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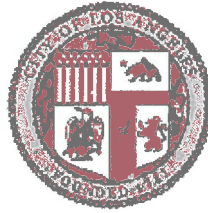
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November 8th, 2016

To: Distribution

2016 FLOODPLAIN MANAGEMENT PLAN IMPLEMENTATION PROGRESS REPORT DISTRIBUTION

Dear Floodplain Management Plan Steering Committee Members and Stakeholders:

Enclosed is the 2016 Floodplain Management Plan (FMP) Implementation Progress Report for the City of Los Angeles. This report describes the progress and latest issues affecting the Floodplain Management Plan and floodplains of the City. This report is prepared annually as a requirement of the National Flood Insurance Program (NFIP) of which the City of Los Angeles is a participant. This final FMP Progress Report incorporates comments by the FMP Steering Committee, which includes citizen and City staff committee members. This copy of the Floodplain Management Plan Implementation Progress Report is provided for your reference and use.

If you have any questions, contact Romano Galassi at 213-847-0405. Thank you.

Sincerely,

Steven J. Chen, Division Engineer
Street and Stormwater Division

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CITY OF LOS ANGELES

Floodplain Management Plan Progress Report November 2016



Reviewed by:
Floodplain Management Plan Steering
Committee

Prepared by:
Bureau of Engineering
Street and Stormwater Program
Gary Lee Moore, City Engineer
2016

**CITY OF LOS ANGELES
FLOODPLAIN MANAGEMENT PLAN
PROGRESS REPORT 2016**

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2016 FMP PROGRESS REPORT

City of Los Angeles, California

Floodplain Management Plan Progress Report

Reporting Period: *October 2015 to October 2016*

I. Background: The City of Los Angeles developed the first Floodplain Management Plan (FMP) in 2001 and updated it in 2010. The last Floodplain Management Plan update was completed in 2015 and was adopted by the City Council in October 2015 (FMP2015). The objective of the FMP2015 plan was to reduce flood damage by identifying resources, information, and strategies for risk reduction. During the preparation of FMP2015, the City organized resources, assessed risks from flooding, developed planning goals and objectives, reviewed mitigation alternatives, and developed an action plan to address probable impacts from floods. The FMP2015 can be viewed on-line at:

<http://eng.lacity.org/projects/fmp/>

II. Summary Overview of the Plan's Progress: The 5-year performance period for the FMP2015 began in October, 2015 with the next anticipated plan update to occur prior to October of 2020. Given that the FMP2015 has targeted 80 flood hazard mitigation actions to be pursued during the 5-year performance period, the following overall progress for the performance review period of Oct 2015 through Oct 2016 can be reported as followed:

- 56 out of 80 actions (70%) reported perpetual ongoing plans.
- 1 out of 80 actions (1%) were reported as being completed.
- 23 out of 80 actions (29%) reported long-term plans for which no action has been taken yet.

III. Purpose: The purpose of this progress report is to provide an annual update on the implementation of the action plans identified in the FMP2015. The objective is to ensure that there is a continuing and responsive planning process that will keep the FMP2015 dynamic and responsive to the needs and capabilities of the City and stakeholders. This report discusses the following:

- Flood events that have occurred within the last year
- Changes in risk exposure within the City of Los Angeles
- Mitigation success stories
- Review of the action plan
- Changes in capabilities that could impact plan implementation
- Recommendations for changes/enhancements.

IV. The Floodplain Management Plan Steering Committee: The Floodplain Management Plan Steering Committee, made up of stakeholders within the City of Los Angeles, reviewed and approved this progress report at its annual meeting held on October 5th, 2016 at LA Glendale Water Reclamation Plant. It was determined through the FMP2015's development process that a steering committee would remain in service to oversee its maintenance. At a minimum, the Steering Committee will provide technical review and oversight on the development of the annual progress report. It is anticipated that there will be turnover in the membership annually, which will be documented in the progress reports. For this reporting period, the Steering Committee membership is indicated in Table 1 shown on the following page.

Table 1

Agency	Representative Name
Bureau of Engineering, City of LA	Susan Shu
City Planning, City of LA	Claire Bowin
Building and Safety, City of LA	Lawrence Quirante
Emergency Management, City of LA	Robert Freeman
Fire Department, City of LA	Captain John Ignatczyk
Bureau of Sanitation, City of LA	Shahram Kharaghani
Department of Water and Power, City of LA	Terri Koch
Port of Los Angeles (Harbor Department)	Keith Garcia
Real-time Analysis and Critical Response Division, Police Department, City of LA	Jennifer Thomas
Watershed Management Division, Los Angeles County Department of Public Works	George De La O
CA Department of Water Resources	Salomon Miranda
US Army Corps of Engineers	Eduardo T. De Mesa
Department of Geography, California State Polytechnic University, Pomona	Dr. Lin Wu
Los Angeles Area Chamber of Commerce	Sarah Rascon
Friends of the Los Angeles River	Lewis MacAdams
Geosciences and Environment, California State University, Los Angeles	Dr. Andre Ellis
Alliance of River Communities	Hector Huezo
Citizen, CD 4	Roy Forbes
Water Committee, Sierra Club Angeles Chapter	Dr. Tom Williams
West Adams NC	Clint Simmons, P.E.
Citizen, Los Angeles CERT	Larry Bogatz
Citizen, North Hills CCC	Mike Greenspan
Citizen, Brentwood HOA	Dr. Stewart Fliege

V. Flood Events: Per County of Los Angeles precipitation records for the 2015-16 water year (from October 1, 2015 to September 30, 2016), the Downtown Los Angeles (USC) gauge ended the water year with 6.88 inches of rain. This is about 52% below average rainfall of 14.28 inches. There is no flood event during this reporting period.

VI. Changes in Risk Exposure: Not Applicable during this reporting period.

VII. Mitigation Success Stories (P-33, P-50 Action Plan Items):

1. Grand Canal West Bank Erosion Control Project

Street end storm runoffs flowing directly to Grand Canal had caused erosion to the west bank of the Grand Canal between Anchorage Street and Galleon Street. The eroded slope poses public street hazards along Strongs Drive, which is one of the main access roads for the nearby public school traffic. This project protected pedestrian walkway, avoided further damage by runoff, and ensured motorist safety along Strongs Drive. The improvement restored five (5) eroded Grand Canal West Bank slopes (gullies), reconstructed the storm drain pipes, and installed catch basins/BMPs as to prevent future erosion while mitigating potential flooding at Strongs Drive and Driftwood Street. Work scope also included the installation of curb and gutter, street resurfacing, and construction of vinyl fencing along the top of the bank.

Construction started in August 2014 and completed in October 2015.

2. 3649 Berry Drive Emergency Storm Drain Repair Project

The existing 12-inch corrugated metal pipe (CMP) storm drain located on the hillside adjacent to Berry Drive was severely deteriorated and was no longer functional. As a result, runoff would gush out of the pipe and erode the hillside causing mudslide and rockslide downstream.

The City removed and replaced existing 56 linear feet of 12-inch diameter CMP with 71 linear feet of 12-inch diameter High Density Poly Ethylene (HDPE) pipe. In addition, pipe anchors, backfill stabilizers, and an energy dissipater were also constructed to restore and protect the damaged hillside.

Construction started in January 2016 and completed in March 2016.

3. Speedway and Anchorage Emergency Storm Drain Project

This is a flat low lying neighborhood in the Venice area near the waterfront with frequent flooding. Storm runoff would often enter residents' garages and ponds on the street for a while before subsiding. To alleviate this problem, the City installed a storm drain system which consisted of 477 feet of 10-inch diameter HDPE pipe and 10 small area grating basins along Speedway from Washington Blvd to Buccaneer Street.

Construction started in January 2015 and completed in June 2015.

VIII. Review of the Action Plan:

All action plans from the FMP2015 chapter 14 have been brought forward as on-going recommendations to provide flood hazard mitigation benefits. The numbering from the FMP2015 was carried over into the progress report. Table 2 lists recommended action plans along with the following information:

- 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
 - On-going = currently being funded and implemented under existing programs.

The action plan was also prioritized according to the benefit/cost analysis, funding availability and the immediacy of the need for each project as follows:

- High Priority—A project that meets multiple objectives, 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 and for which funding has not been secure 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 factor for medium priority projects is that they are eligible for funding, but do not yet have funding secured, and they can be completed within the short term if their funding is secured.
- Low Priority—A project that will mitigate the risk of a hazard, for which benefits are difficult to quantify and funding has not been secured. Therefore, the time line for completion is unknown (1 to 10 years). Low priority projects may be eligible for grant funding from other programs.

Acronyms of lead departments responsible for submitting the funding request and/or providing the fund are as follows:

- BOE—Bureau of Engineering, Department of Public Works
- BOS—Bureau of Sanitation, Department of Public Works
- BSS—Bureau of Street Services, Department of Public Works
- CAO—Chief Administrative Office
- 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
- DWP—Department of Water and Power
- EMD—Emergency Management Department
- FD—Fire Department
- HD—Harbor Department
- LACDPW/LACFCD—L.A. County Department of Public Works/ L.A. County Flood Control District
- LD—Library Department
- PD—Police Department

**TABLE 2.
ACTION PLAN MATRIX**

Lead Department ^a	Possible Funding Sources	Estimated Project Cost	Time Line	Priority
P-1—Maintain the City Tsunami Response Plan Annex and community education effort and participate in the Los Angeles County Operational Area Tsunami Mitigation Task Force.				
<u>EMD</u> , HD	General Fund, HD	Low. Work performed by existing staff	Ongoing	High
P-2—Continue to partner with the NOAA and the NWS, who provide tsunami warning information to the state, the county, and the city.				
<u>EMD</u> , HD, FD	General Fund, HD	Low. Work performed by existing staff	Ongoing	High
P-3—Maintain the City Tsunami Response Plan Annex as part of the City’s Emergency Operations Organization Master Plan.				
<u>EMD</u> , HD	General Fund, HD	Low. Work performed by existing staff	Ongoing	High
P-4—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, Los Angeles County, etc.).				
<u>EMD</u> , FD, PD	General Funds; Possible grants	Low. Work performed by existing staff	Ongoing	High
P-5—Continue to maintain and annually update the Dam and Reservoir Emergency Notification List.				
<u>DWP</u> , <u>LACFCD</u> , <u>LACDPW</u>	DWP, LACDPW	Low. Work performed by existing staff	Ongoing	High
P-6—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.				
<u>DWP</u> , <u>LACFCD</u> , <u>LACDPW</u>	DWP, LACDPW	High	Ongoing	Medium
P-7—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 prevent catastrophic events.				
<u>DWP</u> , <u>LACFCD</u> , <u>LACDPW</u>	DWP	Low. Work performed by existing staff	Ongoing	High
P-8—Continue to dispatch reservoir inspection and damage teams following natural disasters to inspect and report the condition of facilities.				
<u>DWP</u> , <u>LACFCD</u> , <u>LACDPW</u>	DWP	Low. Work performed by existing staff	Ongoing	High
P-9—Continue to routinely monitor the existing structural condition of City-owned water storage facilities.				
<u>DWP</u>	DWP	Low. Work performed by existing staff	Ongoing	High
P-10—Maintain a flood threat recognition system for properties downstream of City-owned water tanks.				
<u>DWP</u> , EMD	DWP	Low. Work performed by existing staff	Ongoing	High
P-11—Prepare and update emergency plans for water tanks and other non-dam systems.				
<u>DWP</u>	DWP	Medium	Ongoing	Medium

**TABLE 2.
ACTION PLAN MATRIX**

Lead Department ^a	Possible Funding Sources	Estimated Project Cost	Time Line	Priority
P-12 —Continue to provide and participate in community education and outreach programs and events in the City.				
<u>EMD</u> , BOE, DCP, HD, FD, PD, DBS, DWP	General Fund	Low. Work performed by existing staff	Ongoing	High
P-13 —Maintain the City’s Emergency Management Department and Ready LA websites and other City social media sites to provide emergency preparedness information to the general public and media.				
<u>EMD</u>	General Fund	Low. Work performed by existing staff	Ongoing	High
P-14 —Distribute information regarding flood prevention and flood insurance at emergency operations and emergency preparedness events.				
<u>BOE</u> , EMD	General Fund, Stormwater Pollution Abatement Fund	Low. Work performed by existing staff	Ongoing	High
P-15 —Maintain the City’s Emergency Operations Master Plan and Procedures including, but not limited to, periodic plan updates and training and exercises.				
<u>EMD</u>	General Fund	Low. Work performed by existing staff	Ongoing	High
P-16 —Make sand and sand bags 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.				
<u>BOE</u> , BSS EMD, FD	General Fund; Stormwater Pollution Abatement Fund	Low. Work performed by existing staff	Ongoing	High
P-17 —Maintain and improve the drainage complaint database to help identify flood risks.				
<u>BOE</u>	Stormwater Pollution Abatement Fund	Low. Work performed by existing staff	Ongoing	High
P-18 —Maintain and improve a technically based prioritization methodology for use in developing the stormwater capital improvement program.				
<u>BOE</u> , BOS	Stormwater Pollution Abatement Fund	Low. Work performed by existing staff	Ongoing	High
P-19 —Maintain regular contact with surrounding cities, the Los Angeles County Department of Public Works, and state and federal agencies regarding flood hazard mitigation and the National Flood Insurance Program.				
<u>BOE</u> , CAO, EMD, LACDPW	Stormwater Pollution Abatement Fund; General Fund	Low. Work performed by existing staff	Ongoing	High
P-20 —Network with other agencies and participate in organizations such as the Association of State Floodplain Managers, CA 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> , BOS	Stormwater Pollution Abatement Fund	Low. Work performed by existing staff	Ongoing	High
P-21 —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> , BOS	Stormwater Pollution Abatement Fund	Low. Work performed by existing staff	Ongoing	High

**TABLE 2.
ACTION PLAN MATRIX**

Lead Department ^a	Possible Funding Sources	Estimated Project Cost	Time Line	Priority
P-22 —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	High
P-23 —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	General Fund	Low. Work performed by existing staff	Ongoing	High
P-24 —Maintain Geographic Information System mapping and modeling capability to support the stormwater facilities condition assessment program.				
<u>BOE</u> , BOS	Stormwater Pollution Abatement Fund	Low. Work performed by existing staff	Ongoing	High
P-25 —Continue to maintain precise survey benchmarks throughout the City.				
<u>BOE</u>	General Fund	Low. Work performed by existing staff	Ongoing	High
P-26 —Develop and maintain a citywide list of priority maintenance-related flood problem sites.				
<u>BOE</u> , BOS	Stormwater Pollution Abatement Fund	Low. Work performed by existing staff	Ongoing	High
P-27 —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.				
<u>BOS</u>	Stormwater Pollution Abatement Fund	Low. Work performed by existing staff	Ongoing	High
P-28 —Provide public education about keeping the stormwater system free of debris, the blockage of flow paths and reporting violations.				
<u>BOE</u> , BOS	Stormwater Pollution Abatement Fund	Low. Work performed by existing staff	Ongoing	High
P-29 —Post “No Dumping” signs at points of entry to the stormwater system.				
<u>BOS</u> , LACDPW Benefit Assessment for Flood Control (County)	Stormwater Pollution Abatement Fund (City)	Low. Work performed by existing staff	Ongoing	High
P-30 —Maintain a map for potential landslide and mudflow areas.				
<u>BOE</u> , BOS, DBS, DCP	General Fund, Stormwater Pollution Abatement Fund	Low. Work performed by existing staff	Ongoing	High
P-31 —Update the established policy for identifying substantial improvement projects that is consistent with FEMA requirements as needed.				
<u>BOE</u> , DBS	General Fund, Stormwater Pollution Abatement Fund	Low. Work performed by existing staff	Ongoing	High

**TABLE 2.
ACTION PLAN MATRIX**

Lead Department ^a	Possible Funding Source	Estimated Project Cost	Time Line	Priority
P-32 —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	High
P-33 —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.				
<u>BOE</u> , BOS, CAO, DBS, DCP, DWP, EMD, HD	Stormwater Pollution Abatement Fund; General Fund	Low. Work performed by existing staff	Ongoing	High
P-34 — 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	High
P-35 —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> , BOS, DBS	Stormwater Pollution Abatement Fund; General Fund	Low. Work performed by existing staff	Ongoing	High
P-36 —Incorporate floodplain management information into the Zoning Information and Map Access System (ZIMAS).				
<u>BOE</u> , DBS, DCP	Stormwater Pollution Abatement Fund; General Fund	Low. Work performed by existing staff	Ongoing	High
P-37 —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	High
P-38 —Transfer electronic data annually regarding hazardous materials storage (including water-reactive chemicals).				
<u>FD</u>	General Fund	Low. Work performed by existing staff	Ongoing	High
P-39 —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	High

**TABLE 2.
ACTION PLAN MATRIX**

Lead Department ^a	Possible Funding Sources	Estimated Project Cost	Time Line	Priority
P-40 —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	High
P-41 —Develop and distribute flood protection information and materials to property owners and developers in high-risk areas including FEMA mapped floodplains and areas outside of mapped floodplains.				
<u>BOE, DBS, DCP, EMD, LD</u>	Stormwater Pollution Abatement Fund; General Fund	Low. Work performed by existing staff	Ongoing	High
P-42 —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>	Stormwater Pollution Abatement Fund; General Fund	Low. Work performed by existing staff	Ongoing	High
P-43 —Maintain a current list of city-owned or city-leased properties located in FEMA-designated flood zones.				
<u>BOE, DGS</u>	General Fund; Stormwater Pollution Abatement Fund	Low. Work performed by existing staff	Ongoing	High
P-44 —Continue to investigate repetitive loss properties as they are identified by FEMA. Annually notify repetitive loss property owners about local flood hazards and proper 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>	Stormwater Pollution Abatement Fund	Low. Work performed by existing staff	Ongoing	High
P-45 —Identify high 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	High
P-46 — 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.				
<u>BOE, DBS</u>	Stormwater Pollution Abatement Fund; General Fund	Low. Work performed by existing staff	Ongoing	High
P-47 —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	High
P-48 —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, BOS</u>	Stormwater Pollution Abatement Fund	Low. Work performed by existing staff	Ongoing	High

**TABLE 2.
ACTION PLAN MATRIX**

Lead Department ^a	Possible Funding Sources	Estimated Project Cost	Time Line	Priority
P-49 —Establish standards and/or incentives for the use of structural and nonstructural techniques that mitigate flood hazards and manage stormwater pollution.				
<u>BOE</u> , BOS	Stormwater Pollution Abatement Fund	Low. Work performed by existing staff	Ongoing	High
P-50 —Plan and design stormwater projects so that water quality is protected and flood risks are reduced on site and off site.				
<u>BOE</u> , BOS, DBS	Stormwater Pollution Abatement Fund	Low. Work performed by existing staff	Ongoing	High
P-51 — 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	High
P-52 —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	High
P-53 —The Steering Committee will meet at least one time during the year to develop the annual Floodplain Management Plan Evaluation Report and recommend any updates to the plan.				
<u>BOE</u> , CAO, Steering Committee	Stormwater Pollution Abatement Fund; General Fund	Low. Work performed by existing staff	Ongoing	High
P-54 —Update a City-wide Watercourse Permit Manual.				
<u>BOE</u>	General Fund, Possible grants	Low. Work performed by existing staff	Ongoing	High
P-55 —Update the City’s floodplain management website to promote awareness of the National Flood Insurance Program.				
<u>BOE</u> , EMD	General Fund, Stormwater Pollution Abatement Fund	Low. Work performed by existing staff	Ongoing	High
P-56 —Develop a program for regular condition assessment of stormwater facilities to identify the physical and hydraulic condition of the system and to support infrastructure management needs.				
<u>BOE</u> , BOS,	Stormwater Pollution Abatement Fund	High	Long-Term	Medium
P-57 — 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>BOS</u> , BOE	Stormwater Pollution Abatement Fund	High	Long-Term	Medium
P-58 —Evaluate current development regulations, including the grading ordinance and zoning ordinance, to determine whether the standards provide sufficient protection for adjacent (downstream or down-slope) development.				
<u>DCP</u> , DBS, BOE, BOS	Stormwater Pollution Abatement Fund; General Fund	Low	Long-Term	Low

**TABLE 2.
ACTION PLAN MATRIX**

Lead Department ^a	Possible Funding Sources	Estimated Project Cost	Time Line	Priority
P-59 —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, BOS	Stormwater Pollution Abatement Fund; General Fund	Low	Long-Term	Medium
P-60 —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	Low
P-61 —Research and continue to improve municipal code regulations regarding soil stability and erosion abatement.				
<u>DBS</u> , <u>DCP</u> , BOE	Stormwater Pollution Abatement Fund; General Fund	Low	Long-Term	Low
P-62 —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, <u>DCP</u>	Stormwater Pollution Abatement Fund; General Fund	High	Long-Term	Low
P-63 —Evaluate flood hazards to City-owned or city-leased properties in FEMA-designated flood zones and develop mitigation recommendations.				
<u>BOE</u> , DGS	Stormwater Pollution Abatement Fund	Low	Long-Term	Medium
P-64 —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	Low
P-65 —Develop an annual inspection program of watercourse obstructions and revetments in Mandeville Canyon.				
<u>BOE</u> , BOS, BSS, CAO, City Attorney; Council Office District 11	General Fund, Grants	High	Long-Term	Low
P-66 — Maintain self-registry for vulnerable populations with access and functional needs and strive to identify sources of public safety hazards caused by a Tsunami event and develop evacuation/response plans.				
<u>EMD</u> , FD, PD, BOE, DOA, DOD	General Funds; Possible grants	High	Long-Term	Low
P-67 —If funding is available, develop 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	Low

**TABLE 2.
ACTION PLAN MATRIX**

Lead Department ^a	Possible Funding Sources	Estimated Project Cost	Time Line	Priority
P-68 —Maintain self-registry for vulnerable populations with access and functional needs and strive to identify sources of public safety hazards caused by a catastrophic dam failure and develop evacuation/response plans.				
<u>EMD</u> , PD, DWP, DOA, DOD	General Funds; Possible grants	High	Long-Term	Low
P-69 — Implement the Tujunga Wash Stream bank Protection Project.				
<u>BOE</u> , BOS	Army Corps of Engineers; grants	High (\$600,000 or more)	Long-Term	Low
P-70 —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> , BOS LACDPW	Stormwater Pollution Abatement Fund; Benefit Assessment for Flood Control (County)	Low	Long-Term	Medium
P-71 —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.				
<u>BOE</u> , BOS, DBS, DCP, DGS	General Fund, Stormwater Pollution Abatement Fund; Grants	Low-Work performed by existing staff	Long-Term	Low
P-72 —Utilize risk based information from the City of Los Angeles Comprehensive Floodplain Management Plan and the City of Los Angeles Hazard Mitigation Plan to update the Safety Element of the City’s general plan pursuant to CA Assembly Bill 2140 (AB-2140)				
<u>PD</u> , DCP, DBS	General Fund	Medium	Long-Term	Low
P-73 —Institute a program for the capture of perishable data (e.g., high water marks, damages, functional downtime) following flood events within the City, most notable in portions of the City where flooding occurs that have not been identified as a hazard area on existing FEMA or City maps.				
<u>BOE</u> , PD, BOS	General Fund, FEMA Pollution Abatement Fund	Medium	Long-Term	Low
P-74 —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, BOS	General Fund	Low	On-going	High
P-75 —Where feasible, cost effective and supported both publicly and politically, restore the natural and beneficial floodplain functions of appropriate floodplains within the City. For this action, appropriate means a floodplain that has been identified through a master plan or study certified by a qualified agency.				
<u>BOE</u> , BOS, DBS, DCP, DGS	General Fund, Stormwater Pollution Abatement Fund	Low-Work performed by existing staff	Long-Term	Low

**TABLE 2.
ACTION PLAN MATRIX**

Lead Department ^a	Possible Funding Sources	Estimated Project Cost	Time Line	Priority
P-76 —Utilizing the best available data and science, consider probable impacts to 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> , BOS, DCP, DGS, DBS	General Fund	Medium	Long-Term	Low
P-77 —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.				
<u>DCP</u> , BOE, BOS	General Fund	High	Long-Term	Low
P-78 —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> , BOS	Federal and State Funds, Possible grants, General Fund	Medium	Long-Term	Medium
P-79 —Upon completion, adopt the Enhanced Watershed Management Plans for City of Los Angeles watersheds.				
<u>BOS</u> , BOE	General Fund	Low	Completed and adapted by the City and the State	High
P-80 —Once Enhanced Watershed Management Plans have been adopted, coordinate floodplain management programs with plan recommendations and objectives.				
<u>BOE</u> , BOS	Possible grants, General Fund	Medium	Long-Term	Medium
a. Where multiple departments are listed, the underlined department will be the lead agency for overseeing implementation of the action				

IX. Changes That May Impact Implementation of the Plan:

1. Potential addition of Special Flood Hazard Area (SFHA) near Glendale Narrows of Los Angeles River

In September 2016, the U.S. Army Corps of Engineers (USACE) completed a study of hydraulic modeling and floodplain analysis using existing conditions of the channel of the Los Angeles River, for an area from Barham Boulevard in Burbank to 1st Street in the City of Los Angeles. This was done to assess flood hazards along this approximately 13-mile stretch of the Los Angeles River, which includes properties that are primarily in the City of Los Angeles, as well as some properties in the Cities of Burbank and Glendale. A public meeting was held on Monday, October 17, 2016 at Friendship Auditorium. Additional information can be found online at:

http://eng.lacity.org/projects/LARIVER_Glendale_Narrows/

2. Ballona Creek Physical Map Revision

The Preliminary Flood Insurance Study (FIS) and the Preliminary Flood Insurance Rate Map (FIRM) panels were mailed to the Los Angeles County (County), City of Los Angeles (City), City of Culver, City of Inglewood, City of Vernon, and City of Beverly Hills Chief Executive Officers in 2015. The City was given a 90-day statutory review period started on February 9, 2016 and appeal ending on May 9, 2016. Upon further analysis, it was concluded that FEMA's re-mapping study of the region did not include the storm drain pipe data provided by the County, and the absence of this data is potentially causing inaccuracies in the flood hazard information shown on the preliminary FIRMs. On May 6, 2016, the City sent a letter to FEMA requesting for the inclusion of all of the existing flood control systems in the study area in order to improve the accuracy of the flood hazard mapping

On September 30, 2016, the City received a letter from FEMA informing that further review of the storm drain system data for the entire study area has been conducted which resulted in another map revision of the flood hazard zones. FEMA also included the revised preliminary FIRM panels and FIS report for City's review and internal circulation. It was also stated in the letter that FEMA will initiate a formal Community Coordination Officer (CCO) meeting prior to opening up another round of public review and appeal period for this revised map.

3. Open Pacific Coastal Map Revision for Los Angeles County

FEMA initiated a nationwide flood studies and mapping projects for coastal areas in 2011 as part of a new risk mapping program that will provide communities with more accurate flood maps, risk assessment tools and support for planning and outreach efforts.

On October 28th, 2016, the City received a letter containing the map revision and preliminary FIRM panels and FIS report for areas along the Open Pacific Coast of Los Angeles County. There is no change in SFHA in the City of LA. As stated in the letter, FEMA will schedule a formal Community Coordination Officer meeting (a CCO meeting) pertinent to this study to discuss the revised flood hazard information and ordinance adoption, as well as addressing any questions and concerns for this new map revision. Additional information can be found online at:

www.r9map.org

X. Recommendations for Changes or Enhancements: Based on the review of this report by the Floodplain Management Plan Steering Committee, the following recommendations will be noted for future updates or revisions to the FMP2015:

- A time-related metric should be defined for action plans and added to table 2 to estimate their anticipated completion time.

- List the corresponding action plan for each mitigation success stories
- LA County Flood Control District should be added as the lead agency for action plans that have currently have LA County Public Works listed as their agency.

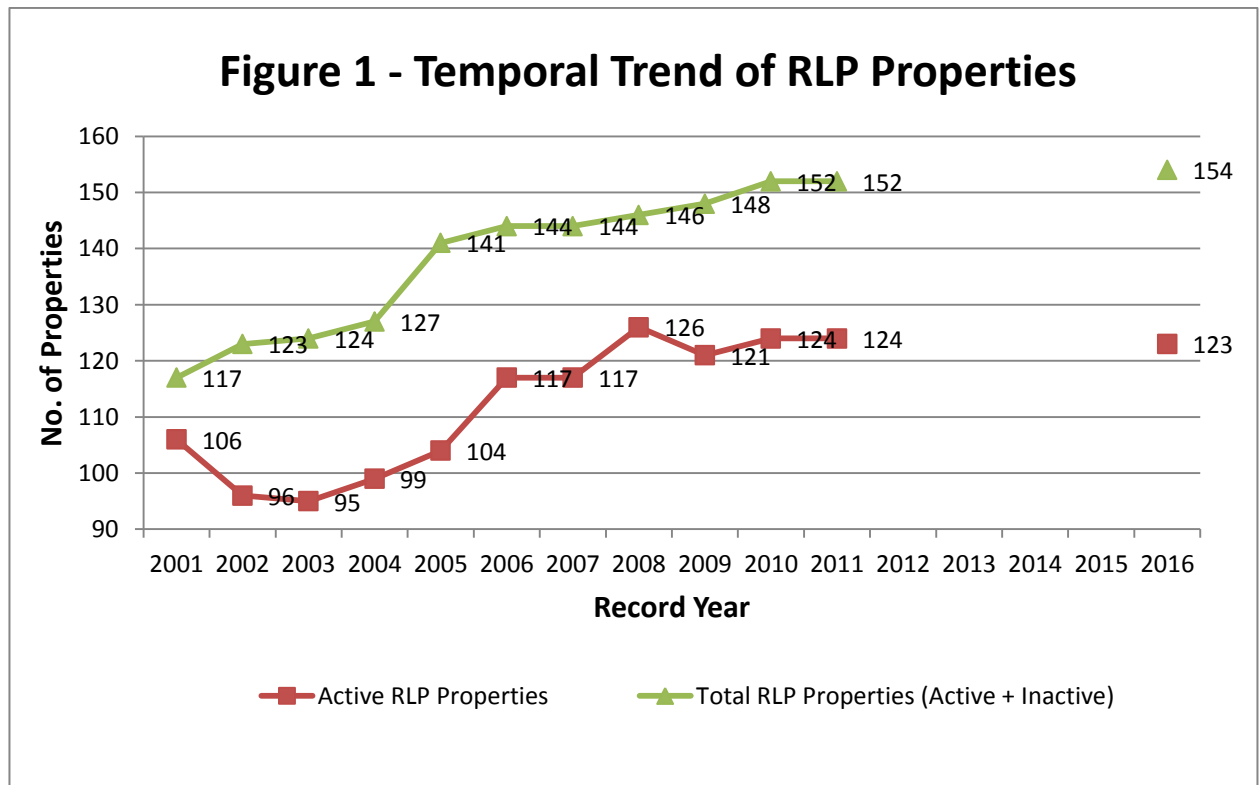
The above recommendations have been incorporated into this final version.

XI. Repetitive Loss Property (RLP):

RLPs are those properties for which two or more losses of at least \$1,000 each have been paid under the National Flood Insurance Program (NFIP) within any 10-year rolling period since 1978. Based on latest record provided by FEMA, as of September 1, 2016, there are a total of 154 RLPs in the City of Los Angeles. This information is updated yearly when data becomes available. For the City of Los Angeles, in most instances, these RLPs are located in FEMA designated areas considered to be of "minimal flood risk." However, many of these properties are located in fire-prone-hillside-areas that became unstable after a fire event which denuded the vegetation that had previously kept the soils intact.

Since the FMP was first adopted in 2001, the total number of RLPs has increased by 37 for a total of 154 properties. Figure 1 shows the trend of RLPs since 2001. Our records indicate 123 active RLPs and 31 RLPs are now inactive. Inactive properties are the ones that have not filed a flood loss claim within the past 10 years and have been removed from the RLP list by FEMA based on the field investigation and report provided by private property owner and City staff.

Figure 1- Temporal distribution of number of properties on the RLP list



Public review notice: The contents of this report are considered to be public knowledge and have been prepared for total public disclosure. Copies of the report have been provided to the City of Los Angeles governing board and to local media outlets and the report is posted on the City’s floodplain management plan website. Any questions or comments regarding the contents of this report should be directed to:

Eng.NFIP@LACity.Org

Appendix A:
Steering Committee Meeting Agenda and Meeting Minutes
City of Los Angeles, Department of Public Works – Bureau of Engineering
Floodplain Management Plan Steering Committee Meeting

Wednesday - October 5, 2016 - 1:30pm
Los Angeles – Glendale Water Reclamation Plant

Agenda

1. Welcome and Introductions

2. Purpose of the meeting

3. Discussion Items
 - * Overview of the 2016 Floodplain Management Plan Progress Report

 - * Approval of the 2016 Floodplain Management Plan Progress Report

4. Q & A

5. Adjourn

FMP CONTACTS:

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Chang Lin, 213-485-4578, Chang.Lin@lacity.org

**2016 Floodplain Management Plan (FMP)
Steering Committee Meeting Minutes
Los Angeles – Glendale Water Reclamation Plant
Conference Room
October 5th, 2016 from 1:30pm to 3pm**

A ATTENDEES

A total of 15 members attended the meeting in person and 1 member attended via conference call.

Name	Representing	Phone	E-mail
Susan Shu	LA City/BOE	213-485-4493	Susan.Shu@LACity.org
Chang Lin	LA City/BOE	213-485-4578	Chang.Lin@LACity.org
Romano Galassi	LA City/BOE	213-847-0405	Romano.Galassi@LACity.org
Saba Heidari	LA City/BOE	213-485-2014	Saba.Heidari@LACity.org
Terri Koch	LADWP	213-367-4294	Terri.Koch@LADWP.com
Tom Williams	Sierra Club	323-528-9682	Ctwilliams2012@Yahoo.com
Manuel Garcia	LADWP	310-575-8098	Manuel.Garcia@LACity.org
John Alipio	LAPD/RACR	213-484-6710	39190@LAPD.Online
Alonbu Flores	LAPD/RACR	323-203-9550	33726@LAPD.Online
Salomon Miranda	CA-DWR	818-549-2347	Salomon@Water.ca.gov
Eduardo Escobar	LACDPW	626-458-4355	Edescobar@DPW.LACounty.gov
George De La O	LACFC	626-458-7155	Gdelao@DPW.LACounty.gov
Roy Forbes	CD 10	310-770-1303	Royforbes@AOL.com
Robert Vega	LASAN.WPD	213-485-3991	Robert.Vega@LACity.org
Mike Greenspan	Resident	818-764-9943	

B CALL TO ORDER

Mr. Galassi asked everyone to introduce themselves and started the meeting.

C PURPOSE OF MEETING

Mr. Galassi stated: The reason for the meeting was to review, provide recommendations and comments for the 2016 Floodplain Management Plan (FMP) Progress Report. This is the 1st meeting since the FMP2015 was approved last year. Most of the action plans in the Progress Report have been carried over from the FMP2015. This year's Progress Report has less number of pages and the format of the report was provided by the consultant that prepared the FMP2015.

D DISCUSSION ITEMS

1. Dr. Williams indicated that on Page 1, II. Summary Overview of the Plan's Progress, there should be summary table to clarify which projects have no actions taken. The table 2 should have some types of estimate for status and indicates which will be on going perpetually, and which ones are to be completed within the next 5 years and so on. Mr. Greenspan indicated that perhaps the table can show a percentage of completion and indicate which project has been completed. Ms. Shu indicated that Item P-79 was completed and adopted by Regional Water Board. This was confirmed by Mr. Vega.

2. Mr. De La O indicated that he wanted to know how Section V- Flooding Events was reported. He asked if they were reported by residents, news outlets and does the report includes mudflow from the hillside hitting the homes. He also wanted to know the criteria for reporting these flood events. Mr. Galassi stated that there is no flooding events this year. Mitigation success stories on page 4 have 3 completed projects. Ms. Shu indicated that these projects are not

always requested from the Bureau of Sanitation, as some are from Council District while others are from residents. Mr. Galassi indicated that we have a list from the Bureau of Sanitation of smaller flooding events such as catch basins getting clogged. The 3 projects listed are the major successful mitigation stories.

3. Mr. Miranda indicated that he would like to know if the City has records of how many claims were made to flood insurance. Mr. Galassi indicated that the City hasn't received an updated report from FEMA regarding the Repetitive Loss Properties (RLP) since 2011. In that year the City received 2 CDs from FEMA, one at the beginning of the year, the other at the end of the year. The RLP CDs are usually sent out by ISO, FEMA's consultant, but they haven't been sending any new CDs since 2011. Mr. Miranda indicated that he can provide the yearly claims information or the City can get the information from Ms. Edie Lohman who is the National Flood Insurance Specialist with FEMA.

4. Dr. Williams indicated that he would like the 3 completed projects on pg. 4 of the report to be identified with a P number as shown in the Action Plan Matrix. Dr. Williams and Mr. Miranda would like to know if there were any coastal risks changes. Ms. Shu indicated that FEMA is working on the Open Pacific Study which will be incorporated in the Progress Report once it becomes available.

5. Mr. Simmons expressed concern with the rainy season flooding at West Blvd., between Exposition and Jefferson. Mr. Galassi indicated that he would like to know if the flooding was due to the way the street was graded. Mr. Simmons indicated that the area floods when it rains because it's not draining correctly and would like to see some actions taken. The first thing he would like to see is for all development be stopped in the area and to involve politicians to look closely into this issue. Ms. Shu indicated that this is the area where the new FEMA flood map is going to be issued. Mr. Vega indicated that the reason for flooding in South Los Angeles was because the entire area has developed beyond the capacity of the existing system. Additional storm drains have to be constructed to handle the capacity.

6. Mr. De La O indicated that he has experienced a lot of complaints from people who said that they live in a flood zone area but never have experienced any flooding in the past 20 to 30 years. He would like to know the locations of these flooding areas so that they can be considered for a Map Revision. He also recommended that the Los Angeles County Flood Control District be kept in the loop because some of the watershed managers will be looking into the Ballona Creek area. He also stated that any complaints received throughout the year should be included in the report. It will help evaluate whether it's a Flood Control District issue or something local that the City can handle. Dr. Williams indicated that the South Central area has been mapped for 20 years and they are charged with flood insurance. Mr. Simmons indicated that he could not be insured because of the flooding in the area. Mr. Galassi indicated that this looks like an infrastructure problem. Mr. Galassi asked Mr. Simmons if there are other flooding areas he would like the City to consider. Mr. Simmons indicated the area south of the FWY 10, west of the FWY 110, north of FWY, particularly around Slauson Avenue, as well as La Cienega Boulevard and Jefferson Boulevard. There are many of construction activities and liquefaction going on in the area.

7. Mr. Galassi indicated that if they are building in a flood zone, they have to come to the Stormwater office for a flood clearance. Flood clearances are based on FEMA's requirements. Dr. Williams indicated that the Low Impact Development (LID) requirement for commercial and multi-family development requires 420 gallons of storage per every $\frac{3}{4}$ inch of rainfall. Since the water can't store and we can't infiltrate, the water will discharge into the LA River. Mr. Galassi indicated that we can't go outside of FEMA's FIRM for NFIP requirements. Mr. Simmons indicated that he wants to know if Building and Safety listens to BOE's recommendations and that permit approval should be based on common sense and engineering knowledge because FEMA makes mistakes. It seems that LA City just goes along with FEMA recommendations. Ms. Shu indicated that if the development is in a liquefaction zone, the developer needs to submit a structural design that satisfies the Building and Safety structural engineer's requirements. If there are objections to the development, then the planning commission needs to set the criteria. As long as the developer meets

the development criteria per City's regulations, they can get a building permit. Mr. Simmons indicated that the engineering department doesn't want to make waves and are only looking to draw their pensions. Ms. Shu indicated that the protocol for the storm-water office is to review the cases based on existing rules. Any change in policies needs to be approved by the City Council. Mr. Vega indicated that he would like to take the comments for consideration and move on to the next item.

8. Mr. De La O indicated that on page 8, Table 2 (Action Plan Matrix), many of the action items including P-5 through P-9 should also include the LA County Flood Control District (LACFCD) instead of just LA County Public Works as the lead department. Item P-19 can be left with just LA County Public Works as the lead. Ms. Koch indicated that she would like to change the Lead Department for Item P-5 to include LADWP as one of the lead agencies along with the LACFCD.

9. Mr. Salomon indicated that he would like to know if the lead agency will provide the possible funding sources. Ms. Shu indicated that the label of lead agency doesn't mean that they will all provide the funding but that the lead agency may go out to obtain the funding source.

10. Mr. De La O indicated that the write-up on Section IX, item No. 2, Ballona Creek Physical Map Revision, needs to be updated. On September 30, 2016, FEMA issued a letter indicating the preliminary map is available and will be subject to a 90-day appeal period soon. He also suggested including Beverly Hills as part of the impacted communities in which AECOM was involved in the initiation of the project. Ms. Shu replied that she will look into the latest updates. Dr. Williams indicated that he would like the Ballona Creek study to cover the area west of 405. Ms. Shu indicated that the area to the west of the 405 is not part of the study area as that study was meant to only cover the area up to the east side of FWY 405 inclusive of Park Mesa Heights.

11. Dr. Williams wanted to know if the 100 year flood zone has been changed, and how the rainfall data for last year compared to the long term average of 15 inches and how the recent climate change has affected the rainfall data and the flood map. Mr. Salomon indicated that the rainfall data for last year was 6.88 inches. Ms. Shu indicated that we are waiting for the September 30th, LA County rainfall data for this year to be released soon. Dr. Williams indicated that climate change will affect sea level, rainfall and affects flood risk.

12. Mr. Galassi asked the participants if there is anything else to be discussed. Mr. De LA O indicated that he would like to know when the progress report is due. Mr. Galassi stated that the report was due Oct. 1st. However, the City has asked FEMA's consultant for a 2 weeks extension and the final report will be sent to everyone at the meeting as an FYI.

13. Mr. Simmons indicated that he would like to have particular areas investigated. Ms. Shu indicated that Mr. Sun and Mr. Lin can investigate and will contact Mr. Simmons. BOE can check to see if the particular areas are listed as hot spots on the Bureau of Sanitation maintenance record.

14. Mr. Galassi adjourned the FMP Steering Committee until next year.