making floodplain management insurance available in the FEMA identified floodplains.

Property owners that have a federally backed mortgage and live in a floodplain, or need disaster assistance after an emergency, are required to have flood insurance as a condition of the mortgage or disaster assistance. The CRS states if the City goes above and beyond the minimum standards of the program, property owners will be rewarded by a reduction in the cost of flood insurance in each participating community.

The City Los Angeles developed the first FMP in 2001. This will be the third iteration of the FMP. Developing the FMP is one of 19 ways to accrue points for the CRS program. The more points the City accrues in the different levels of classification, there is a corresponding insurance premium reduction. A lot of credit comes from this plan, driven by numerous other elements the City is getting credits for.

## Workplan

The workplan is tied to the CRS requirements and has a seven-phase scope of work which determines the process for this project. The project is very process oriented!

1. **Organize resources.** The SC will be providing oversight to the process to meet requirements of the CRS. The FMP will describe the work plan and process used to revise the previous plan. Each SC member has been handpicked to create the diversity needed for the makeup of the SC. Both government and non-government representatives are required to oversee the planning process. The Core Planning Team (CPT) is made up of City representatives and Tetra Tech. The CPT pre-determined a committee that has a 50/50 ratio of governmental to non-governmental members. Governmental members are associated with permit authority of the City of Los Angeles and have the ability to regulate codes and ordinances that are in effect in the city. Non-governmental members will not have any association with permit authority, even if working for a government agency, i.e., Army Corp of Engineers. Over the next six to nine months, we will be revising the plan, which all falls under organizing resources.
2. **Risk assessment.** The risk assessment is the "hub of the wheel." It is the most important part of the plan. A comprehensive assessment will be conducted on flooding from the varying sources within the city to see if the risk has changed. A comparative analysis will be done to determine not only what has changed but why it has changed. Risk cannot be reduced if we don't know



what the risk is. The risk assessment will also include an enhanced look at the repetitive flood loss properties in the city. Repetitive loss is distinctly defined by FEMA. Certain properties within the city have been identified based on their flood loss history. If a property owner has had two or more claims of more than \$1,000 paid by the NFIP within a ten-year period, their property is identified as being a repetitive loss property. This plan's risk assessment will look at where those properties are and why they are getting repetitive claims.

3. **Public information.** This phase includes outreach to the public to fulfill CRS mandates that all phases of the plan development are open to the public. Today's meeting was not advertised as a public meeting because we are organizing the planning process, but all subsequent SC meetings will be advertised and open to the public. Typically, not many public members attend the meetings, but it is possible, and we encourage it. The public will be specifically engaged on two occasions; the first early in the process to engage the public perceptions of the flood risk, and the second is later toward the end of the process when we present the draft plan. The SC will develop a public outreach strategy as we are updating this plan.
4. **Goal setting.** The plan has a mission statement, goals and objectives. The SC will look at these to determine if they are still current or need to be revised. Resilience is a new buzz word for goals and objectives. FEMA's definition of resilience is not well defined.
5. **Plan maintenance.** CRS requires a dynamic plan. The City must conduct progress reporting during the plan's five-year cycle to maintain the plan. The SC could be convened to review the FMP and make recommendations once the City determines how it's going to review the plan each year and make recommendations. We may conduct an enhanced look at repetitive loss properties this time around.
6. **Plan development.** During this phase the plan will be assembled and go through a series of reviews. The first will be an internal review by the SC as the oversight committee. The SC will provide advice on any changes, additions or deletions that you would like to see. The City will also conduct an internal review and once approved, the draft is made available to the public for review. We have to have an extensive public engagement process with the draft plan for the minimum two-week public comment period.
7. **Plan submittal and adoption.** Finally, we submit the plan, first to the State of California Office of Emergency Services, and then to the Insurance Services Office (ISO), the program coordination contractor that administers the program for FEMA. The ISO assigns a technical reviewer to conduct a technical review as it pertains to CRS. Tetra Tech will fill out a crosswalk and provide the ten steps and the elements for the review. CRS classification breaks are 500 points per class. The maximum points you can get for this plan is 500 points.

This is what we want to do to have a draft plan ready for the political process and adoption by late spring, 2020. For the next nine to twelve months, you will be actively involved in this process. When we set up the charter today and set up a standard meeting date and time, the CPT will present you with factors that we need to address and milestones that we need to complete. You will develop a charter to facilitate the method to make these decisions.

### Timeline

Rob stated the City would like to submit the plan in early March of 2020. The City is having an audit and would like to get the plan submitted prior to the audit. Once the plan is submitted, it could take several



months for the approval process. With a March submittal, the approval and adoption of the plan could be in June or July of 2020, long before the 2015 FMP expires in October 2020.

### **Important Milestones**

Important milestones include the risk assessment to see if the flood risk has changed. I can tell you (Rob indicated) that the flood risk always changes. Risk is defined as probability times impact. The impacts are on people, property, the economy and the environment. Impacts are measured by the monetary value, i.e., if your monetary value increases your risk increases. Just by the nature of property values increasing in the last five years, our risk has increased. There also could be new hazard data that shows new buildings are at risk. We will look to see if the flood risk is deeper, or more intense, at the impact from climate change and sea level rise. We have a lot of new data sets that we can say with this newer data, the flood risk has changed. And that is one of the required components. We have to quantify that change and explain why. The important milestones are: (1) the risk assessment, which will determine when we can do the first phase of the outreach; (2) which data we want to share with the public first to receive input from the public; (3) determine if the goals and objectives are appropriate based on the risk; (4) assembling the draft plan and getting the draft to point where the SC feels it has all the proper components. This is the final milestone where we are ready to get the plan scored and reviewed; and then once that happens, the plan will go for adoption by the City.

### **Steering Committee Charter**

The next item on the agenda is development of a SC charter. The project needs to be organized and have a protocol to run the meetings. Public meetings and opportunities to attend meetings and workshops will be advertised to the entire community. A handout was provided to the attendees of the previous charter planning process.

**SC Role:** First thing on the charter is the SC's role. The SC is an advisory body, not a political body. The City is able to accept the direction of the SC or not. It is the City's choice. CRS wants all phases of the process to be open to the public.

**SC Chair and Vice Chair:** The SC needs to have a chair to assist in organizing the meetings, address the public, keep the meetings moving forward, and continue the discussion topics. The chair must be one of the SC members. Tetra Tech will provide agendas and meeting summaries. Aaron Gross, Chief Resiliency Officer in the Mayor's Office was elected to be the chair of the SC and accepted the nomination.

A vice-chair is needed in case the chair is not available. The vice-chair can be any person from the SC (not under the City member requirement). Rob asked if there was anyone in the room that would like to be designated as the vice-chair. Conni Pallini was nominated as the Vice Chair and accepted the nomination. Once the charter is finalized, it will be posted on the FMP website.

**Quorum:** A quorum needs to be established for the decision-making process. Typically, a quorum would be fifty percent plus one of the voting members. We have to be able to make sure we can get ten voting members at each meeting (between five and eight meetings). We can choose a lower number if the SC agrees to. Does the SC think we can meet the requirement, or do we need to lower the quorum number? The SC agreed that 50%+1 was acceptable. Alternates can also be used as voting members. Alternates can either be completely interchangeable or acting as a proxy. A SC member and associated alternatives only receive one vote (ie. one vote per represented organization). If a SC member has multiple alternates, they should be kept apprised of issues and the direction of the SC so they can be familiar enough to confidently vote if necessary. All SC members, primary and alternates, will be sent the meeting information and notices to keep them abreast of what is going on throughout the process.



There was a recommendation made from the Friends of the Los Angeles River that a representative from The River Project be added to the SC. Rob stated the SC had been set by the City and there were no more representatives needed. However, the Chair of the SC requested that the LA RiverWorks representative be changed from an Alternate of the Mayor’s Office to a Primary SC member. A vote was held in agreement, with an additional spot held open for a non-government SC member to be added that has been a pending request when a previous non-Governmental representative dropped out.

**Decision Making:** Decision making will be made through consensus first, and secondly through a majority vote. If an SC member has a dissenting opinion during a meeting, the opinion will be recorded in the summary. Rob asked if there were any issues with the voting procedures and there were none. All recommendations will be recorded in the meeting summaries and the summaries will be posted on the FMP website. Tetra Tech will try to create meeting summaries at least two weeks following the meeting. The summaries will go through an internal review by the CPT and once approved will be posted.

**Public Involvement:** The SC will need a spokesperson. Vanessa Bulkacz, Public Affairs, Department of Public Works, was asked if she would fill this position and she agreed. Vanessa will work with representatives from KPA, a consulting company contracted through the project to conduct public outreach for the project.

**Standard Meeting Date and Time:** A standard meeting date and time is needed for SC members and to advertise to the public on the website. The venue may need to change, depending on the availability of the room, dates and times. Rob stated generally the meetings are two hours. The second Thursday of every month from 9:30 a.m. to 11:30 a.m. was suggested. Rob stated that would be only a couple of weeks away. It was agreed the meetings will be on the second Thursday of every month from 9:30 a.m. to 11:30 a.m. with the next meeting on August 8, 2019.

**Meeting Attendance:** Attendance will be addressed if a member or alternate misses two consecutive meetings. If an SC member needs to miss a meeting, please arrange for an alternate to attend and let the City or Tetra Tech know that you are unable to attend. Rob stated the SC may meet for the next six to seven months and may skip the month of December. The target date to have the first draft of the plan is March of 2020.

**Public Involvement:** Rob stated the last item to cover is public involvement. We need to have the public comment protocol written in the charter, compliant with the Brown Act. This protocol should include when the public would speak, how much time would they get, etc. Rob asked if the City has a protocol for this that we could replicate. The City CPT members stated they would provide this and present it at the next meeting. Rob stated there will be a sign in sheet for public members as well.

**Courtesy:** Please give courtesy to each other and any public members during the meetings.

**Personal Contact Information:** The CPT has a roster of the steering committee with contact information. A list of SC member names and their department/organization title is in the charter. Is there anyone, including non-governmental members, who has a problem with having their name and department/organization contact information in the charter? No one replied they have a problem with that. SC members should update this information as needed.

### **Plan Review**

The SC will have homework to review the 2015 FMP mission statement, goals and objectives to make sure they are still relevant or need to be adjusted. Each SC member will be sent a link to the 2015 FMP on the City of Los Angeles Bureau of Engineering website to review prior to the next meeting. Familiarize yourself with the plan, the layout, the core capabilities, etc. The layout of the plan follows the CRS script,



but this is an update and we have the ability to change the format as needed. Please review the 2015 FMP prior to the next meeting.

### **Public Outreach**

Rob asked what is the best way to engage the community in the City of Los Angeles? We will be discussing that at the next meeting so please give that some thought. KLCS, an LA PBS station, and LA Cityview Channel 35, were mentioned as a way to reach the public. Discussion about outreach included a press release and getting the FMP website up as soon as possible. Rob stated next meeting the SC will lock down the public engagement strategy. Rob mentioned the company KPA has been contracted to provide outreach messaging and strategies for the project.

### **Action Items**

- The SC Charter will be carried over to the next meeting to complete pending discussion on the make-up of the SC.
- There will be an attempt to post SC meeting summaries two weeks after each meeting.
- SC Meetings will take place on the second Thursday of each month from 9:30 a.m. to 11:30 a.m. The meeting location is to be determined. The next SC meeting will be August 8, 2019.
- SC Members to will be sent the link to the Bureau of Engineering FMP webpage to review the 2015 FMP prior to the next meeting.
- SC members should designate any additional alternates as soon as possible.

### **Next Meeting Date**

- The next SC meeting date will be August 8, 2019 9:30 a.m. to 11:30 a.m. A meeting invitation will be sent to the SC with the meeting location and agenda (agenda sent prior to the meeting).

### **Adjourn**

The meeting adjourned at 11:30 a.m.



**City of Los Angeles**  
**Floodplain Management Plan Revision**  
Steering Committee (SC) Kick-Off Meeting  
Thursday, August 8, 2019  
9:30 a.m. – 11:30 a.m.  
500 E. Temple Street, Los Angeles, CA 90012  
Training Conference Room #157

Call-in Number: 1-800-523-8437 Conference ID: 7432998389

**Steering Committee Chair:** Aaron Gross, Chief Resiliency Officer of the City of Los Angeles

**Steering Committee Vice-Chair:** Conni Pallini of The Department of City Planning

**City Project Manager:** Chang Lin, Bureau of Engineering, Department of Public Works

**Consultant Technical Lead:** Rob Flaner, Tetra Tech Inc.

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## Planning Process

- Welcome and Introductions
- Review Agenda
- Approve SC meeting #1 summary
- SC Final Roster
- Review/Approve final Charter
- Receive Public Comment

## New Business

- ***SC Homework-Prior Plan Review***
  - Plan review Comments. What did you like? What did you not like?
  - Review Table of contents for proposed plan
  - Review Prior Action Plan
  - Review progress report
  - Changes?
- ***Goal Setting***
  - Review Mission Statement
    - Changes?
  - Review Goals
    - Changes?
  - Review Objectives
    - Changes?
- ***Public Outreach Strategy***
  - The 2 phases of outreach, the CRS requirements
  - Review KPA proposed strategy
  - Additions, deletions, changes?
  - Additional Outreach Capabilities
- ***Action Items and Next Steps***
- ***Adjourn***
  - Next Meeting: September 12, 2019 9:30 a.m. – 11:30 a.m.



**City of Los Angeles Bureau of Engineering**  
**2020 Floodplain Management Plan Revision**  
 Steering Committee Meeting #2  
 Thursday, August 8, 2019, 9:30 a.m. to 11:30 a.m.



**Meeting Participants**

Government	Affeldt, Michael	Director, LA RiverWorks – Mayor's Office
Government (NV)	Bulkacz, Vanessa	Public Affairs, Department of Public Works
Government	Reed, Lynette	Alternate, Port of Los Angeles
Government	Gross, Aaron	Chief Resiliency Officer-Mayor's Ofc.
Government	John Campos	<i>Alternate</i> , Los Angeles Police Department
Government	Nepomuceno-Juacalla, Carolynn	<i>Alternate</i> -Department of Building and Safety
Government	Ignatczyk, John	City of Los Angeles Fire Department
Government	Orval Hernandez-Marcial	<i>Alternate</i> -LA Sanitation & Environment
Government	Munongo, Patrick	<i>Alternate</i> -Emergency Management Department
Government (NV)	Nemick, Mary	Bureau of Engineering
Government	Pallini, Conni	Department of City Planning
Government	Shu, Susan	Bureau of Engineering
Government	Lin, Chang	<i>Alternate</i> -Bureau of Engineering
Government	Le, Tuyen	<i>Alternate</i> -Bureau of Engineering
Government	Tan, Emmanuel	Department of Water and Power
Non-Government	Alexander, Desmian	USC Public Policy
Non-Government	Manny Gonez	Friends of the Los Angeles River
Non-Government	Duboff, Jessica	Los Angeles Chamber of Commerce
Non-Government	Ellis, Andre	CSULA Geosciences & Environment
Non-Government	Greenspan, Mike	Resident
Non-Government	McOمبر, Britta	UCLA Luskin School of Public Affairs
Non-Government	Rascon, Sarah	Mountains Recreation & Conservation Authority
Non-Government	Brian Baldauf	<i>Alternate</i> -Mountains Recreation & Conservation Authority
Non-Government	Robinson, Alex	USC Landscape Architecture
Non-Government	Underwood, Scott	Red Cross of Greater Los Angeles
Non-Government	Wood, Patricia	Los Angeles County Flood Control District
Non-Government	Tran, Larry	<i>Alternate</i> -Los Angeles County Flood Control District
PUBLIC		
Team Support	Artz, Ira	Tetra Tech, Inc.
Team Support	Flaner, Rob	Tetra Tech, Inc.
Team Support	Hernandez, Lorena	KPA
Team Support	Padilla, Katherine	KPA
Team Support	Parker, Steve	Tetra Tech, Inc.
Team Support	Schloss, Melissa	Tetra Tech, Inc.

(NV) = non-voting



## **Planning Process**

### **Welcome and Introductions**

Aaron Gross, Chief Resilience Officer welcomed attendees, and everyone introduced themselves.

### **Review Agenda**

Rob Flaner, Tetra Tech welcomed attendees and noted this is the first meeting to start the planning process and all upcoming agendas will be organized this way; New and Old Business. Rob introduced Melissa Schloss as the newest member of the Tetra Tech team to replace Denise Davis.

### **Approve SC Meeting #1 Summary**

Rob Flaner stated that the Mayor's office has reviewed and approved the Charter's roster. The City indicated that a few Alternates need to be edited.

### **Review/Approve Final Charter**

*MOTION by Michael Affeldt to approve the Steering Committee Charter and second by Aaron Gross. Motion carried unanimously.*

### **Receive Public Comment**

Rob Flaner asked members of the public if they wished to address the committee. No public comments were expressed.

## **New Business**

### **SC Homework-Prior Plan Review**

A SC member asked if the plan would include an internal document as well as an external (public facing) document as well as creating an add-on public comprehensive handbook as the executive summary and bookmarks and the SC agreed. A SC member suggested widening the flood mitigation action tables.

Rob Flaner noted the BAT Tool can be used to monitor the progress of the plan and action items and he will demonstrate how the BAT Tool works and will provide City Planning with access.

### **Review Table of Contents for Proposed Plan**

Rob Flaner stated that this FMP update will mirror the City's HMP since the two should work together. He also stated this FMP update can also be used as a functional annex to the City's next HMP update.

### **Review Prior Action Plan**

Rob Flaner stated that the SC needs to understand what priorities were set in the old plan so we have a starting point for the update. He also stated the RLAA will be a component for the 2020 plan as a functional annex



### **Mission Statement and Goal Setting**

Rob Flaner, Tetra Tech reviewed the previous FMP’s mission statement and the SC had a discussion on how to update it. The SC agreed on the following mission statement: “Improve community resilience to flood hazards and protect the health, safety, quality of life, environment and economy of the City of Los Angeles through partnerships and integrated planning.”

*MOTION by Michael Affeldt to approve the above mission statement and second by Conni Pallini. Motion carried unanimously.*

### **Review Goals and Objectives**

Rob Flaner, Tetra Tech reviewed the previous FMP’s goals and objectives and the SC had a long discussion on how to update them. Of note was whether to include “social equity” as a goal, which would necessitate a cascade through all of the objectives and subsequent action items, or to include it as an objective, to which certain action items would be impacted. Rob Flaner highly recommended putting social equity as an objective rather than a goal. After debate, the new Goals were finalized as follows:

1. Reduce flood risk.
2. Protect life.
3. Protect property.
4. Increase resilience of critical facilities and infrastructures.
5. Increase community awareness and public education.
6. Pursue cost effective, environmentally sound and multi-benefit mitigation measures.
7. Coordinate with other programs that can support or enhance flood mitigation.
8. Pursue social equity.

*MOTION by Manny Gomez to approve the above goals and second by Scott Underwood. Motion carried unanimously.*

Updating the objectives were tabled due to time and the SC was given homework: the generation of a matrix to cross reference the existing objectives to the goals, and potentially suggest new objectives to align with the new “social equity” goal.

### **Public Outreach Strategy**

Katherine Padilla of KPA, subcontractor for Tetra Tech presented the proposed outreach strategy. Approving the proposed outreach strategy was tabled due to time, and its review was given as homework to the SC.

### **Action Items and Next Steps**

Tetra Tech to provide the minutes of this meeting for SC review prior to the next meeting. SC to review the previous plans objectives (crosswalk them to the new goals) and proposed public outreach strategy and provide comments for the next meeting. Provide City Planning with access to BAT.

### **Adjourn**

Next Meeting: September 12, 2019 9:30 a.m. – 11:30 a.m.



**City of Los Angeles**  
**Floodplain Management Plan Revision**  
Steering Committee (SC) Meeting #3  
Thursday, September 12, 2019  
9:30 a.m. – 11:30 a.m. PT  
Red Cross Building (see map)  
1450 S Central Ave, Los Angeles, CA 90021

Call-in Number: 1-800-523-8437 Conference ID: 7432998389

**Steering Committee Chair:** Aaron Gross, Chief Resiliency Officer of the City of Los Angeles

**Steering Committee Vice-Chair:** Conni Pallini of The Department of City Planning

**City Project Manager:** Chang Lin, Bureau of Engineering, Department of Public Works

**Consultant Technical Lead:** Rob Flaner, Tetra Tech Inc.

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## Planning Process

- Welcome and Introductions
- Review Agenda
- Approve SC meeting #2 summary
- Receive Public Comment

## New Business

- ***SC Homework-Review Objectives***
  - Objectives Review-Finalization
- ***Critical Facilities/ Infrastructure***
  - FEMA's new BRIC initiative
    - What is a "lifeline"?
  - The 2015 Plan CF/CI definition
    - Confirm the definition for the 2020 plan
- ***Public Outreach Strategy***
  - The 2 phases of outreach, the CRS requirements
  - Review KPA proposed strategy
    - Additions, deletions, changes?
  - Additional Outreach Capabilities
- ***Action Items and Next Steps***
- ***Adjourn***
  - Next Meeting: October 10, 2019 9:30 a.m. – 11:30 a.m. location TBD



**City of Los Angeles Bureau of Engineering**  
**2020 Floodplain Management Plan Revision**  
 Steering Committee Meeting #3  
 Thursday, September 12, 2019, 9:30 a.m. to 11:30 a.m.



**Meeting Participants**

1. Government	Affeldt, Michael	Director, LA RiverWorks – Mayor's Office
2. Government (NV)	Bulkacz, Vanessa	Public Affairs, Department of Public Works
3. Government	Campos, John	<i>Alternate</i> , Los Angeles Police Department
Government	Galassi, Romano	<i>Alternate</i> -Bureau of Engineering
4. Government	Gross, Aaron	Chief Resiliency Officer-Mayor's Ofc.
5. Government	Hernandez-Marcial, Orval	<i>Alternate</i> -City of LA Sanitation
6. Government	Ignatczyk, John (P)	City of Los Angeles Fire Department
7. Government	Le, Tuyen	<i>Alternate</i> -Bureau of Engineering
Government	Mik, Lena	<i>Alternate</i> -Department of City Planning
8. Government	Nepomuceno-Juacalla,Carolynn (P)	<i>Alternate</i> -Department of Building and Safety
9. Government	Pallini-Tipton, Conni	Department of City Planning
Government	Phinouwong, Nina	<i>Alternate</i> -Department of City Planning
10. Government	Pijuan, Alen	City of Los Angeles Emergency Management Dept.
11. Government	Reed, Lynette	<i>Alternate</i> -Port of Los Angeles
1. Non-Government	Alexander, Desmian (P)	USC Public Policy
2. Non-Government	Duboff, Jessica (P)	Los Angeles Chamber of Commerce
3. Non-Government	Ellis, Andre (P)	CSULA Geosciences & Environment
4. Non-Government	Greenspan, Mike (P)	Resident
5. Non-Government	Griego, Liliana	<i>Alternate</i> -Friends of the Los Angeles River
6. Non-Government	McOmber, Britta (P)	UCLA Luskin School of Public Affairs
7. Non-Government	Miranda, Solomon	CA Department of Water REsources
8. Non-Government	Robinson, Alex (P)	USC Landscape Architecture
9. Non-Government	Underwood, Scott	Red Cross of Greater Los Angeles
10. Non-Government	Wood, Patricia (P)	Los Angeles County Flood Control District
Team Support	Artz, Ira	Tetra Tech, Inc.
Team Support	Flaner, Rob	Tetra Tech, Inc.
Team Support	Herrera, Thelma (P)	KPA
Team Support	Padilla, Katherine (P)	KPA
Team Support	Parker, Steve (P)	Tetra Tech, Inc.
Team Support	Schloss, Melissa (P)	Tetra Tech, Inc.

(NV) = non-voting

(P) = attendance by phone

**Planning Process**

**Welcome and Introductions**

Aaron Gross, Chief Resilience Officer welcomed attendees, and everyone introduced themselves.



### **Review Agenda**

Rob Flaner, Tetra Tech welcomed attendees and provided time for attendees to review the agenda and make any final edits. No edits were requested.

### **Approve SC Meeting #2 Summary**

Rob Flaner asked the SC if they had any edits to the August 8, 2019 meeting summary. An edit to the spelling of Mr. Gonez’s name was requested.

*MOTION by Scott Underwood to approve the August 8, 2019 meeting summary with the abovementioned edit and second by Conni Pallini-Tipton. Motion carried unanimously.*

### **Receive Public Comment**

Rob Flaner asked members of the public if they wished to address the committee. No public comments were expressed.

### **New Business**

#### **SC Homework- Review Objectives**

Rob Flaner reviewed the goals that were finalized at the August 8, 2019 SC meeting. Aaron Gross stated that the eighth goal, “Pursue social equity” would be moved to be an objective to make it more of a measurable component rather than an over-arching impact on other plans the City has/will create(d).

The SC had a great discussion about editing the objectives. Romano Galissi noted that repetitive loss properties tend to be of high value hillside dwellings. Aaron Gross suggested to add a vulnerability factor to the objectives. A suggestion was made to add an 11<sup>th</sup> objective to read, “Minimize adverse impacts from flood risk to vulnerable communities.”

*MOTION by Michael Affeldt to remove goal eight and add an 11<sup>th</sup> objective to read, “Minimize adverse impacts from flood risk to vulnerable communities” second by Conni Pallini-Tipton. Motion carried unanimously.*

A suggestion was made to edit objective #10 to read, “Anticipate and minimize effects of climate change on flood risk.”

*MOTION by Lynette Reed to approve the objectives with the abovementioned edit and second by Solomon Miranda. Motion carried unanimously.*

#### **Critical Facilities/Infrastructure**

Rob Flaner explained FEMA’s new BRIC (Building Resilient Infrastructure and Communities) initiative and discussed how it is replacing the PDM (Pre-Disaster Mitigation) grant. He reviewed the handout containing the critical facilities / infrastructure definition that was used in the 2015 plan and asked the SC if they’d like to make any updates to it.

Rob Flaner explained it would be in the city’s best interest to include a definition of critical facilities / infrastructure as it pertains to each of the BRIC program’s seven lifelines as it would expand applicability of BRIC funding in the future.



The SC decided to table approval of the critical facilities/ infrastructure definition until the next meeting. Tetra Tech will amend the critical facilities/ infrastructure definition to make one categorical bullet for each of the seven BRIC lifelines and present recommendations at the next meeting.

### **Public Outreach Strategy**

Rob Flaner explained the outreach strategy as presented at the last meeting. Great discussion was had about the location and date to hold the first public outreach meeting. The SC agreed it would be best to tag-along to an existing public outreach function, in order to maximize the number of outreach participants.

Potential venues discussed included: the City's P-22 Day, using RYLAN (Ready Your LA Neighborhood) service, La Tuna Community evacuation event or the event for Franklin Canyon. Katherine Padilla and Scott Underwood to follow up with Tetra Tech on City events going on in the near future.

### **Action Items and Next Steps**

- Tetra Tech to edit the August 8, 2019 Summary to correct the spelling of Mr. Gonez's name.
- Tetra Tech will amend the critical facilities/infrastructure definition to make one categorical bullet for each of the seven BRIC lifelines and present recommendations at the next meeting.
- Tetra Tech to work with the SC to book the first public outreach event.
- Tetra Tech to provide the minutes of this meeting for SC review prior to the next meeting.

### **Adjourn**

Next Meeting: October 10, 2019 9:30 a.m. – 11:30 a.m. Location TBD.



**City of Los Angeles**  
**Floodplain Management Plan Revision**  
Steering Committee (SC) Meeting #4  
Thursday, October 10, 2019  
9:30 a.m. – 11:30 a.m. PT  
Red Cross Building (see map)  
1450 S Central Ave, Los Angeles, CA 90021

Call-in Number: 1-800-523-8437 Conference ID: 6893848651

**Steering Committee Chair:** Aaron Gross, Chief Resiliency Officer of the City of Los Angeles

**Steering Committee Vice-Chair:** Conni Pallini of The Department of City Planning

**City Project Manager:** Chang Lin, Bureau of Engineering, Department of Public Works

**Consultant Technical Lead:** Rob Flaner, Tetra Tech Inc.

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## Planning Process

- Welcome and Introductions
- Review Agenda
- Approve SC meeting #3 summary
- Receive Public Comment
- Repetitive Loss Update- Tony Subbio

## New Business

- ***Risk Assessment Update***
  - Hazard area maps
  - GBS Status report
- ***Critical Facilities/ Infrastructure***
  - Critical Facilities/ Infrastructure (CF/CI) definition finalization
- ***Public Outreach Strategy***
  - Survey Update
  - First Public Outreach Meeting
    - P-22 Day Festival 10/19 at Griffith Park
  - Phase 2 outreach
    - Website
    - Survey
    - 2<sup>nd</sup> Public Meeting-When, Where?
- ***Action Items and Next Steps***
- ***Adjourn***
  - Next Meeting: November 14, 2019 9:30 a.m. – 11:30 a.m. location TBD



Park in Lot Facing Central Avenue, turn onto Newton to access Parking (see photos below).

Red Cross Facility  
1450 S Central Ave,  
Los Angeles, CA 90021  
(Turn onto Newton,  
Blue Building: 1320)





**City of Los Angeles Bureau of Engineering**  
**2020 Floodplain Management Plan Revision**  
 Steering Committee Meeting #4  
 Thursday, October 10, 2019, 9:30 a.m. to 11:40 a.m. PT



**Meeting Participants**

Government	Affeldt, Michael	Director, LA RiverWorks – Mayor's Office
1. Government (NV)	Bulkacz, Vanessa	Public Affairs, Department of Public Works
2. Government	Burton, Anna	Port of Los Angeles
Government	Campos, John	<i>Alternate</i> , Los Angeles Police Department
Government	Chen, Caroline	City of Los Angeles Planning Department
3. Government	Galassi, Romano	<i>Alternate</i> -Bureau of Engineering
4. Government	Gathuka, Bryan	<i>Alternate</i> -Bureau of Engineering
5. Government	Gross, Aaron	Chief Resiliency Officer-Mayor's Ofc.
Government	Hammett, Mike	Los Angeles Police Department
Government	Hernandez-Marcial, Orval	<i>Alternate</i> -City of LA Sanitation
Government	Hom, Japhet	<i>Alternate</i> - Los Angeles Police Department
Government	Hu, JianPing	<i>Alternate</i> - Department of Water and Power
Government	Huynh, Charmie	Department of Building and Safety
Government	Ignatczyk, John	City of Los Angeles Fire Department
Government	Kharaghani, Shahram	Los Angeles Sanitation & Environment
Government	Le, Tuyen	<i>Alternate</i> -Bureau of Engineering
Government	Lin, Chang-Shien	<i>Alternate</i> - Bureau of Engineering
Government	McDowell, Jennifer	<i>Alternate</i> - Mayor's Office- LA RiverWorks
6. Government	Maesami, Ida	Los Angeles Sanitation & Environment
Government	Mik, Lena	<i>Alternate</i> -Department of City Planning
Government	Munongo, Patrick	<i>Alternate</i> - Emergency Management Department
Government (NV)	Nemick, Mary	City of Los Angeles Bureau of Engineering
7. Government	Nepomuceno-Juacalla, Carolyn (P)	<i>Alternate</i> -Department of Building and Safety
8. Government	Pallini-Tipton, Conni	Department of City Planning
Government	Perez, Michael	<i>Alternate</i> - Department of Building and Safety
9. Government	Phinouwong, Nina	<i>Alternate</i> -Department of City Planning
10. Government	Pijuan, Alen	City of Los Angeles Emergency Management Dept.
11. Government	Plumb, Cliff	Department of Water and Power
Government	Reed, Lynette	<i>Alternate</i> -Port of Los Angeles
Government (NV)	Santo-Domingo, Cathie	Los Angeles Recreation and Parks
Government	Scaduto, Michael	<i>Alternate</i> - Los Angeles Sanitation & Environment
Government	Shu, Susan	City of Los Angeles Bureau of Engineering
12. Government	Tan, Emmanuel	Department of Water and Power
Government	Wall, Brian	City of Los Angeles Fire Department
1. Non-Government	Alexander, Desmian (P)	USC Public Policy
2. Non-Government	Asuncion, Kendal (P)	Los Angeles Chamber of Commerce
3. Non-Government	Baldauf, Brian	<i>Alternate</i> - Mountain Recreation & Conservation Authority
Non-Government	Demesa, Ed	U.S. Army Corps of Engineers



Non-Government	Ellis, Andre	CSULA Geosciences & Environment
4. Non-Government	Garcia-Ruiz, Joselito	<i>Alternate</i> - Red Cross of Greater Los Angeles
Non-Government	Gonez, Manny	Friends of the Los Angeles River
5. Non-Government	Greenspan, Mike (P)	Resident
Non-Government	Griego, Liliana	<i>Alternate</i> -Friends of the Los Angeles River
6. Non-Government	McOmber, Britta (P)	UCLA Luskin School of Public Affairs
7. Non-Government	Miranda, Solomon (P)	CA Department of Water Resources
Non-Government	Rascon, Sarah	Mountains Recreation & Conservation Authority
8. Non-Government	Robinson, Alex (P)	USC Landscape Architecture
Non-Government	Tran, Larry	<i>Alternate</i> - Los Angeles County Flood Control District
9. Non-Government	Underwood, Scott	Red Cross of Greater Los Angeles
Non-Government	Vivanti, John	<i>Alternate</i> - U.S. Army Corps of Engineers
10. Non-Government	Wood, Patricia	Los Angeles County Flood Control District
Team Support	Artz, Ira	Tetra Tech, Inc.
11. Team Support	Flaner, Rob	Tetra Tech, Inc.
Team Support	Hernandez, Lorena	KPA
Team Support	Herrera, Thelma	KPA
12. Team Support	Padilla, Katherine (P)	KPA
13. Team Support	Parker, Steve	Tetra Tech, Inc.
14. Team Support	Schloss, Melissa (P)	Tetra Tech, Inc.
15. Team Support	Subbio, Tony	Tetra Tech, Inc.
Team Support	Suh, Cindy	KPA

(NV) = non-voting

(P) = attendance by phone

### **Planning Process**

#### **Welcome and Introductions**

Aaron Gross, Chief Resilience Officer welcomed attendees, thanked American Red Cross for hosting the facility, and everyone introduced themselves.

#### **Review Agenda**

Rob Flaner, Tetra Tech welcomed attendees and provided time for attendees to review the agenda and make any final edits. No edits were requested.

#### **Approve SC Meeting #3 Summary**

Rob Flaner asked the SC if they had any edits to the September 12, 2019 meeting summary. An additional comment from Romano Galassi regarding conversation that Repetitive Loss (RL) properties tend to be of high value hillside dwellings was requested.

*MOTION by Aaron Gross to approve the September 12, 2019 meeting summary with the abovementioned edit and second by Conni Pallini-Tipton. Motion carried unanimously.*



### **Receive Public Comment**

Rob Flaner asked members of the public if they wished to address the committee. No public comments were expressed.

### **Repetitive Loss Update**

Rob Flaner introduced Tony Subbio as the Tetra Tech staff member leading the RLAA effort.

### **New Business**

#### **Risk Assessment Update**

##### **Hazard Area Maps**

Rob Flaner explained that this plan is utilizing LiDAR mapping data at three-foot resolution to create the depth grids. Rob discussed this data will output 10, 50, 100, and 500-year flood events where data is available.

##### **GBS Status Report**

Rob Flaner explained that Tetra Tech has 37,000 general building stock (GBS). He explained this data will be useful to the citizens of City of Los Angeles to understand how extensive flood risk can potentially be and how that can substantially impact them. Rob stated Tetra Tech will send data to the SC to review for the next meeting.

Discussion was had about the ongoing 51-mile master plan for the LA River and whether the existing condition models for that effort can be utilized for additional depth grid mapping. Tetra Tech to look into potentially using that data for this Plan.

##### **Critical Facilities/Infrastructure**

Rob Flaner explained it would be in the city's best interest to include a definition of critical facilities / infrastructure as it pertains to each of the BRIC program's seven lifelines as it would expand applicability of BRIC funding in the future.

The SC discussed the pros and cons to incorporating BRIC initiatives and its alignment with resilience into the critical facilities / infrastructure definition.

The SC agreed upon the following critical facilities / infrastructure definition:

A structure or other improvement that, because of its function, size, service area, or uniqueness, provides indispensable service that enables the continuous operation of critical business and government functions, and is critical to human health and safety, or economic security. For the purposes of this floodplain management plan, the following categories of lifelines are defined as critical facilities:

1. **Safety and Security:** Law Enforcement/Security, Search and Rescue, Fire Services, Government Service, Responder Safety, and Imminent Hazard Mitigation
2. **Food, Water and Sheltering:** Evacuations, Schools, Food/Potable Water, Shelter, Durable Goods, Water Infrastructure, and Agriculture
3. **Health and Medical:** Medical Care/Hospitals: Patient Movement, Public Health, Fatality Management, Health Care, and Supply Chain
4. **Energy:** Power (Grid), Temporary Power and Fuel



5. **Communications:** Infrastructure, Alerts, Warnings, Messages, 911 and Dispatch, Responder Communications and Financial Services
6. **Transportation:** Highway/Roadway, Mass Transit, Railway, Aviation, Maritime and Pipeline
7. **Hazardous Materials:** Facilities, Hazardous Debris, Pollutants and Contaminants

*MOTION by Aaron Gross to approve the critical facilities / infrastructure definition and second by Cliff Plumb. Motion carried unanimously.*

## **Public Outreach Strategy**

### **Survey Update**

Rob Flaner announced the first public outreach event will be the City's P-22 Day on October 19, 2019 at Griffith Park from 11:00 a.m. to 4:00 p.m. (set up at 9:00 a.m.).

The SC reviewed the public outreach survey that was used in the last FMP cycle and discussed updates:

- Change the word, "citizen" to "resident" throughout.
- #6: add a box about post-fire flood conditions and change language from, "flood" to "flood and debris flows" and reduce the number of answer options.
- #8 will activate if the respondent answers "yes" to #7, which will then activate #9.
- Delete the word bank box underneath question #24 indicating City plans the respondent may be aware of.
- Delete #19, 20, 21, 23, 27, 30, 32, 33, 34, 37
- Move #22 to #3
- Strike the word, "special" from #28 add the activation feature to it.
- #29: change the word "district" to "City Emergency Management"

Rob Flaner will make the suggested edits to the survey and send out to the SC before the first public outreach meeting.

### **First Public Outreach Meeting**

The first Public Outreach Meeting will be held Saturday, October 19 at Griffith Park for P-22 Day from 11:00 a.m. to 4:00 p.m. with set up beginning at 9:00 a.m.

### **Phase 2 Outreach**

This section of the agenda was not discussed due to time constraints.

### **Action Items and Next Steps**

- Tetra Tech to edit the September 12, 2019 Summary.
- Tetra Tech to revise the public outreach survey and send to SC for one more review prior to use at the Public Outreach meeting.
- Tetra Tech to review 51-mile LA River data for potential plan incorporation.
- Tetra Tech to provide the minutes of this meeting for SC review prior to the next meeting.

### **Adjourn**

Next Meeting: November 14, 2019 9:30 a.m. – 11:30 a.m. at American Red Cross.

*MOTION by Cliff Plumb and second by Conni Pallini-Tipton to adjourn. Motion carried unanimously.*



**City of Los Angeles**  
**Floodplain Management Plan Revision**  
Steering Committee (SC) Meeting #5  
Thursday, November 14, 2019  
9:30 a.m. – 11:30 a.m. PT  
Red Cross Building (see map)  
1450 S Central Ave, Los Angeles, CA 90021

Call-in Number: 1-800-523-8437 Conference ID: 6893848651

**Steering Committee Chair:** Aaron Gross, Chief Resiliency Officer of the City of Los Angeles

**Steering Committee Vice-Chair:** Conni Pallini of The Department of City Planning

**City Project Manager:** Chang Lin, Bureau of Engineering, Department of Public Works

**Consultant Technical Lead:** Rob Flaner, Tetra Tech Inc.

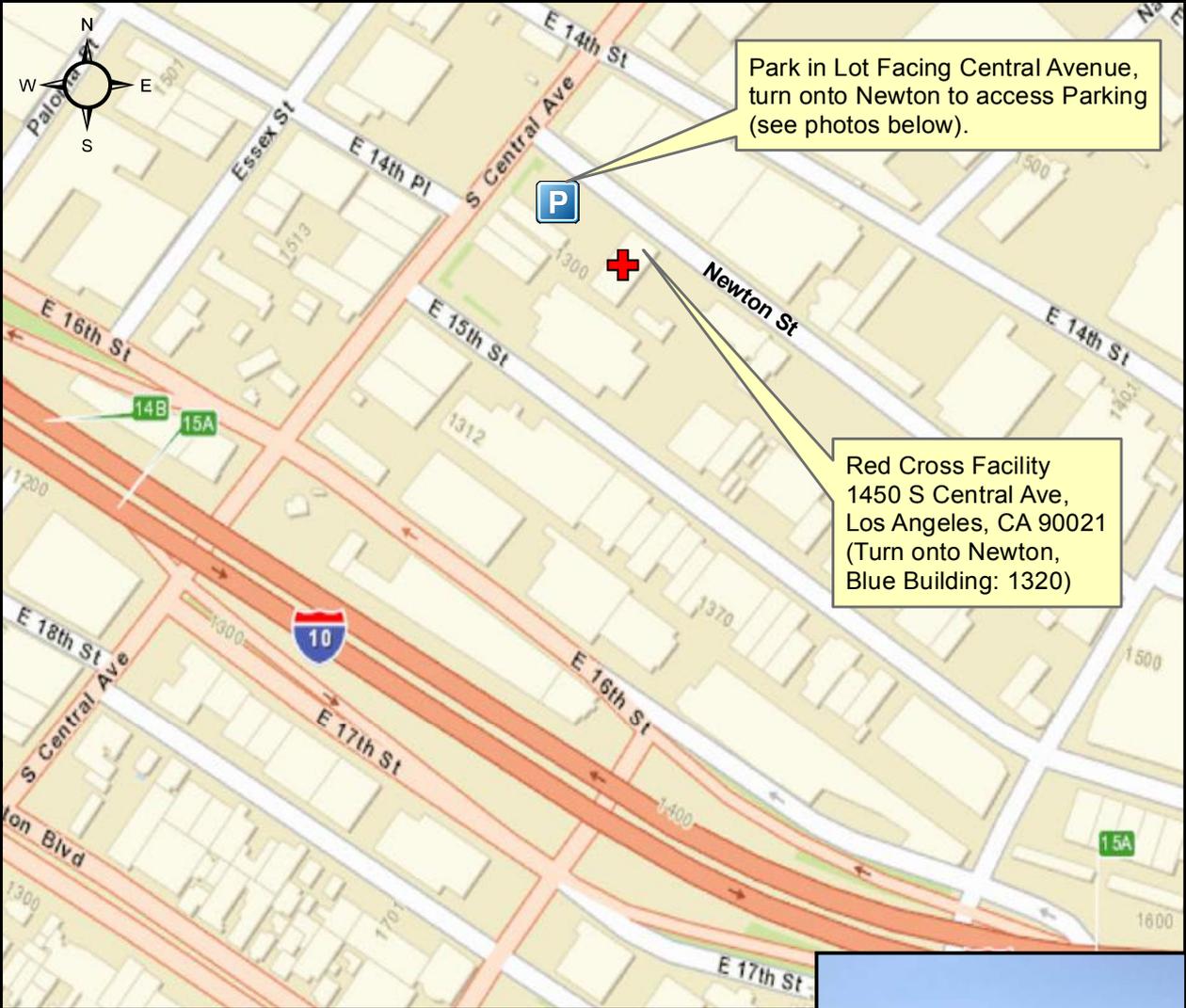
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## Planning Process

- Welcome and Introductions
- Review Agenda
- Approve SC meeting #4 summary
- Receive Public Comment

## New Business

- ***Core Capabilities Exercise***
- ***Public Outreach Strategy***
  - Survey Update
  - First Public Outreach Meeting P-22 Day Festival 10/19 at Griffith Park
    - What went well?
    - What should we do differently next time?
  - Phase 1 outreach
    - Website
    - Survey
    - 2<sup>nd</sup> Public Meeting-When, Where?
- ***Action Items and Next Steps***
- ***Adjourn***
  - Next Meeting: December 12, 2019 9:30 a.m. – 11:30 a.m. location TBD





**City of Los Angeles Bureau of Engineering  
2020 Floodplain Management Plan Revision**

Steering Committee Meeting #5

Thursday, November 14, 2019, 9:30 a.m. to 11:40 a.m. PT



**Meeting Participants**

<b>All Steering Committee members are listed but only the numbered members attended the meeting.</b>		
1. Government	Affeldt, Michael	Director, LA RiverWorks – Mayor's Office
Government	Allen, Randy (temp)	Port of Los Angeles
2. Government (NV)	Bulkacz, Vanessa	Public Affairs, Department of Public Works
3. Government	Campos, John	<i>Alternate</i> , Los Angeles Police Department
4. Government (NV)	Galassi, Romano	<i>Alternate</i> -Bureau of Engineering
5. Government	Gross, Aaron <b>Chair</b>	Chief Resiliency Officer-Mayor's Ofc.
Government	Hammett, Mike	Los Angeles Police Department
6. Government	Hernandez-Marcial, Orval	<i>Alternate</i> -City of LA Sanitation
Government	Hom, Japhet	<i>Alternate</i> - Los Angeles Police Department
7. Government (NV)	Hu, JianPing (P)	<i>Alternate</i> - Department of Water and Power
Government	Huynh, Charmie	Department of Building and Safety
8. Government	Ignatczyk, John (P)	City of Los Angeles Fire Department
Government	Kharaghani, Shahram	City of Los Angeles Sanitation
Government	Le, Tuyen	<i>Alternate</i> -Bureau of Engineering
9. Government	Lin, Chang-Shien	<i>Alternate</i> - Bureau of Engineering
Government	McDowell, Jennifer	<i>Alternate</i> - Mayor's Office- LA RiverWorks
Government	Maesami, Ida	Los Angeles Sanitation & Environment
Government	Mik, Lena	<i>Alternate</i> -Department of City Planning
Government	Munongo, Patrick	<i>Alternate</i> - Emergency Management Department
Government	Natoli, Gina <b>Vice-Chair</b>	LA County Regional Planning
Government (NV)	Nemick, Mary	City of Los Angeles Bureau of Engineering
10. Government	Nepomuceno-Juacalla, Carolyn (P)	<i>Alternate</i> -Department of Building and Safety
Government	Pallini-Tipton, Conni	Department of City Planning
Government	Perez, Michael	<i>Alternate</i> - Department of Building and Safety
11. Government	Phinouwong, Nina	<i>Alternate</i> -Department of City Planning
Government	Pijuan, Alen	City of Los Angeles Emergency Management Dept.
Government	Plumb, Cliff	Department of Water and Power
12. Government	Reed, Lynette	<i>Alternate</i> -Port of Los Angeles
Government (NV)	Santo-Domingo, Cathie	Los Angeles Recreation and Parks
Government	Scaduto, Michael	<i>Alternate</i> - City of Los Angeles Sanitation
Government	Shu, Susan	City of Los Angeles Bureau of Engineering
13. Government	Tan, Emmanuel (P)	Department of Water and Power
Government	Wall, Brian (P)	City of Los Angeles Fire Department
1. Non-Government	Alexander, Desmian	USC Public Policy
2. Non-Government	Asuncion, Kendal (P)	Los Angeles Chamber of Commerce
3. Non-Government	Baldauf, Brian (P)	<i>Alternate</i> - Mountain Recreation & Conservation Authority
Non-Government	Demesa, Ed	U.S. Army Corps of Engineers



4. Non-Government	Ellis, Andre (P)	CSULA Geosciences & Environment
Non-Government	Garcia-Ruiz, Joselito	<i>Alternate</i> - Red Cross of Greater Los Angeles
Non-Government	Gonez, Manny	Friends of the Los Angeles River
5. Non-Government	Greenspan, Mike (P)	Resident
6. Non-Government	Griego, Liliana	<i>Alternate</i> -Friends of the Los Angeles River
7. Non-Government	McOمبر, Britta (P)	UCLA Luskin School of Public Affairs
Non-Government	Miranda, Solomon	CA Department of Water Resources
Non-Government	Rascon, Sarah	Mountains Recreation & Conservation Authority
8. Non-Government	Robinson, Alex	USC Landscape Architecture
9. Non-Government	Tran, Larry (P)	<i>Alternate</i> - Los Angeles County Flood Control District
10. Non-Government	Underwood, Scott	Red Cross of Greater Los Angeles
Non-Government	Vivanti, John	<i>Alternate</i> - U.S. Army Corps of Engineers
Non-Government	Wood, Patricia	Los Angeles County Flood Control District
1. Team Support	Artz, Ira	Tetra Tech, Inc.
2. Team Support	Flaner, Rob	Tetra Tech, Inc.
3. Team Support	Hernandez, Lorena (P)	KPA
Team Support	Herrera, Thelma	KPA
4. Team Support	Padilla, Katherine (P)	KPA
5. Team Support	Parker, Steve	Tetra Tech, Inc.
6. Team Support	Schloss, Melissa (P)	Tetra Tech, Inc.
Team Support	Subbio, Tony	Tetra Tech, Inc.
Team Support	Suh, Cindy	KPA

(NV) = non-voting member, or member with duplicate organizational attendance this month

(P) = attendance by phone

### **Planning Process**

#### **Welcome and Introductions**

Nina Phinouwong welcomed attendees, and everyone introduced themselves. Craig Lapuley, a City of LA disaster consultant, also attended and was introduced by Aaron Gross.

#### **Review Agenda**

Rob Flaner, Tetra Tech welcomed attendees and provided time for attendees to review the agenda and make any final edits. No edits were requested.

#### **Approve SC Meeting #4 Summary**

Rob Flaner asked the SC if they had any edits to the October 10, 2019 meeting summary. No edits were requested.

*MOTION by Scott Underwood to approve the October 10, 2019 meeting summary and second by Mike Greenspan. Motion carried unanimously.*



### **Receive Public Comment**

Rob Flaner asked members of the public if they wished to address the committee. No public comments were expressed.

### **New Business**

#### **Public Outreach Strategy**

Rob Flaner explained that the general building stock (GBS) data will be provided to the SC to review for the next meeting.

The SC discussed the first public outreach event held the City's P-22 Day on October 19, 2019 at Griffith Park. The SC discussed where and when the next public outreach event should be held. There was consensus to wait until January due to the current wildfire events and upcoming holidays.

The SC also discussed possible locations for the second public outreach meeting. Katherine Padilla suggested holding it Jan 7, 8, or 9, 2020 at Griffith Park. She will organize a potential venue in coordination with Bureau of Engineering Public Relations and report back to the SC. There is also the potential to piggy back on local debris flow risk awareness neighborhood meetings. As more information about the timing of these events comes to light, this will be looked at also as a public outreach opportunity.

#### **Core Capability Exercise**

Rob Flaner explained the exercise; the core capability statements were listed on poster boards posted on the wall and each participant was given several green stickers (to indicate strengths) and red stickers (to indicate weakness).

Each participant placed either a green or red sticker by each of the core capability statements, indicating whether they thought each statement was a strength or weakness of the City of Los Angeles. The stickers will be tallied and inform core capabilities and mitigation actions for the Flood Mitigation Plan.

Steering Committee members who were not able to attend the meeting in person will be provided a Survey Monkey link and asked to participate that way. Results will be tallied and provided to Steering Committee members once each member has had an opportunity to participate.

#### **Action Items and Next Steps**

- Tetra Tech to provide the SC with a survey monkey link so those on the phone can participate in the Core Capability Exercise.
- Tetra Tech will provide results of the Core Capability Exercise once all SC members have had the opportunity to participate.
- Katherine Padilla to arrange date and location of second Public Outreach Meeting.
- Tetra Tech to provide the minutes of this meeting for SC review prior to the next meeting.

#### **Adjourn**

Next Meeting: January 9, 2019 9:30 a.m. – 11:30 a.m. at American Red Cross.

*MOTION by Romano Galassi and second by Michael Affeldt to adjourn. Motion carried unanimously.*



**City of Los Angeles**  
**Floodplain Management Plan Revision**  
Steering Committee (SC) Meeting #6  
Thursday, January 9, 2020  
9:30 a.m. – 11:30 a.m. PT  
Red Cross Building (see map)  
1450 S Central Ave, Los Angeles, CA 90021

Call-in Number: 1-800-523-8437 Conference ID: 6893848651

**Steering Committee Chair:** Aaron Gross, Chief Resiliency Officer of the City of Los Angeles

**Steering Committee Vice-Chair:** Conni Pallini of The Department of City Planning

**City Project Manager:** Chang Lin, Bureau of Engineering, Department of Public Works

**Consultant Technical Lead:** Rob Flaner, Tetra Tech Inc.

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## Planning Process

- Welcome and Introductions
- Review Agenda
- Approve SC meeting #5 summary
- Receive Public Comment

## New Business

- ***Risk Assessment Update***
  - Repetitive Loss Area Analysis (RLAA)
  - General Building Stock (GBS) HAZUS summary
- ***Core Capabilities Exercise Update***
  - Core Capability Exercise Results
- ***Public Outreach Strategy***
  - Phase 1 outreach
    - Website
    - Survey
    - 3rd Public Meeting-When, Where?
  - Agency Contact List
- ***Plan Update***
  - Draft FMP Report
  - Draft Chapter 4: Relevant Programs + Capability Assessment
- ***Action Items and Next Steps***
- ***Adjourn***
  - Next Meeting: February 11, 2020 9:30 a.m. – 11:30 a.m. location TBD



**City of Los Angeles Bureau of Engineering**  
**2020 Floodplain Management Plan Revision**  
 Steering Committee Meeting #6  
 Thursday, January 9, 2020, 9:30 a.m. to 11:40 a.m. PST



**Meeting Participants**

<b>All Steering Committee members are listed but are faded-out if not in attendance; voting representatives in attendance are numbered</b>		
1. Government	Affeldt, Michael	Mayor's Office - LA River Works
Government (NV)	Bulkacz, Vanessa	Public Affairs, Department of Public Works
2. Government	Burton, Anna	Port of Los Angeles
3. Government	Campos, John (P)	<i>Alternate</i> , Los Angeles Police Department
Government	Galassi, Romano	<i>Alternate</i> -Bureau of Engineering
Government	Gross, Aaron <b>Chair</b>	Chief Resiliency Officer-Mayor's Ofc.
Government	Hammett, Mike	Los Angeles Police Department
4. Government	Hernandez-Marcial, Orval	<i>Alternate</i> -City of LA Sanitation
Government	Hom, Japhet	<i>Alternate</i> - Los Angeles Police Department
Government (NV)	Hu, JianPing (P)	<i>Alternate</i> - Department of Water and Power
Government	Huynh, Charmie	Department of Building and Safety
5. Government	Ignatczyk, John (P)	City of Los Angeles Fire Department
Government	Kharaghani, Shahram	City of Los Angeles Sanitation
Government	Le, Tuyen	<i>Alternate</i> -Bureau of Engineering
Government	Lam, Raymond	<i>Alternate</i> - Bureau of Engineering
6. Government	Lin, Chang-Shien	<i>Alternate</i> - Bureau of Engineering
Government	Maesami, Ida	Los Angeles Sanitation & Environment
Government	McDowell, Jennifer	<i>Alternate</i> - Mayor's Office- LA RiverWorks
Government	Mik, Lena	<i>Alternate</i> -Department of City Planning
7. Government	Munongo, Patrick	<i>Alternate</i> - Emergency Management Department
Government	Natoli, Gina	LA County Regional Planning
Government	Nemick, Mary	City of Los Angeles Bureau of Engineering
Government	Nepomuceno-Juacalla,Carolynn (P)	<i>Alternate</i> -Department of Building and Safety
8. Government	Nguyen, Celeste (P)	<i>Alternate</i> -Department of Building and Safety
9. Government	Pallini-Tipton, Conni <b>Vice-Chair</b>	Department of City Planning
Government	Perez, Michael	<i>Alternate</i> - Department of Building and Safety
Government	Phinouwong, Nina	<i>Alternate</i> -Department of City Planning
Government	Pijuan, Alen	City of Los Angeles Emergency Management Dept.
Government	Plumb, Cliff (P)	<i>Alternate</i> -Department of Water and Power
Government	Reed, Lynette	<i>Alternate</i> -Port of Los Angeles
Government (NV)	Santo-Domingo, Cathie	Los Angeles Recreation and Parks
Government	Scaduto, Michael	<i>Alternate</i> - City of Los Angeles Sanitation
Government	Shu, Susan	City of Los Angeles Bureau of Engineering
10. Government	Tan, Emmanuel (P)	Department of Water and Power
Government	Wall, Brian (P)	City of Los Angeles Fire Department
1. Non-Government	Alexander, Desmian	USC Public Policy
Non-Government	Asuncion, Kendal (P)	Los Angeles Chamber of Commerce



Non-Government	Baldauf, Brian (P)	<i>Alternate-</i> Mountain Recreation & Conservation Authority
Non-Government	Demesa, Ed	U.S. Army Corps of Engineers
1. Non-Government	Ellis, Andre (P)	CSULA Geosciences & Environment
2. Non-Government	Garcia-Ruiz, Joselito	Red Cross of Greater Los Angeles
3. Non-Government	Greenspan, Mike (P)	Resident
Non-Government	Griego, Liliana	Friends of the Los Angeles River
Non-Government	McOmer, Britta (P)	UCLA Luskin School of Public Affairs
4. Non-Government	Miranda, Solomon (P)	CA Department of Water Resources
5. Non-Government	Oliver, Susan	<i>Alternate-</i> Friends of the Los Angeles River
Non-Government	Rascon, Sarah	Mountains Recreation & Conservation Authority
Non-Government	Robinson, Alex	USC Landscape Architecture
6. Non-Government	Tran, Larry (P)	<i>Alternate-</i> Los Angeles County Flood Control District
Non-Government	Underwood, Scott	Red Cross of Greater Los Angeles
Non-Government	Vivanti, John	<i>Alternate-</i> U.S. Army Corps of Engineers
Non-Government	Wood, Patricia	Los Angeles County Flood Control District
1. Team Support	Artz, Ira	Tetra Tech, Inc.
2. Team Support	Flaner, Rob	Tetra Tech, Inc.
3. Team Support	Hernandez, Lorena (P)	KPA
Team Support	Herrera, Thelma	KPA
Team Support	Padilla, Katherine	KPA
4. Team Support	Parker, Steve (P)	Tetra Tech, Inc.
5. Team Support	Schloss, Melissa (P)	Tetra Tech, Inc.
Team Support	Subbio, Tony	Tetra Tech, Inc.
Team Support	Suh, Cindy	KPA

(NV) = non-voting member

Members with duplicate organizational attendance are not counted as voting representatives

(P) = attendance by phone

### **Planning Process**

#### **Welcome and Introductions**

Conni Pallini-Tipton welcomed attendees and everyone introduced themselves.

#### **Review Agenda**

Rob Flaner, Tetra Tech welcomed attendees and provided time for attendees to review the agenda and make any final edits. No edits were requested.

#### **Approve SC Meeting #5 Summary**

Rob Flaner asked the SC if they had any edits to the November 14, 2019 meeting summary. No edits were requested.



*MOTION by Conni Pallini-Tipton to approve the November 14, 2019 meeting summary and second by Alen Pijuan. Motion carried unanimously.*

### **Receive Public Comment**

Rob Flaner asked members of the public if they wished to address the committee. No members of the public were present and no comments were expressed.

### **New Business**

#### **Risk Assessment Update**

Rob Flaner reminded everyone that the General Building Stock (GBS) was reviewed at the last meeting. He discussed how the data was segregated into the BRIC lifeline categories. The results for the GBS will be presented at the next meeting. Rob explained that this is the first time the City has done an RLAA. He explained how the data was retrieved from FEMA and why the 2018 data is used instead of the 2019 data. Rob also explained how important the analysis will be to the City as it looks at where the buildings are and to see their proximity to the potential impact areas. The areas should be delineated and mapped out by the next meeting.

#### **Core Capability Exercise**

Rob Flaner discussed the importance of the exercise is in informing the City on their strengths and gaps and discussed the exercise results. Rob explained how the “strengths” need to be leveraged to address the “gaps.” The “reds” should be addressed for the next 5-year period at the next meeting.

#### **Public Outreach Strategy**

Lorena of KPA and Rob reminded all attendees of the public outreach meeting scheduled for that evening from 6:00-8:00pm at the Studio City Library and Channel 35 may also be in attendance. Also, Rob mentioned that more responses are needed for the survey and everyone discussed how to obtain more responses for the surveys. At the next meeting, the committee will determine if and when there will be a third public meeting.

#### **Plan Update**

Rob Flaner asked the SC members to review the draft Chapter 4 section and provide their comments.

#### **Action Items and Next Steps**

- Melissa Schloss to send the SC the draft Agency Contact List for their final review.
- SC to review and provide comments of Chapter 4 to Tetra Tech.
- SC to attend the Public Outreach event if they are available to do so.

#### **Adjourn**

Rob notified attendees that the next meeting will likely be our last.

Next Meeting: February 13, 2019 9:30 a.m. – 11:30 a.m. at American Red Cross.

*MOTION by Conni Pallini-Tipton and second by Michael Affeldt to adjourn. Motion carried unanimously.*



**City of Los Angeles**  
**Floodplain Management Plan Revision**  
Steering Committee (SC) Meeting #7  
Thursday, February 13, 2020  
9:30 a.m. – 11:30 a.m. PT  
Red Cross Building (see map)  
1450 S Central Ave, Los Angeles, CA 90021

Call-in Number: 1-800-523-8437 Conference ID: 6893848651

**Steering Committee Chair:** Aaron Gross, Chief Resiliency Officer of the City of Los Angeles

**Steering Committee Vice-Chair:** Conni Pallini of The Department of City Planning

**City Project Manager:** Chang Lin, Bureau of Engineering, Department of Public Works

**Consultant Technical Lead:** Rob Flaner, Tetra Tech Inc.

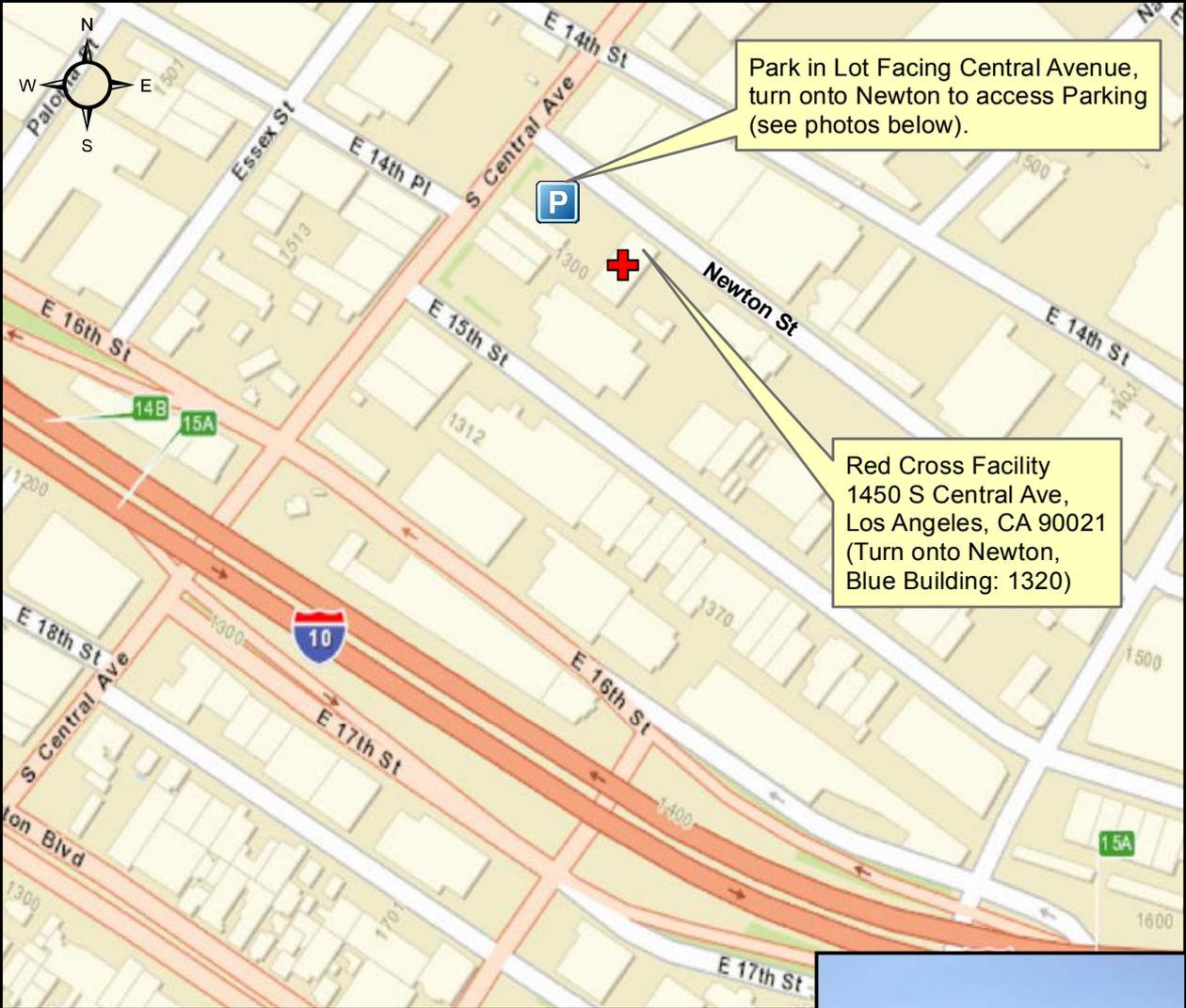
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### **Planning Process**

- Welcome and Introductions
- Review Previous Meeting Summary
- Approve SC meeting #6 summary
- Receive Public Comment

### **New Business**

- ***Risk Assessment Update***
  - Repetitive Loss Area Analysis (RLAA)
  - General Building Stock (GBS) HAZUS
  - Critical Facilities Analysis
- ***Public Outreach Strategy***
  - Phase 1 outreach
    - Survey
- ***Plan Update***
  - Draft FMP Report
  - Prior Action Review-Progress Report
- ***Action Items and Next Steps***
- ***Adjourn***
  - Next Meeting: March 12, 2020 9:30 a.m. – 11:30 a.m. at American Red Cross.





**City of Los Angeles Bureau of Engineering**  
**2020 Floodplain Management Plan Revision**  
 Steering Committee Meeting #7

Thursday, February 13, 2020, 9:30 a.m. to 11:30 a.m. PST



**Meeting Participants**

<b>All Steering Committee members are listed but are faded-out if not in attendance; voting representatives in attendance are numbered</b>		
1. Government	Affeldt, Michael (P)	Mayor's Office - LA River Works
Government (NV)	Bulkacz, Vanessa	Public Affairs, Department of Public Works
2. Government	Burton, Anna (P)	Port of Los Angeles
3. Government	Campos, John (P)	<i>Alternate</i> , Los Angeles Police Department
Government	Galassi, Romano	<i>Alternate</i> -Bureau of Engineering
Government	Gross, Aaron <b>Chair</b>	Chief Resiliency Officer-Mayor's Ofc.
Government	Hammett, Mike	Los Angeles Police Department
Government	Hernandez-Marcial, Orval	<i>Alternate</i> -City of LA Sanitation
Government	Hom, Japhet	<i>Alternate</i> - Los Angeles Police Department
Government	Hu, JianPing	<i>Alternate</i> - Department of Water and Power
Government	Huynh, Charmie	Department of Building and Safety
Government	Ignatczyk, John	City of Los Angeles Fire Department
Government	Kharaghani, Shahram	City of Los Angeles Sanitation
Government	Le, Tuyen	<i>Alternate</i> -Bureau of Engineering
Government	Lam, Raymond	<i>Alternate</i> - Bureau of Engineering
Government	Lin, Chang-Shien	<i>Alternate</i> - Bureau of Engineering
Government	Maesami, Ida	Los Angeles Sanitation & Environment
Government	McDowell, Jennifer	<i>Alternate</i> - Mayor's Office- LA RiverWorks
Government	Mik, Lena	<i>Alternate</i> -Department of City Planning
Government	Munongo, Patrick	<i>Alternate</i> - Emergency Management Department
Government	Natoli, Gina	LA County Regional Planning
Government	Nemick, Mary	City of Los Angeles Bureau of Engineering
Government	Nepomuceno-Juacalla,Carolynn	<i>Alternate</i> -Department of Building and Safety
4. Government	Nguyen, Celeste (P)	<i>Alternate</i> -Department of Building and Safety
5. Government	Pallini-Tipton, Conni <b>Vice-Chair</b>	Department of City Planning
Government	Perez, Michael	<i>Alternate</i> - Department of Building and Safety
Government	Phinouwong, Nina	<i>Alternate</i> -Department of City Planning
Government	Pijuan, Alen	City of Los Angeles Emergency Management Dept.
6. Government	Plumb, Cliff	<i>Alternate</i> -Department of Water and Power
7. Government	Reed, Lynette	<i>Alternate</i> -Port of Los Angeles
Government (NV)	Santo-Domingo, Cathie	Los Angeles Recreation and Parks
Government	Scaduto, Michael	<i>Alternate</i> - City of Los Angeles Sanitation
8. Government	Shu, Susan	City of Los Angeles Bureau of Engineering
Government	Tan, Emmanuel	Department of Water and Power
Government	Wall, Brian	City of Los Angeles Fire Department
1. Non-Government	Alexander, Desmian	USC Public Policy
2. Non-Government	Asuncion, Kendal (P)	Los Angeles Chamber of Commerce



Non-Government	Baldauf, Brian	<i>Alternate-</i> Mountain Recreation & Conservation Authority
Non-Government	Demesa, Ed	U.S. Army Corps of Engineers
Non-Government	Ellis, Andre	CSULA Geosciences & Environment
3. Non-Government	Garcia-Ruiz, Joselito	Red Cross of Greater Los Angeles
4. Non-Government	Greenspan, Mike (P)	Resident
Non-Government	Griego, Liliana	Friends of the Los Angeles River
5. Non-Government	McOmer, Britta (P)	UCLA Luskin School of Public Affairs
6. Non-Government	Miranda, Solomon (P)	CA Department of Water Resources
7. Non-Government	Oliver, Susan	<i>Alternate-</i> Friends of the Los Angeles River
Non-Government	Rascon, Sarah	Mountains Recreation & Conservation Authority
8. Non-Government	Robinson, Alex	USC Landscape Architecture
9. Non-Government	Tran, Larry (P)	<i>Alternate-</i> Los Angeles County Flood Control District
Non-Government	Underwood, Scott	Red Cross of Greater Los Angeles
Non-Government	Vivanti, John	<i>Alternate-</i> U.S. Army Corps of Engineers
Non-Government	Wood, Patricia	Los Angeles County Flood Control District
1. Team Support	Artz, Ira	Tetra Tech, Inc.
2. Team Support	Flaner, Rob	Tetra Tech, Inc.
Team Support	Hernandez, Lorena	KPA
Team Support	Herrera, Thelma	KPA
3. Team Support	Padilla, Katherine (P)	KPA
4. Team Support	Parker, Steve	Tetra Tech, Inc.
5. Team Support	Schloss, Melissa (P)	Tetra Tech, Inc.
Team Support	Subbio, Tony	Tetra Tech, Inc.
Team Support	Suh, Cindy	KPA

(NV) = non-voting member

Members with duplicate organizational attendance are not counted as voting representatives

(P) = attendance by phone

### **Planning Process**

#### **Welcome and Introductions**

Conni Pallini-Tipton welcomed attendees and everyone introduced themselves.

#### **Review Agenda**

Rob Flaner, Tetra Tech welcomed attendees and provided time for attendees to review the agenda and make any final edits. No edits were requested.

### **Old Business**

#### **Approve SC Meeting #6 Summary**

Rob Flaner asked the SC if they had any edits to the January 9, 2020 meeting summary. It was requested that the heading of Old Business be added before the Approve SC Meeting Summary section.



*MOTION by Cliff Plumb to approve the January 9, 2020 meeting summary and second by Conni Pallini-Tipton. Motion carried unanimously.*

### **Receive Public Comment**

Rob Flaner asked members of the public if they wished to address the committee. No members of the public were present and no comments were expressed.

### **New Business**

#### **Risk Assessment Update**

Rob Flaner explained that the RLAA is a simultaneous project to the FMP and it is segregated by planning areas that the City already uses. This includes structure value, economic value output, debris estimation, displaced households, short term shelter needs, etc. Rob explained that this data will support properties at risk and will in turn inform the actions of the plan.

#### **General Building Stock (GBS) HAZUS**

Rob Flaner reviewed the Loss Matrix results, which included the estimated building exposure and the 10-year flood impact on people, property and the economy of the City of Los Angeles. It was only finalized immediately prior to the meeting and will be sent to the Steering Committee.

#### **Critical Facilities Analysis**

Rob noted that all the buildings have been plotted and the majority of them are not within a floodplain. The Analysis will review buildings within the 100-year flood as well as look at functional downtime. These models make estimates based upon use and time it will take to restore to 100% functionality.

#### **Public Outreach Strategy**

Rob noted that as of today, 163 surveys have been completed. Rob explained how sharing survey data will count as agency coordination for the ISO. Since the City and County are agreeable, the Plan will show aggregated survey results.

The SC discussed the survey outreach push that was made with City of LA Department PIOs. Mike Affeldt of the Mayor's office noted he will send an email blast to ask City employees to take the survey if they have not already. There was discussion about possibly adding the survey link to the RLAA mailer as well as sending out with DWP bills to the public.

The SC discussed where and when to hold the next public outreach meeting. The SC decided Atwater Village would be a good location and an additional public meeting to coincide with Earth Day.

#### **Plan Update**

Rob Flaner asked the SC members to review the 2018 Annual Report handout and provide action item suggestions based on each members' individual expertise.

#### **Prior Action Review- Progress Report**

Rob asked the SC members to review the 2018 Annual report and provide comments/revisions on the actions, the responsible lead agency and secondary agency updates, to Chang-Shien Lin and Romano Galassi by Friday, February 28, 2020.



### **Tentative Draft Release Timeline for 2020 FMP**

Draft to be release for public review by Friday, April 3

Public Comment Period to be 3 weeks + 1 day (Same as LA County)

Third public meeting to be scheduled within the first 2 weeks of April

Fourth public meeting to be on Earth Day, April 25<sup>th</sup>

### **Action Items and Next Steps**

- TetraTech to send the SC the draft Agency Contact List for their final review.
- TetraTech to send the SC the Loss Matrix.
- Michael Affeldt to resend survey to City employees.
- SC to review and provide action item suggestions based on the 2018 Annual Report to Steve Parker, Tetra Tech.
- SC to provide action item updates from the 2018 Progress Report to Chang-Shien Lin and Romano Galassi by Friday, February 28, 2020.

### **Adjourn**

Rob notified attendees that the next meeting will likely be our last.

*MOTION by Cliff Plumb and second by Romano Galassi to adjourn. Motion carried unanimously.*



**City of Los Angeles**  
**Floodplain Management Plan Revision**  
Steering Committee (SC) Meeting #8  
Thursday, March 12, 2020  
9:30 a.m. – 11:30 a.m. PT  
Red Cross Building (see map)  
1450 S Central Ave, Los Angeles, CA 90021

Call-in Number: 1-800-523-8437 Conference ID: 6893848651

**Steering Committee Chair:** Aaron Gross, Chief Resiliency Officer of the City of Los Angeles

**Steering Committee Vice-Chair:** Conni Pallini of The Department of City Planning

**City Project Manager:** Chang Lin, Bureau of Engineering, Department of Public Works

**Consultant Technical Lead:** Rob Flaner, Tetra Tech Inc.

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## Planning Process

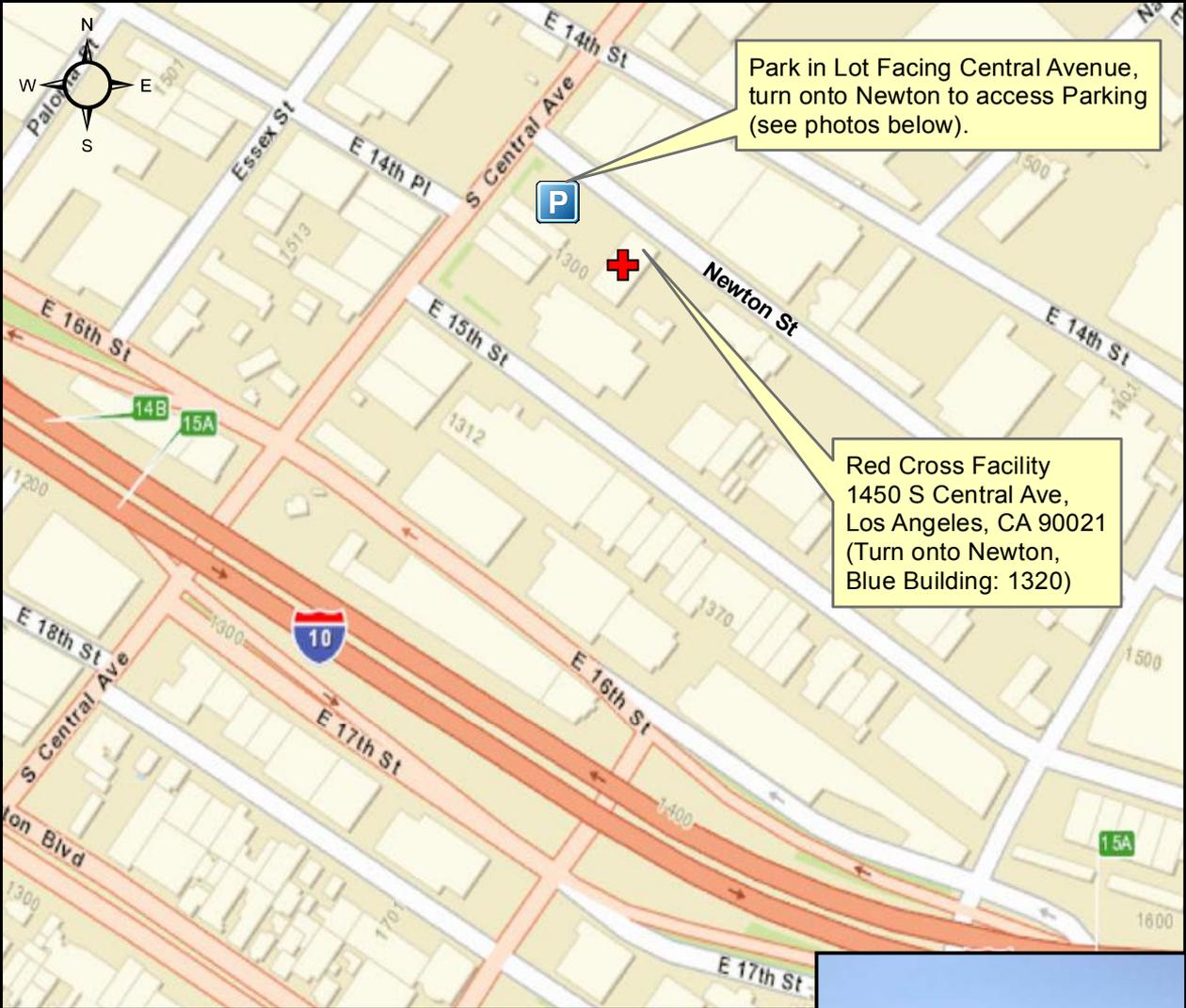
- Welcome and Introductions
- Review Previous Meeting Summary
- Receive Public Comment

## Old Business

- Approve SC meeting #7 summary

## New Business

- ***Risk Assessment Update***
  - Repetitive Loss Area Analysis (RLAA)
  - General Building Stock (GBS) HAZUS
  - Critical Facilities Analysis
  - Loss Matrix
- ***Public Outreach Strategy***
  - Phase 1 outreach
    - Survey combined with County
  - Phase 2 outreach (During Public Comment/Review)
    - Atwater Village
    - Earth Day event
- ***Plan Update***
  - Draft FMP Report
  - Action Item Suggestions
- ***Action Items and Next Steps***
- ***Adjourn***
  - Next Meeting: This is likely the last SC meeting.





**City of Los Angeles Bureau of Engineering**  
**2020 Floodplain Management Plan Revision**  
 Steering Committee Meeting #8  
 Thursday, March 12, 2020, 9:30 a.m. to 11:30 a.m. PST



**Meeting Participants**

All Steering Committee members are listed but are faded-out if not in attendance; voting representatives in attendance are numbered		
1. Government	Affeldt, Michael (P)	Mayor's Office - LA River Works
Government (NV)	Bulkacz, Vanessa (P)	Public Affairs, Department of Public Works
Government	Burton, Anna (P)	Port of Los Angeles
2. Government	Campos, John	<i>Alternate</i> , Los Angeles Police Department
Government	Galassi, Romano	<i>Alternate</i> -Bureau of Engineering
3. Government	Gross, Aaron <b>Chair</b>	Chief Resiliency Officer-Mayor's Ofc.
Government	Hammett, Mike	Los Angeles Police Department
Government	Hernandez-Marcial, Orval	<i>Alternate</i> -City of LA Sanitation
Government	Hom, Japhet	<i>Alternate</i> - Los Angeles Police Department
Government	Hu, JianPing (P)	<i>Alternate</i> - Department of Water and Power
4. Government	Ignatczyk, John (P)	City of Los Angeles Fire Department
Government	Kharaghani, Shahram	City of Los Angeles Sanitation
Government	Le, Tuyen	<i>Alternate</i> -Bureau of Engineering
Government	Lam, Raymond	<i>Alternate</i> - Bureau of Engineering
Government	Lin, Chang-Shien	<i>Alternate</i> - Bureau of Engineering
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Government	McDowell, Jennifer (P)	<i>Alternate</i> - Mayor's Office- LA RiverWorks
Government	Mik, Lena	<i>Alternate</i> -Department of City Planning
Government	Munongo, Patrick	<i>Alternate</i> - Emergency Management Department
Government	Natoli, Gina	LA County Regional Planning
Government	Nemick, Mary	City of Los Angeles Bureau of Engineering
Government	Nepomuceno-Juacalla, Carolynn	<i>Alternate</i> -Department of Building and Safety
5. Government	Nguyen, Celeste (P)	<i>Alternate</i> -Department of Building and Safety
6. Government	Pallini-Tipton, Conni <b>Vice-Chair (P)</b>	Department of City Planning
Government	Perez, Michael	<i>Alternate</i> - Department of Building and Safety
Government	Phinouwong, Nina	<i>Alternate</i> -Department of City Planning
Government	Pijuan, Alen	City of Los Angeles Emergency Management Dept.
Government	Plumb, Cliff (P)	<i>Alternate</i> -Department of Water and Power
Government	Reed, Lynette (P)	<i>Alternate</i> -Port of Los Angeles
Government (NV)	Santo-Domingo, Cathie	Los Angeles Recreation and Parks
Government	Scaduto, Michael	<i>Alternate</i> - City of Los Angeles Sanitation
7. Government	Shu, Susan	City of Los Angeles Bureau of Engineering
8. Government	Tan, Emmanuel (P)	Department of Water and Power
Government	Wall, Brian	City of Los Angeles Fire Department
Government	Wubishet, Yidmekachew (P)	Department of Water and Power
Non-Government	Alexander, Desmian	USC Public Policy
Non-Government	Asuncion, Kendal	Los Angeles Chamber of Commerce



Non-Government	Baldauf, Brian	<i>Alternate-</i> Mountain Recreation & Conservation Authority
Non-Government	Demesa, Ed	U.S. Army Corps of Engineers
1. Non-Government	Ellis, Andre (P)	CSULA Geosciences & Environment
2. Non-Government	Garcia-Ruiz, Joselito	Red Cross of Greater Los Angeles
Non-Government	Greenspan, Mike (P)	Resident
Non-Government	Griego, Liliana	Friends of the Los Angeles River
Non-Government	McOmer, Britta	UCLA Luskin School of Public Affairs
3. Non-Government	Miranda, Solomon (P)	CA Department of Water Resources
4. Non-Government	Oliver, Susan	<i>Alternate-</i> Friends of the Los Angeles River
Non-Government	Rascon, Sarah	Mountains Recreation & Conservation Authority
5. Non-Government	Robinson, Alex (P)	USC Landscape Architecture
Non-Government	Tran, Larry (P)	<i>Alternate-</i> Los Angeles County Flood Control District
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2. Team Support	Flaner, Rob	Tetra Tech, Inc.
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Team Support	Subbio, Tony	Tetra Tech, Inc.
Team Support	Suh, Cindy	KPA

(NV) = non-voting member

Members with duplicate organizational attendance are not counted as voting representatives

(P) = attendance by phone

### Planning Process

#### **Welcome and Introductions**

Conni Pallini-Tipton welcomed attendees, and everyone introduced themselves.

#### **Review Agenda**

Rob Flaner, Tetra Tech welcomed attendees and provided time for attendees to review the agenda and make any final edits. No edits were requested.

### Old Business

#### **Approve SC Meeting #7 Summary**

Rob Flaner asked the SC if they had any edits to the February 13, 2020 meeting summary. No edits were requested.



*MOTION by Aaron Gross to approve the February 13, 2020 meeting summary and second by Romano Galassi. Motion carried unanimously.*

### **Receive Public Comment**

Rob Flaner asked members of the public if they wished to address the committee. No members of the public were present, and no comments were expressed.

### **New Business**

#### **Risk Assessment Update**

##### **HAZUS Risk Analysis**

Rob Flaner reviewed the loss matrix handout and explained that the risk assessment table has been updated and includes the 10-, 50-, 100- and 500-year flood results. Rob explained the difference between the values exposed v. the value of the planning area and noted we are using data from the 2018 American Community Survey for population data.

Rob noted the data has 39,000 data attributes. Not all of this will be used in the plan but the City will be given all of the data and can decide what they'd like to do with it. Rob recommended potential uses for the data that could count as an action for risk communication.

##### **Critical Facilities Analysis**

Rob explained to the steering committee that since FEMA still uses the old definition of Critical Facilities, requiring our GIS to have to be cross-walked with our new definition, occupancy class, lifeline construct. Rob noted the results should be ready within the next 2 weeks or so.

##### **Public Outreach Strategy**

Rob reminded the steering committee of the survey data sharing plan with Los Angeles County. He noted that the County has no new surveys since the February meeting, but the City is now up to 200 surveys. He noted that adding the Spanish survey version has helped increase the completed survey numbers.

Rob announced that the April 8, 2020 Atwater Village public meeting is cancelled due to COVID-19 virus CDC social distancing recommendations.

Vanessa Bulkacz and Lorena Hernandez announced that the Earth Day event has also been cancelled due to the COVID-19 virus. Lorena informed the steering committee that they are exploring other web-based and interactive public meeting options.

Rob noted that he spoke with the new ISO, Jonathan Smith about holding a virtual meeting due to the current pandemic circumstances but has not yet received the OK. Rob will follow up with him next week.

##### **Plan Update**

Rob Flaner reminded the SC members that the last thing they need to do as a committee is review the FMP draft and advise the City of any constructive edits.

##### **Prior Action Review-Progress Report**



Rob reminded the SC members of their previous meeting’s homework to review the 2018 Annual report action items and provide comments/revisions on the actions, the responsible lead agency, and secondary agency updates. The SC members verbally provided their edits to Chang-Shien Lin and Romano Galassi and will send others via email to them as well. Once the updates are made, Chang and Romano will send the updated document to Rob for plan incorporation.

The SC decided to convene again virtually April 9, 2020 and conduct a virtual meeting test run the week before. Lorena Hernandez will coordinate the virtual meeting platform.

**Action Items and Next Steps**

- SC to provide action item updates from the 2018 Progress Report to Chang-Shien Lin and Romano Galassi by Friday, March 20.
- Lorena Hernandez to coordinate the April 9, 2020 virtual meeting platform.
- Rob Flaner to follow up with ISO regarding holding a virtual public meeting.
- Tetra Tech will provide a draft FMP to City staff for review on April 17, 2020.
- Public review period for the draft FMP will start on April 20, 2020 with 3 weeks of public review period. Public comments to be finalized by May 11, 2020.

**Adjourn**

Rob notified attendees that the next meeting will likely be our last.

*MOTION by Romano Galassi and second by Chang-Shien Lin to adjourn. Motion carried unanimously.*



**City of Los Angeles**  
**Floodplain Management Plan Revision**  
Steering Committee (SC) Meeting #9  
Thursday, April 9, 2020  
9:30 a.m. – 11:30 a.m. PT  
Location: Via Zoom Webinar

**Zoom Link:** <https://zoom.us/j/301626612?pwd=T1EvTEJpR1haeGZHc3ZsVWFBRkNuZz09>

**Meeting ID:** 301 626 612

**Password:** 916281

**Instructions:** See next page

**Steering Committee Chair:** Aaron Gross, Chief Resiliency Officer of the City of Los Angeles

**Steering Committee Vice-Chair:** Conni Pallini of The Department of City Planning

**City Project Manager:** Chang Lin, Bureau of Engineering, Department of Public Works

**Consultant Technical Lead:** Rob Flaner, Tetra Tech Inc.

### Planning Process

- Welcome and Introductions
- Review Previous Meeting Summary
- Receive Public Comment

#### **Remaining FMP Schedule:**

- 4/30/20-5/15/20: SC comment Period
- 5/18/20-6/8/20: Public Comment Period
- 5/18/20: Narrated PPT Posted
- 6/2/20: Virtual Public Meeting

### Old Business

- Approve SC meeting #8 summary

### New Business

- ***Risk Assessment Update***
  - Repetitive Loss Area Analysis (RLAA)
  - Critical Facilities Analysis
- ***Confirm Plan Maintenance Strategy***
  - What is required?
  - What is the SC Role?
  - What was in the plan last time?
- ***Public Outreach Strategy***
  - Phase 1 outreach
    - Survey combined with County
  - Phase 2 outreach (During Public Comment/Review)
    - Virtual Meeting
      - Platform
      - Date and Time
- ***Plan Update***
  - Draft FMP Report- Timeline for review
  - Review proposed Action Plan
  - Action Item Suggestions
- ***Action Items and Next Steps***
- ***Adjourn***
  - Next Meeting: This is likely the last SC meeting.



**City of Los Angeles**  
**Floodplain Management Plan Revision**  
Steering Committee (SC) Meeting #9  
Thursday, April 9, 2020  
9:30 a.m. – 11:30 a.m. PT  
Location: Via Zoom Webinar

**Zoom Meeting Instructions**

**Meeting ID:** 301 626 612  
**Password:** 916281

**Join Zoom Meeting:**

<https://zoom.us/j/301626612?pwd=T1EvTEJpR1haeGZHc3ZsVWFBRkNuZz09>

**Dial by your location (if you choose not to use computer audio):**

- +1 669 900 9128 US (San Jose)
- +1 346 248 7799 US (Houston)

**MEETING PROTOCOLS**

**PRESENTERS:**

- 1) Have the documents you want to present already open on your computer to avoid time lag when sharing your screen with the viewers

**CALLERS:**

1. Click on the link provided above to enter the meeting. The link will connect you to the Zoom virtual meeting. You can also use the Zoom app, simply enter the Meeting ID and Password to join.
2. If you are joining via phone you will have to enter the Meeting ID and Password. Please state your name when joining the call.
3. Please mute your line as you enter to eliminate background noise. Keep it mute when you are not speaking. You may ask questions in chat or 'raise hand' if you don't need to speak immediately.
4. Before you speak please state your name.
5. The meeting will be recorded.

**PHONE vs. PC**

1. Using a phone may be taxing on its CPU, a PC/Mac is a more powerful device. Video is not needed for the call and you can select voice only. Having said that, video makes it easier to see who is speaking, eliminating some of the confusion that occurs in audio-only conferences.
2. The phone screen size is small. If you are trying to view the handouts or look at material on the screen, it will be limited. A PC/Mac would be better in this case.
3. To change the view of all the meeting attendees, click on the gallery view on the top, right corner.
4. Using a phone may use more data, but could be useful if your computer is slow or has limited internet connection bandwidth.
5. Zoom works best in a Chrome, Firefox and Safari browser.



**City of Los Angeles Bureau of Engineering**  
**2020 Floodplain Management Plan Revision**  
 Steering Committee Meeting #9  
 Thursday, April 9, 2020, 9:30 a.m. to 11:30 a.m. PST



**Meeting Participants – NOTE all participants were attending remotely for this meeting**

All Steering Committee members are listed but are faded-out if not in attendance; voting representatives in attendance are numbered		
1. Government	Affeldt, Michael	Mayor's Office - LA River Works
Government (NV)	Bulkacz, Vanessa	Public Affairs, Department of Public Works
Government	Burton, Anna	Port of Los Angeles
Government	Campos, John	<i>Alternate</i> , Los Angeles Police Department
Government	Galassi, Romano	<i>Alternate</i> -Bureau of Engineering
2. Government	Gross, Aaron <b>Chair</b>	Chief Resiliency Officer-Mayor's Ofc.
Government	Hammett, Mike	Los Angeles Police Department
3. Government	Hernandez-Marcial, Orval	<i>Alternate</i> -City of LA Sanitation
Government	Hom, Japhet	<i>Alternate</i> - Los Angeles Police Department
Government	Hu, JianPing	<i>Alternate</i> - Department of Water and Power
4. Government	Ignatczyk, John	City of Los Angeles Fire Department
Government	Kharaghani, Shahram	City of Los Angeles Sanitation
Government	Le, Tuyen	<i>Alternate</i> -Bureau of Engineering
Government	Lam, Raymond	<i>Alternate</i> - Bureau of Engineering
Government	Lin, Chang-Shien	<i>Alternate</i> - Bureau of Engineering
Government	Maesami, Ida	Los Angeles Sanitation & Environment
Government	McDowell, Jennifer	<i>Alternate</i> - Mayor's Office- LA RiverWorks
Government	Mik, Lena	<i>Alternate</i> -Department of City Planning
Government	Munongo, Patrick	<i>Alternate</i> - Emergency Management Department
Government	Natoli, Gina	LA County Regional Planning
Government	Nemick, Mary	City of Los Angeles Bureau of Engineering
Government	Nepomuceno-Juacalla, Carolynn	<i>Alternate</i> -Department of Building and Safety
5. Government	Nguyen, Celeste	<i>Alternate</i> -Department of Building and Safety
6. Government	Pallini-Tipton, Conni <b>Vice-Chair</b>	Department of City Planning
Government	Perez, Michael	<i>Alternate</i> - Department of Building and Safety
Government	Phinouwong, Nina	<i>Alternate</i> -Department of City Planning
Government	Pijuan, Alen	City of Los Angeles Emergency Management Dept.
7. Government	Plumb, Cliff	<i>Alternate</i> -Department of Water and Power
8. Government	Reed, Lynette	<i>Alternate</i> -Port of Los Angeles
Government (NV)	Santo-Domingo, Cathie	Los Angeles Recreation and Parks
Government	Scaduto, Michael	<i>Alternate</i> - City of Los Angeles Sanitation
9. Government	Shu, Susan	City of Los Angeles Bureau of Engineering
Government	Tan, Emmanuel	Department of Water and Power
Government	Wall, Brian	City of Los Angeles Fire Department
Government	Wubishet, Yidmekachew	Department of Water and Power
Non-Government	Alexander, Desmian	USC Public Policy
1. Non-Government	Asuncion, Kendal	Los Angeles Chamber of Commerce



Non-Government	Baldauf, Brian	<i>Alternate-</i> Mountain Recreation & Conservation Authority
Non-Government	Demesa, Ed	U.S. Army Corps of Engineers
Non-Government	Ellis, Andre	CSULA Geosciences & Environment
Non-Government	Garcia-Ruiz, Joselito	Red Cross of Greater Los Angeles
2. Non-Government	Greenspan, Mike	Resident
Non-Government	Griego, Liliana	Friends of the Los Angeles River
3. Non-Government	McOmbler, Britta	UCLA Luskin School of Public Affairs
4. Non-Government	Miranda, Solomon	CA Department of Water Resources
5. Non-Government	Oliver, Susan	<i>Alternate-</i> Friends of the Los Angeles River
6. Non-Government	Rascon, Sarah	Mountains Recreation & Conservation Authority
7. Non-Government	Robinson, Alex	USC Landscape Architecture
Non-Government	Tran, Larry	<i>Alternate-</i> Los Angeles County Flood Control District
Non-Government	Vivanti, John	<i>Alternate-</i> U.S. Army Corps of Engineers
8. Non-Government	Wood, Patricia	Los Angeles County Flood Control District
1. Team Support	Artz, Ira	Tetra Tech, Inc.
2. Team Support	Flaner, Rob	Tetra Tech, Inc.
3. Team Support	Hernandez, Lorena	KPA
4. Team Support	Herrera, Thelma	KPA
5. Team Support	Padilla, Katherine	KPA
6. Team Support	Parker, Steve	Tetra Tech, Inc.
7. Team Support	Schloss, Melissa	Tetra Tech, Inc.
Team Support	Subbio, Tony	Tetra Tech, Inc.
Team Support	Suh, Cindy	KPA

(NV) = non-voting member

Members with duplicate organizational attendance are not counted as voting representatives

**Planning Process**

**Welcome and Introductions**

Aaron Gross welcomed attendees, and everyone introduced themselves. Aaron thanked everyone for joining the FMP Steering Committee and for the work they’re doing in response to the Corona Virus. Rob noted that this is the City’s last SC meeting.

**Review Agenda**

Rob Flaner, Tetra Tech welcomed attendees and provided time for attendees to review the agenda and make any final edits. No edits were requested.

**Old Business**

**Approve SC Meeting #8 Summary**

Rob Flaner asked the SC if they had any edits to the March 12, 2020 meeting summary. No edits were requested.



*MOTION by Aaron Gross to approve the March 12, 2020 meeting summary and second by Conni Pallini-Tipton. Motion carried unanimously.*

### **Receive Public Comment**

Rob Flaner asked members of the public if they wished to address the committee. No members of the public were present, and no comments were expressed.

### **New Business**

#### **Risk Assessment Update**

#### **Repetitive Loss Area Analysis**

Rob noted that the RLAA data has been provided to the City and they are reviewing it. Rob explained there are approximately 600 properties, and all have addresses, parcel numbers and were provided in shape file format. Next step is to make a list and send out a standard letter that lets them know there is a RLAA component to the FMP.

#### **Critical Facilities Analysis**

Rob explained that the critical facilities analysis is the last component to the Risk Assessment section. Rob explained how it incorporates the lifelines construct and contains sensitive information so the results will be summarized in the Plan text.

#### **Confirm Plan Maintenance Strategy**

#### **What is Required?**

Rob reviewed the draft Plan Maintenance section provided to the SC and explained that it is the last section the SC needs to approve. Rob explained that it is obligated by what CRS requires, including an annual progress report. Rob noted there is an option to increase annual reporting to four times per year, but the CRS point increase may not be worth the extra work that is required.

#### **What is the SC Role?**

Rob explained that the SC members' role in the annual reporting requirement is to meet once annually to review and approve the annual report. He asked the committee members if anyone is not able to commit to that. Rob explained that this meeting can also be held virtually. Pat Wood noted she will participate in the annual reporting process as well as the next FMP update, but her alternate may change. Rob explained that if there is still a County representative it will still qualify.

#### **Public Outreach Strategy**

Rob reminded the SC members that the City and County surveys were combined for blended results totaling 250+ survey responses to date.

Rob said he received approval from ISO to hold virtual SC meetings due to the CDC recommendations of the ongoing Corona Virus. Due to the potential security issues involved with Zoom, we will be moving to WebX in the future as it is more secure. Lorena of KPA will post a virtual narrative 1-2 weeks before the meeting date so the public can provide comments prior to and during the meeting. All of this information will also be provided in the public notices, social media and website posts. Once the virtual meeting is held, the narrative will be replaced with a recording of the virtual meeting until the end of the public comment period. The public comment period will be held May 18 through June 8. The SC will be able to



provide comments on the FMP from April 30 to May 15<sup>th</sup>, followed by additional comment time during the public comment period. Tetra Tech will then have one week to incorporate the comments and submit the FMP to the ISO in early June.

### **Plan Update**

Rob reviewed each proposed action within the Action Plan and asked the SC for their comments/suggestions.

Aaron Gross thanked all the SC members for participating in the FMP update process and thanked Red Cross for hosting the meetings. Rob thanked Aaron for his leadership and participating in the update process as well.

### **Action Items and Next Steps**

- The FMP will be provided to the SC to provide comments April 30 through May 15.
- SC should provide edits in Word format using track changes and save document with your initials.

### **Adjourn**

Rob notified attendees that this is the last meeting for the 2020 update.

*MOTION by Aaron Gross and second by Conni Pallini-Tipton to adjourn. Motion carried unanimously.*



**P-22 Event Public Workshop  
MEETING SUMMARY**





**PUBLIC WORKSHOP SUMMARY**  
**City of Los Angeles FMP 2020 Update**  
**Public Meeting #1 – P-22 Event at Griffith Park**

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Date/Time of Meeting:           October 19, 2019  11:00 a.m. – 4:00 p.m.

Team Attendance                 Romano Galissi, Steve Parker, Ira Artz, Carol Bauman, Nahara Zazueta

1. The first public meeting of the Floodplain Management Plan 2020 Update began by setting up the booth that City Parks and Recreation provided for BOE at 9:00 a.m.
  - a. An easel focusing on the Los Angeles River floodplain adjacent to Griffith Park was set up, and floodplain maps for all of the City were on hand and available for residents.
  - b. HAZUS workstations were functioning and prepared to take queries.
  - c. A spinning wheel for residents to win swag was set up.
  - d. BOE and LASAN provided a range of give-aways to hand out.
  - e. Snacks were set out as well.
  - f. FEMA and flood risk flyers were made ready.
  - g. The Survey monkey QR code and website was provided, and printed versions were on hand.
2. Our team recorded the number of adults that stopped by the booth. We had a turn out of 131 people, not including their children.
3. Staff took turns entertaining children while others spoke with the adults to garner feedback and to educate the public. They were all encouraged to fill out the survey.
4. Perhaps a 1/3 of the residents who came by were Spanish speaking and Nahara provided interpretation services for them.
5. The team hosted approximately a dozen individuals at the HAZUS workstations to locate their homes as questions were asked of homeowner's properties in relation to locations of flood hazards and their experiences. Other residents looked on and listened as these questions were discussed.
  - a. As a printer was not available (no power at the booth), those who had in interest in more information provided contact information on a sign in sheet, or Romano provided his contact information to the residents.

<b>Exhibit #</b>	<b>Organization Name</b>
53	Greater Los Angeles Zoo Association
21	Heal the Bay
12	Herp Connection
50	In Defense of Animals
66	LADWP
20	Meztli Projects
20 x 30 Pavillion	Mountain Lion Foundation
14	<a href="http://mynativestories.com">mynativestories.com</a>
22	National Park Conservation Association
46	Narrated Objects
64	National Park Service - SAMO
Pavillion	National Park Service Pavillion
Pavillion	National Wildlife Federation Pavillion
Bus	Natural History Museum of Los Angeles County
32	Nature For All
Pavillion	NHMLA / La Brea Tar Pits / Urban Nature Research Center
62	Orangutan Conservancy
8	P22 Cycling
54	Poison Free Agoura
55	Poison Free Malibu
35	Rachel Igotofsky
45	San Fernando Valley Audubon Society
49	San Pascual STEAM Magnet Elementary School
NPS Paillion	Santa Monica Mountains Fund
10	Santa Susana Mountain Park Association (SSMPA)
11	Sky Valley Volunteers
63	SOUTHWESTERN HERPETOLOGISTS SOCIETY
28	Teranga Ranch
9	The Boeing Company
18	The Humane Society of the United States
52	The Raccoon Alliance
33	The Wildwoods Foundation
30	Theodore Payne Foundation for Wild Flowers and Native Plants
1	TreePeople
61	US House of Representatives
56	Whittier Narrows Nature Center
34	Wild Yards Project

<b>Exhibit #</b>	<b>Organization Name</b>
57	3rd Rock Hip Hop
44	Adam Matano Sculpture
38	Amgios de los Rios
25	Animazonia Wildlife Foundation
17	Antelope Valley Conservancy
27	Arroyos & Foothills Conservancy
16	Audubon Center at Debs Park
23	Autry Museum of the American West
51	Ballona Wetlands Institute
41	Bantu Arts Atelier For Kids
29	Betina's Butterfly Garden
7	Calahan Street Elementary
65	California Mountain Lions (UC Davis SoCal Puma Project)
39	California Native Plant Society, Los Angeles/Santa Monica Mntns Chapter
43	California State Dominguez
37	California Wildlife Center
15	Caltrans
31	Center for Biological Diversity
36	Christine Echeverri Art Studio
6	CicLAvia
40	Citizens for Los Angeles Wildlife (CLAW)
4	City of Los Angeles - Department of City Planning
3	City of Los Angeles - Department of Public Works
19	Community Nature Connection
26	Cougarmagic
59	Defenders of Wildlife
5	Di Angelo Publications
58	Discovery Cube Los Angeles
2	EFBC's Feline Conservation Center
24	Escondido Creek Conservancy
13	Foundation for the Preservation of the Santa Susana Mountains
42	Friends of California Condors Wild and Free
47	Friends of Griffith Park
48	Friends of Griffith Park
River Rover	Friends of the Los Angeles River
60	Ghost Cat Publications

Attendance to booth

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# CITY OF LOS ANGELES FLOOD PLAIN MANAGEMENT PLAN UPDATE

**Please Keep Me Informed/ Por favor manténgame informado**

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<b>NAME/NOMBRE</b>	<b>EMAIL/CORREO ELECTRÓNICO</b> <hr/> <b>CELL PHONE NO./TELÉFONO CELULAR</b>	<b>ADDRESS/DOMICILIO</b>
<b>NAME/NOMBRE</b>	<b>EMAIL/CORREO ELECTRÓNICO</b> <hr/> <b>CELL PHONE NO./TELÉFONO CELULAR</b>	<b>ADDRESS/DOMICILIO</b>

DATE: \_\_\_\_\_











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City of Los Angeles 2020 Floodplain Management Plan

# **Appendix D. Core Capabilities Exercise Summary**

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City of Los Angeles 2020 FMP Update  
Core Capability Exercise Results  
1/9/2020

		Average Green	Average Red
1	Flood Emergency management is provided by a unified authority or program within the City.	60%	40%
2	Current land uses within identified flood hazard areas are appropriate for the risk posed by each hazard.	32%	68%
3	There is a good understanding of the flood risk posed by all flood hazards in the City of LA.	17%	83%
4	Flood Emergency response functions for the City are clearly defined and are effective.	41%	59%
5	Members of the public know where to find information about flood hazards and risk.	9%	91%
6	Areas that provide natural resource protection are identified and protected within the City by a uniform policy.	28%	72%
7	Existing flood control systems are effective and well maintained.	26%	74%
8	Roles and responsibilities for emergency management within the City of LA are clearly defined.	63%	37%
9	The City of LA staff are knowledgeable about flood hazards and their impacts and are willing to share that knowledge with the public.	88%	13%
10	The core capability to assess and mitigate flood risk within the planning area is high.	50%	50%
11	City personnel with emergency management functions are adequately trained and exercised.	70%	30%
12	The City of LA citizens have a good understanding of flood hazard exposure and risk.	5%	95%
13	The funding to support flood hazard risk reduction within the City of LA is adequate.	15%	85%
14	Strong collaboration and coordination exists between the City, neighboring jurisdictions, the County and state and federal agency partners.	55%	45%
15	Appropriate and timely flood warning systems are in place.	30%	70%
16	The City currently has an adequate variety of both, regulatory and non-regulatory strategies to reduce risk.	68%	32%
17	The City currently has adequate, adopted policies that encourage development to be located outside of high risk areas.	25%	75%
18	Risk from flood hazards within the City of LA is adequately managed and regulated.	24%	76%
19	There is strong public support for flood risk reduction within the City of LA.	43%	57%
20	The City is adequately prepared for the probable impacts on flood hazards due to the impacts from a changing climate.	14%	86%
21	Coordinated public outreach regarding risk from flood hazards convey clear, consistent messaging to the public.	34%	66%
22	The Planning Partnership's flood risk management programs are fair and equitable.	50%	50%
23	Information on flood insurance is readily available within the City.	50%	50%
24	There is political support for flood risk management within the City	65%	35%

City of Los Angeles 2020 FMP Update  
 Core Capability Exercise Results  
 1/9/2020

		<b>Average Green</b>	<b>Average Red</b>
25	All relevant stakeholders are engaged in the City's flood risk management efforts.	33%	67%
26	The City's development regulations for new development within identified flood hazard zones are clear and adequate to address flood risk.	63%	37%
27	There is a coordinated program to maintain drainage systems free of debris.	64%	36%
28	The enforcement of current codes and standards within the planning area is strong.	63%	37%
29	The Citizens of the City of LA have the access to information necessary for them to be prepared to respond, recover and mitigation the impacts for flood hazards within the City.	50%	50%
30	Real Estate professionals adequately disclose risk exposure from natural hazards at the time of sale of real property.	23%	77%

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City of Los Angeles 2020 Floodplain Management Plan

## **Appendix E. Summary of Federal and State Agencies, Programs and Regulations**

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## **E. SUMMARY OF FEDERAL AND STATE AGENCIES, PROGRAMS AND REGULATIONS**

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Existing laws, ordinances, plans and programs at the federal and state level can support or impact floodplain management actions identified in this plan. Floodplain management plans are required to include a review and incorporation, if appropriate, of existing plans, studies, reports, and technical information as part of the planning process (44 CFR, Section 201.6(b)(3)). The following federal and state programs have been identified as programs that may interface with the actions identified in this plan. Each program enhances capabilities to implement mitigation actions or has a nexus with a mitigation action in this plan. Information presented in this section can be used to review local capabilities to implement the actions found in the jurisdictional annexes of Volume 2. Each planning partner has individually reviewed existing local plans, studies, reports, and technical information in its jurisdictional annex, presented in Volume 2.

### **FEDERAL**

#### **Americans with Disabilities Act**

The Americans with Disabilities Act (ADA) seeks to prevent discrimination against people with disabilities in employment, transportation, public accommodation, communications, and government activities. Title II of the ADA deals with compliance with the Act in emergency management and disaster-related programs, services, and activities. It applies to state and local governments as well as third parties, including religious entities and private nonprofit organizations.

The ADA has implications for sheltering requirements and public notifications. During an emergency alert, officials must use a combination of warning methods to ensure that all residents have all necessary information. Those with hearing impairments may not hear radio, television, sirens, or other audible alerts, while those with visual impairments may not see flashing lights or other visual alerts. Two technical documents for shelter operators address physical accessibility needs of people with disabilities, as well as medical needs and service animals.

The ADA intersects with disaster preparedness programs in regards to transportation, social services, temporary housing, and rebuilding. Persons with disabilities may require additional assistance in evacuation and transit (e.g., vehicles with wheelchair lifts or paratransit buses). Evacuation and other response plans should address the unique needs of residents. Local governments may be interested in implementing a special-needs registry to identify the home addresses, contact information, and needs for residents who may require more assistance.

FEMA floodplain management project grant applications require full compliance with applicable federal acts. Any action identified in this plan that falls within the scope of this act will need to meet its requirements.

#### **Civil Rights Act of 1964**

The Civil Rights Act of 1964 prohibits discrimination based on race, color, religion, sex or nation origin and requires equal access to public places and employment. The Act is relevant to floodplain management in that it

prohibits local governments from favoring the needs of one population group over another. Local government and emergency response must ensure the continued safety and well-being of all residents equally, to the extent possible. FEMA floodplain management project grant applications require full compliance with applicable federal acts. Any action identified in this plan that falls within the scope of this act will need to meet its requirements.

## **Clean Water Act**

The federal Clean Water Act (CWA) employs regulatory and non-regulatory tools to reduce direct pollutant discharges into waterways, finance municipal wastewater treatment facilities, and manage polluted runoff. These tools are employed to achieve the broader goal of restoring and maintaining the chemical, physical, and biological integrity of the nation’s surface waters so that they can support “the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water.”

Evolution of CWA programs over the last decade has included a shift from a program-by-program, source-by-source, and pollutant-by-pollutant approach to more holistic watershed-based strategies. Under the watershed approach, equal emphasis is placed on protecting healthy waters and restoring impaired ones. Numerous issues are addressed, not just those subject to CWA regulatory authority. Involvement of stakeholder groups in the development and implementation of strategies for achieving and maintaining water quality and other environmental goals is a hallmark of this approach.

Section 404 of the Clean Water Act regulates the discharge of dredged and fill material into waters of the United States, including wetlands. Responsibility for administering and enforcing Section 404 is shared by the U.S. Army Corps of Engineers and the EPA. The Corps administers the day-to-day program, including individual permit decisions and jurisdictional determinations, develops policy and guidance, and enforces Section 404 provisions. The EPA develops and interprets environmental criteria used in evaluating permit applications, identifies activities that are exempt from permitting, reviews/comments on individual permit applications, enforces Section 404 provisions, and has authority to veto Corps permit decisions. With EPA approval and oversight, states and tribes can assume administration of the Section 404 permit program for certain non-navigable waters, but only two states—Michigan and New Jersey—have done so.

The CWA is important to floodplain management in several ways. There are often permitting requirements for any construction within 200 feet of water of the United States, which may have implications for implementing floodplain management projects. Additionally, CWA requirements apply to wetlands, which serve important functions related to preserving and protecting the natural and beneficial functions of floodplains and are linked with a community’s floodplain management program. Finally, the National Pollutant Discharge Elimination System is part of the CWA and addresses local stormwater management programs. Stormwater management plays a critical role in floodplain management by addressing urban drainage or localized flooding issues within jurisdictions.

FEMA floodplain management project grant applications require full compliance with applicable federal acts. Any action identified in this plan that falls within the scope of this act will need to meet its requirements.

## **Community Development Block Grant Disaster Resilience Program**

In response to disasters, Congress may appropriate additional funding for the U.S. Department of Housing and Urban Development Community Development Block Grant programs to be distributed as Disaster Recovery grants (CDBG-DR). These grants can be used to rebuild affected areas and provide seed money to start the recovery process. CDBG-DR assistance may fund a broad range of recovery activities, helping communities and neighborhoods that otherwise might not recover due to limited resources. CDBG-DR grants often supplement disaster programs of FEMA, the Small Business Administration, and the U.S. Army Corps of Engineers. Housing and Urban Development generally awards noncompetitive, nonrecurring CDBG-DR grants by a formula that

considers disaster recovery needs unmet by other federal disaster assistance programs. To be eligible for CDBG-DR funds, projects must meet the following criteria:

- Address a disaster-related impact (direct or indirect) in a presidentially declared county for the covered disaster
- Be a CDBG-eligible activity (according to regulations and waivers)
- Meet a national objective.

Incorporating preparedness and mitigation into these actions is encouraged, as the goal is to rebuild in ways that are safer and stronger. CDBG-DR funding is a potential alternative source of funding for actions identified in this plan.

## Community Rating System

The CRS is a voluntary program within the NFIP that encourages floodplain management activities that exceed the minimum NFIP requirements. Flood insurance premiums are discounted to reflect the reduced flood risk resulting from community actions meeting the following three goals of the CRS:

- Reduce flood losses.
- Facilitate accurate insurance rating.
- Promote awareness of flood insurance.

For participating communities, flood insurance premium rates are discounted in increments of 5 percent. For example, a Class 1 community would receive a 45 percent premium discount, and a Class 9 community would receive a 5 percent discount. (Class 10 communities are those that do not participate in the CRS; they receive no discount.) The discount partially depends on location of the property. Properties outside the special flood hazard area receive smaller discounts: a 10-percent discount if the community is at Class 1 to 6 and a 5-percent discount if the community is at Class 7 to 9. The CRS classes for local communities are based on 18 creditable activities in the following categories:

- Public information
- Mapping and regulations
- Flood damage reduction
- Flood preparedness.

CRS activities can help to save lives and reduce property damage. Communities participating in the CRS represent a significant portion of the nation's flood risk; over 66 percent of the NFIP's policy base is located in these communities. Communities receiving premium discounts through the CRS range from small to large and represent a broad mixture of flood risks, including both coastal and river flood risks.

## Emergency Watershed Program

The USDA Natural Resources Conservation Service (NRCS) administers the Emergency Watershed Protection (EWP) Program, which responds to emergencies created by natural disasters. Eligibility for assistance is not dependent on a national emergency declaration. The program is designed to help people and conserve natural resources by relieving imminent hazards to life and property caused by floods, fires, windstorms, and other natural occurrences. EWP is an emergency recovery program. Financial and technical assistance are available for the following activities (Natural Resources Conservation Service, 2016):

- Remove debris from stream channels, road culverts, and bridges
- Reshape and protect eroded banks

- Correct damaged drainage facilities
- Establish cover on critically eroding lands
- Repair levees and structures
- Repair conservation practices.

This federal program could be a possible funding source for actions identified in this plan.

## Endangered Species Act

The federal Endangered Species Act (ESA) was enacted in 1973 to conserve species facing depletion or extinction and the ecosystems that support them. The act sets forth a process for determining which species are threatened and endangered and requires the conservation of the critical habitat in which those species live. The ESA provides broad protection for species of fish, wildlife and plants that are listed as threatened or endangered. Provisions are made for listing species, as well as for recovery plans and the designation of critical habitat for listed species. The ESA outlines procedures for federal agencies to follow when taking actions that may jeopardize listed species and contains exceptions and exemptions. It is the enabling legislation for the Convention on International Trade in Endangered Species of Wild Fauna and Flora. Criminal and civil penalties are provided for violations of the ESA and the Convention.

Federal agencies must seek to conserve endangered and threatened species and use their authorities in furtherance of the ESA's purposes. The ESA defines three fundamental terms:

- Endangered means that a species of fish, animal or plant is "in danger of extinction throughout all or a significant portion of its range." (For salmon and other vertebrate species, this may include subspecies and distinct population segments.)
- Threatened means that a species "is likely to become endangered within the foreseeable future." Regulations may be less restrictive for threatened species than for endangered species.
- Critical habitat means "specific geographical areas that are...essential for the conservation and management of a listed species, whether occupied by the species or not."

Five sections of the ESA are of critical importance to understanding it:

- Section 4: Listing of a Species—The National Oceanic and Atmospheric Administration Fisheries Service (NOAA Fisheries) is responsible for listing marine species; the U.S. Fish and Wildlife Service is responsible for listing terrestrial and freshwater aquatic species. The agencies may initiate reviews for listings, or citizens may petition for them. A listing must be made "solely on the basis of the best scientific and commercial data available." After a listing has been proposed, agencies receive comment and conduct further scientific reviews for 12 to 18 months, after which they must decide if the listing is warranted. Economic impacts cannot be considered in this decision, but it may include an evaluation of the adequacy of local and state protections. Critical habitat for the species may be designated at the time of listing.
- Section 7: Consultation—Federal agencies must ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of a listed or proposed species or adversely modify its critical habitat. This includes private and public actions that require a federal permit. Once a final listing is made, non-federal actions are subject to the same review, termed a "consultation." If the listing agency finds that an action will "take" a species, it must propose mitigations or "reasonable and prudent" alternatives to the action; if the proponent rejects these, the action cannot proceed.
- Section 9: Prohibition of Take—It is unlawful to "take" an endangered species, including killing or injuring it or modifying its habitat in a way that interferes with essential behavioral patterns, including breeding, feeding or sheltering.
- Section 10: Permitted Take—Through voluntary agreements with the federal government that provide protections to an endangered species, a non-federal applicant may commit a take that would otherwise be

prohibited as long as it is incidental to an otherwise lawful activity (such as developing land or building a road). These agreements often take the form of a “Habitat Conservation Plan.”

- Section 11: Citizen Lawsuits—Civil actions initiated by any citizen can require the listing agency to enforce the ESA’s prohibition of taking or to meet the requirements of the consultation process.

FEMA floodplain management project grant applications require full compliance with applicable federal acts. Any action identified in this plan that falls within the scope of this act will need to meet its requirements.

In some parts of the country, including the Pacific Northwest and the Sacramento-San Joaquin Delta area, court rulings have found that floodplain management measures can be in conflict with the goals of the endangered species act. Those rulings have required FEMA and local governments to engage in a consultation process with federal wildlife agencies (Section 7 of the ESA) as they work to develop certain floodplain management programs, plans and projects. No such rulings currently affect the Los Angeles area, but floodplain managers should nonetheless be aware of any potential activities that could fall under the ESA.

## Federal Energy Regulatory Commission Dam Safety Program

The Federal Energy Regulatory Commission (FERC) cooperates with a large number of federal and state agencies to ensure and promote dam safety. The Commission regulates over 1,700 non-federal dams in the U.S. Over 1,500 regulated hydroelectric projects are in the FERC program (FERC, 2020). Two-thirds of these are more than 50 years old. As dams age, concern about their safety and integrity grows, so oversight and regular inspection are important. FERC inspects hydroelectric projects on an unscheduled basis to investigate the following:

- Potential dam safety problems
- Complaints about constructing and operating a project
- Safety concerns related to natural disasters
- Issues concerning compliance with the terms and conditions of a license.

Every five years, an independent engineer approved by the FERC must inspect and evaluate projects with dams higher than 32.8 feet (10 meters), or with a total storage capacity of more than 2,000 acre-feet.

FERC monitors seismic research and applies it in performing structural analyses of hydroelectric projects. FERC also evaluates the effects of potential and actual large floods on the safety of dams. During and following floods, FERC visits dams and licensed projects, determines the extent of damage, if any, and directs any necessary studies or remedial measures the licensee must undertake. The FERC publication *Engineering Guidelines for the Evaluation of Hydropower Projects* guides the FERC engineering staff and licensees in evaluating dam safety. The publication is frequently revised to reflect current information and methodologies.

FERC requires licensees to prepare emergency action plans and conducts training sessions on how to develop and test these plans. The plans outline an early warning system if there is an actual or potential sudden release of water from a dam due to failure. The plans include operational procedures that may be used, such as reducing reservoir levels and reducing downstream flows, as well as procedures for notifying affected residents and agencies responsible for emergency management. These plans are frequently updated and tested to ensure that everyone knows what to do in emergency situations.

## National Dam Safety Act

Potential for catastrophic flooding due to dam failures led to passage of the National Dam Inspection Act in 1972, creation of the National Dam Safety Program in 1996, and reauthorization of the program through the Dam Safety Act in 2006. In November 2019, FEMA published the *Emergency Operations Planning: Dam Incident Planning Guide* supporting state, local, tribal and territorial emergency managers in planning for dam incidents and failures

(FEMA, 2019). National Dam Safety Program, administered by FEMA requires a periodic engineering analysis of the majority of dams in the country; exceptions include the following:

- Dams under jurisdiction of the Bureau of Reclamation, Tennessee Valley Authority, or International Boundary and Water Commission
- Dams constructed pursuant to licenses issued under the Federal Power Act
- Dams that the Secretary of the Army determines do not pose any threat to human life or property.

The goal of this FEMA-monitored effort is to identify and mitigate the risk of dam failure so as to protect lives and property of the public. The National Dam Safety Program is a partnership among the states, federal agencies, and other stakeholders that encourages individual and community responsibility for dam safety. Under FEMA's leadership, state assistance funds have allowed all participating states to improve their programs through increased inspections, emergency action planning, and purchases of needed equipment. FEMA has also expanded existing and initiated new training programs. Grant assistance from FEMA provides support for improvement of dam safety programs that regulate most of the dams in the United States.

## **National Environmental Policy Act**

The National Environmental Policy Act requires federal agencies to consider the environmental impacts of proposed actions and reasonable alternatives to those actions, alongside technical and economic considerations. The National Environmental Policy Act established the Council on Environmental Quality, whose regulations (40 CFR Parts 1500-1508) set standards for compliance. Consideration and decision-making regarding environmental impacts must be documented in an environmental impact statement or environmental assessment. Environmental impact assessment requires the evaluation of reasonable alternatives to a proposed action, solicitation of input from organizations and individuals that could be affected, and an unbiased presentation of direct, indirect, and cumulative environmental impacts. FEMA floodplain management project grant applications require full compliance with applicable federal acts. Any action identified in this plan that falls within the scope of this act will need to meet its requirements.

## **National Flood Insurance Program**

The National Flood Insurance Program (NFIP) makes federally backed flood insurance available to homeowners, renters, and business owners in participating communities that enact floodplain regulations. Participation and good standing under NFIP are prerequisites to grant funding eligibility under the Robert T. Stafford Act.

For most participating communities, FEMA has prepared a detailed Flood Insurance Study. The study presents water surface elevations for floods of various magnitudes, including the 100-year flood and the 500-year flood. Base flood elevations and the boundaries of the flood hazard areas are shown on Flood Insurance Rate Maps, which are the principle tool for identifying the extent and location of the flood hazard. Flood Insurance Rate Maps are the most detailed and consistent data source available, and for many communities they represent the minimum area of oversight under the local floodplain management program. In recent years, Flood Insurance Rate Maps have been digitized as Digital Flood Insurance Rate Maps, which are more accessible to residents, local governments and stakeholders.

Participants in the NFIP must, at a minimum, regulate development in floodplain areas in accordance with NFIP criteria. Before issuing a permit to build in a floodplain, participating jurisdictions must ensure that three criteria are met:

- New buildings and those undergoing substantial improvements must, at a minimum, be elevated to protect against damage by the 100-year flood.

- New floodplain development must not aggravate existing flood problems or increase damage to other properties.
- New floodplain development must exercise a reasonable and prudent effort to reduce its adverse impacts on threatened salmonid species.

## **National Incident Management System**

The National Incident Management System (NIMS) is a systematic approach for government, nongovernmental organizations, and the private sector to work together to manage incidents involving hazards. The NIMS provides a flexible but standardized set of incident management practices. Incidents typically begin and end locally, and they are managed at the lowest possible geographical, organizational, and jurisdictional level. In some cases, success depends on the involvement of multiple jurisdictions, levels of government, functional agencies, and emergency responder disciplines. These cases necessitate coordination across a spectrum of organizations. Communities using NIMS follow a comprehensive national approach that improves the effectiveness of emergency management and response personnel across the full spectrum of potential hazards (including natural hazards, technological hazards, and human-caused hazards) regardless of size or complexity.

Although participation is voluntary, federal departments and agencies are required to make adoption of NIMS by local and state jurisdictions a condition to receive federal preparedness grants and awards. The content of this plan is considered to be a viable support tool for any phase of emergency management. The NIMS program is considered as a response function, and information in this floodplain management plan can support the implementation and update of all NIMS-compliant plans within the planning area.

## **Presidential Executive Order 11988, Floodplain Management**

Executive Order 11988 requires federal agencies to avoid to the extent possible the long and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative. It requires federal agencies to provide leadership and take action to reduce the risk of flood loss, minimize the impact of floods on human safety, health, and welfare, and restore and preserve the natural and beneficial values of floodplains. The requirements apply to the following activities (FEMA, 2015):

- Acquiring, managing, and disposing of federal lands and facilities
- Providing federally undertaken, financed, or assisted construction and improvements
- Conducting federal activities and programs affecting land use, including but not limited to water and related land resources planning, regulation, and licensing.

## **Presidential Executive Order 11990, Protection of Wetlands**

Executive Order 11990 requires federal agencies to provide leadership and take action to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands. The requirements apply to the following activities (FEMA, 2020a):

- Acquiring, managing, and disposing of federal lands and facilities
- Conducting federal activities and programs affecting land use, including but not limited to water and related land resources planning, regulation, and licensing.

All actions identified in this plan will seek full compliance with all applicable presidential executive orders.

## U.S. Army Corps of Engineers Dam Safety Program

The U.S. Army Corps of Engineers operates and maintains approximately 700 dams nationwide. It is also responsible for safety inspections of some federal and non-federal dams in the United States that meet the size and storage limitations specified in the National Dam Safety Act. The Corps has inventoried dams; surveyed each state and federal agency's capabilities, practices and regulations regarding design, construction, operation and maintenance of the dams; and developed guidelines for inspection and evaluation of dam safety. The Corps maintains the National Inventory of Dams, which contains information about a dam's location, size, purpose, type, last inspection and regulatory status (U.S. Army Corps of Engineers, 2017).

## U.S. Army Corps of Engineers Flood Risk Management Program

The U.S. Army Corps of Engineers has several civil works authorities and programs related to flood risk and flood hazard management:

- The Floodplain Management Services program offers 100-percent federally funded technical services such as development and interpretation of site-specific data related to the extent, duration and frequency of flooding. Special studies may be conducted to help a community understand and respond to flood risk. These may include flood hazard evaluation, flood warning and preparedness, or flood modeling.
- For more extensive studies, the Corps of Engineers offers a cost-shared program called Planning Assistance to States and Tribes. Studies under this program generally range from \$25,000 to \$100,000 with the local jurisdiction providing 50 percent of the cost.
- The Corps of Engineers has several cost-shared programs (typically 65 percent federal and 35 percent non-federal) aimed at developing, evaluating and implementing structural and non-structural capital projects to address flood risks at specific locations or within a specific watershed:
  - The Continuing Authorities Program for smaller-scale projects includes Section 205 for Flood Control, with a \$7 million federal limit and Section 14 for Emergency Streambank Protection with a \$1.5 million federal limit. These can be implemented without specific authorization from Congress.
  - Larger scale studies, referred to as General Investigations, and projects for flood risk management, for ecosystem restoration or to address other water resource issues, can be pursued through a specific authorization from Congress and are cost-shared, typically at 65 percent federal and 35 percent non-federal.
  - Watershed management planning studies can be specifically authorized and are cost-shared at 50 percent federal and 50 percent non-federal.
- The Corps of Engineers provides emergency response assistance during and following natural disasters. Public Law 84-99 enables the Corps to assist state and local authorities in flood fight activities and cost share in the repair of flood protective structures. Assistance is provided in the following categories:
  - Preparedness—The Flood Control and Coastal Emergency Act establishes an emergency fund for preparedness for emergency response to natural disasters; for flood fighting and rescue operations; for rehabilitation of flood control and hurricane protection structures. Funding for Corps of Engineers emergency response under this authority is provided by Congress through the annual Energy and Water Development Appropriation Act. Disaster preparedness activities include coordination, planning, training and conduct of response exercises with local, state and federal agencies.
  - Response Activities—Public Law 84-99 allows the Corps of Engineers to supplement state and local entities in flood fighting urban and other non-agricultural areas under certain conditions (Engineering Regulation 500-1-1 provides specific details). All flood fight efforts require a project cooperation agreement signed by the public sponsor and the sponsor must remove all flood fight material after the flood has receded. Public Law 84-99 also authorizes emergency water support and drought assistance

in certain situations and allows for “advance measures” assistance to prevent or reduce flood damage conditions of imminent threat of unusual flooding.

- Rehabilitation—Under Public Law 84-99, an eligible flood protection system can be rehabilitated if damaged by a flood event. The flood system would be restored to its pre-disaster status at no cost to the federal system owner, and at 20-percent cost to the eligible non-federal system owner. All systems considered eligible for Public Law 84-99 rehabilitation assistance have to be in the Rehabilitation and Inspection Program prior to the flood event. Acceptable operation and maintenance by the public levee sponsor are verified by levee inspections conducted by the Corps on a regular basis. The Corps has the responsibility to coordinate levee repair issues with interested federal, state, and local agencies following natural disaster events where flood control works are damaged.

All of these authorities and programs are available to the City to support any intersecting floodplain management actions.

## STATE

### **AB 32: The California Global Warming Solutions Act**

This bill identifies the following potential adverse impacts of global warming:

“... the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems.”

AB 32 establishes a state goal of reducing greenhouse gas emissions to 1990 levels by 2020 (a reduction of approximately 25 percent from forecast emission levels), with further reductions to follow. The law requires the state Air Resources Board to do the following:

- Establish a program to track and report greenhouse gas emissions.
- Approve a scoping plan for achieving the maximum technologically feasible and cost-effective reductions from sources of greenhouse gas emissions.
- Adopt early reduction measures to begin moving forward.
- Adopt, implement and enforce regulations—including market mechanisms such as “cap and-trade” programs—to ensure that the required reductions occur.

The Air Resources Board has adopted a statewide greenhouse gas emissions limit and an emissions inventory, along with requirements to measure, track, and report greenhouse gas emissions by the industries it determined to be significant sources of greenhouse gas emissions.

### **AB 70: Flood Liability**

This bill provides that a city may be required to contribute a fair and reasonable share to compensate for property damage caused by a flood to the extent that it has increased the state’s exposure to liability for property damage by unreasonably approving new development in a previously undeveloped area that is protected by a state flood control project, unless the city meets specified requirements.

### **AB 162: Flood Planning**

This California State Assembly Bill passed in 2007 requires cities and counties to address flood-related matters in the land use, conservation, and safety and housing elements of their general plans. The land use element must

identify and annually review the areas covered by the general plan that are subject to flooding as identified in floodplain mapping by either FEMA or the state Department of Water Resources (DWR). During the next revision of the housing element on or after January 1, 2009, the conservation element of the general plan must identify rivers, creeks, streams, flood corridors, riparian habitat, and land that may accommodate floodwater for the purpose of groundwater recharge and stormwater management. The safety element must identify information regarding flood hazards, including:

- Flood hazard zones
- Maps published by FEMA, DWR, the U.S. Army Corps of Engineers, the Central Valley Flood Protection Board, and the Governor’s Office of Emergency Services
- Historical data on flooding
- Existing and planned development in flood hazard zones.

The general plan must establish goals, policies and objectives to protect from unreasonable flooding risks, including:

- Avoiding or minimizing the risks of flooding new development
- Evaluating whether new development should be located in flood hazard zones
- Identifying construction methods to minimize damage.

AB 162 establishes goals, policies and objectives to protect from unreasonable flooding risks. It establishes procedures for the determination of available land suitable for urban development, which may exclude lands where FEMA or DWR has concluded that the flood management infrastructure is not adequate to avoid the risk of flooding.

## **AB 2800: Climate Change—Infrastructure Planning**

This California State Assembly bill passed in 2016 and until July 1, 2020, requires state agencies to take into account the current and future impacts of climate change when planning, designing, building, operating, maintaining, and investing in state infrastructure. The bill, by July 1, 2017, and until July 1, 2020, requires an agency to establish a Climate-Safe Infrastructure Working Group to examine how to integrate scientific data concerning projected climate change impacts into state infrastructure engineering.

## **California Coastal Management Program**

The California Coastal Management Program under the California Coastal Act requires each city or county lying wholly or partly within the coastal zone to prepare a local coastal plan. The specific contents of such plans are not specified by state law, but they must be certified by the Coastal Commission as consistent with policies of the Coastal Act (Public Resources Code, Division 20). The Coastal Act has provisions relating to geologic hazards, but does not mention tsunamis specifically. Section 30253(1) of the Coastal Act states that new development shall minimize risks to life and property in areas of high geologic, flood, and fire hazard. Development should be prevented or limited in high hazard areas whenever possible. However, where development cannot be prevented or limited, land use density, building value, and occupancy should be kept at a minimum. Any mitigation project identified in this plan that intersects the mapped coastal zone will be consistent with the recommendations of the local coastal plan.

## **California Department of Water Resources**

In California, the DWR is the coordinating agency for floodplain management. The DWR works with FEMA and local governments by providing grants and technical assistance, evaluating community floodplain management

programs, reviewing local floodplain ordinances, participating in statewide floodplain management planning, and facilitating annual statewide workshops. Compliance is monitored by FEMA regional staff and by the DWR.

## **California Division of Safety of Dams**

California's Division of Safety of Dams (a division of the DWR) monitors the dam safety program at the state level and maintains a working list of dams in the state. When a new dam is proposed, Division engineers and geologists inspect the site and the subsurface. Upon submittal of an application, the Division reviews the plans and specifications prepared by the owner to ensure that the dam is designed to meet minimum requirements and that the design is appropriate for the known geologic conditions. After approval of the application, the Division inspects all aspects of the construction to ensure that the work is done in accordance with the approved plans and specifications. After construction, the Division inspects each dam to ensure that it is performing as intended and is not developing problems. The Division periodically reviews the stability of dams and their major appurtenances in light of improved design approaches and requirements, as well as new findings regarding earthquake hazards and hydrologic estimates in California. Over 1,200 dams are inspected by Division engineers on a yearly schedule to ensure performance and maintenance of dams (California Division of Safety of Dams, 2017).

## **California Environmental Quality Act**

The California Environmental Quality Act (CEQA) was passed in 1970, shortly after the federal government enacted the National Environmental Policy Act, to institute a statewide policy of environmental protection. CEQA requires state and local agencies in California to follow a protocol of analysis and public disclosure of the potential environmental impacts of development projects. CEQA makes environmental protection a mandatory part of every California state and local agency's decision-making process.

CEQA establishes a statewide environmental policy and mandates actions all state and local agencies must take to advance the policy. Jurisdictions conduct analysis of the project to determine if there are potentially significant environmental impacts, identify mitigation measures, and possible project alternatives by preparing environmental reports for projects that requires CEQA review. This environmental review is required before an agency takes action on any policy, program, or project. Any project action identified in this plan will seek full CEQA compliance upon implementation.

The City of Los Angeles has determined that the FMP2020 is categorically exempt from the formal CEQA protocol. The City will initiate the formal CEQA protocol on any project recommended in this plan that requires adherence to this protocol at the initiation of the project.

## **California General Planning Law**

California state law requires that every county and city prepare and adopt a comprehensive long-range plan to serve as a guide for community development. The general plan expresses the community's goals, visions, and policies relative to future land uses, both public and private. The general plan is mandated and prescribed by state law (Cal. Gov. Code §65300 et seq.), and forms the basis for most local government land use decision-making.

The plan must consist of an integrated and internally consistent set of goals, policies, and implementation measures. In addition, the plan must focus on issues of the greatest concern to the community and be written in a clear and concise manner. City actions, such as those relating to land use allocations, annexations, zoning, subdivision and design review, redevelopment, and capital improvements, must be consistent with the plan.

## **California State Building Code**

California Code of Regulations Title 24, also known as the California Building Standards Code, is a compilation of building standards from three sources:

- Building standards that have been adopted by state agencies without change from building standards contained in national model codes
- Building standards that have been adopted and adapted from the national model code standards to meet California conditions
- Building standards authorized by the California legislature that constitute extensive additions not covered by the model codes adopted to address particular California concerns.

The state Building Standards Commission is authorized by California Building Standards Law (Health and Safety Code Sections 18901 through 18949.6) to administer the processes related to the adoption, approval, publication, and implementation of California's building codes. These building codes serve as the basis for the design and construction of buildings in California. The national model code standards adopted into Title 24 apply to all occupancies in California, except for modifications adopted by state agencies and local governing bodies. Since 1989, the Building Standards Commission has published new editions of Title 24 every three years.

On January 1, 2014, California Building Code Accessibility Standards found in Chapter 11B incorporated the 2010 Americans with Disabilities Act (ADA) Standards as the model accessibility code for California. The purpose was to ensure consistency with federal guidelines. As a result of this incorporation, the California standards will fully implement and include 2010 ADA Standards within the California Building Code while maintaining enhanced levels of accessibility already provided by existing California accessibility regulations. All planning partners that have building code and permit authority have adopted building codes that are in full compliance with the California State Building Code.

## **Disadvantaged and Low-income Communities Investments**

Senate Bill (SB) 535 directs state and local agencies to make investments that benefit California's disadvantaged communities. It also directs the California Environmental Protection Agency to identify disadvantaged communities for the purposes of these investments based on geographic, socio-economic, public health, and environmental hazard criteria. Assembly Bill (AB) 1550 increased the percent of funds for projects located in disadvantaged communities from 10 to 25 percent and added a focus on investments in low-income communities and households. This program is a potential alternative source of funding for actions identified in this plan.

## **Governor's Executive Order S-13-08**

Governor's Executive Order S-13-08 enhances the state's management of climate impacts from sea level rise, increased temperatures, shifting precipitation and extreme weather events. There are four key actions in the executive order:

- Initiate California's first statewide climate change adaptation strategy to assess expected climate change impacts, identify where California is most vulnerable, and recommend adaptation policies. This effort will improve coordination within state government so that better planning can more effectively address climate impacts on human health, the environment, the state's water supply and the economy.
- Request that the National Academy of Science establish an expert panel to report on sea level rise impacts in California, to inform state planning and development efforts.
- Issue interim guidance to state agencies for how to plan for sea level rise in designated coastal and floodplain areas for new projects.
- Initiate a report on critical infrastructure projects vulnerable to sea level rise.

## **Los Angeles Regional Water Quality Control Board**

The Los Angeles Regional Water Quality Control Board protects ground and surface water quality in the Los Angeles region. It is one of nine regional boards statewide under the California Environmental Protection Agency.

The board conducts the following activities to protect ground and surface waters under its jurisdiction (California State Water Resources Control Board, 2019):

- Address region-wide and specific water quality concerns through updates of the Water Quality Control Plan (Basin Plan) for the Los Angeles Region.
- Prepare, monitor compliance with, and enforce waste discharge requirements.
- Implement and enforce local stormwater control efforts.
- Regulate the cleanup of contaminated sites that have polluted groundwater or surface water or have the potential to do so.
- Enforce water quality laws, regulations, and waste discharge requirements.
- Coordinate with other public agencies and groups that are concerned with water quality.
- Inform and involve the public on water quality issues.

### **Senate Bill 97: Guidelines for Greenhouse Gas Emissions**

Senate Bill 97, enacted in 2007, amends CEQA to clearly establish that greenhouse gas emissions and the effects of greenhouse gas emissions are appropriate subjects for CEQA analysis. It directs the Governor's Office of Planning and Research to develop draft CEQA guidelines for the mitigation of greenhouse gas emissions or their effects by July 1, 2009 and directs the California Natural Resources Agency to certify and adopt the CEQA Guidelines by January 1, 2010.

### **Senate Bill 379: General Plans: Safety Element—Climate Adaptation**

Senate Bill 379 builds upon the flood planning inclusions into the safety and housing elements in general plans outlined in AB 162. SB 379 focuses on a new requirement that cities and counties include climate adaptation and resiliency strategies in the safety element of their general plans beginning January 1, 2017. In addition, this bill requires general plans to include a set of goals, policies and objectives, and specified implementation measures based on the conclusions drawn from climate adaptation research and recommendations.

### **Senate Bill 1000: General Plan Amendments—Safety and Environmental Justice Elements**

In 2016, Senate Bill 1000 amended California's Planning and Zoning Law in two ways:

- The original law established requirements for initial revisions of general plan safety elements to address flooding, fire, and climate adaptation and resilience. It also required subsequent review and revision as necessary based on new information. Senate Bill 1000 specifies that the subsequent reviews and revision based on new information are required to address only flooding and fires (not climate adaptation and resilience).
- Senate Bill 1000 adds a requirement that, upon adoption or revision of any two other general plan elements on or after January 1, 2018, an environmental justice element be adopted for the general plan or environmental justice goals, policies and objectives be incorporated into other elements of the plan.

### **Standardized Emergency Management System**

California Code of Regulations Title 19 establishes the Standardized Emergency Management System (SEMS) to standardize the response to emergencies involving multiple jurisdictions. SEMS is intended to be flexible and adaptable to the needs of all emergency responders in California. It requires emergency response agencies to use basic principles and components of emergency management. Local governments must use SEMS by December 1, 1996, to be eligible for state funding of response-related personnel costs under California Code of Regulations Title 19 (Sections 2920, 2925 and 2930). The roles and responsibilities of Individual agencies contained in

existing laws or the state emergency plan are not superseded by these regulations. This floodplain management plan is considered to be a support document for all phases of emergency management, including those associated with SEMS.

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City of Los Angeles 2020 Floodplain Management Plan

## **Appendix F. Repetitive Loss Area Analysis**

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City of Los Angeles

# 2020 Repetitive Loss Area Analysis

Public Release



August 2020



# City of Los Angeles 2020 Repetitive Loss Area Analysis

August 2020

## PREPARED FOR

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City of Los Angeles 2020 Repetitive Loss Area Analysis

# **PART 1—PLANNING PROCESS AND PROJECT BACKGROUND**

