



Waterfront Plan Working Group

Meeting: March 23, 2016

Sea Level Rise (SLR) Meeting Notes

Members Present: Grant Ballard, Kirk Bennett, Reid Boggiano, Mike Buhler, Jeffrey Congdon, Jane Connors, Linda Fadeke Richardson, Jon Golinger, Michael Hamman, Carolyn Horgan, Aaron Hyland, Earl James, Ellen Johnck, Ken Kelton, Janice Li, Ron Miguel, Stewart Morton, Rudy Nothenberg, Karen Pierce, Tom Radulovich, Frank Rescino, Alice Rogers, Peter Summerville, John Tobias, Dilip Trivedi, Anne Turner, Corinne Woods, Dee Dee Workman

Absent: Kevin Carroll, Chris Christensen, Stephanie Greenberg, Jasper Rubin, Cristina Rubke, Jacquelyn Omotalade

1. Welcome to Working Group and Public

Rudy Nothenberg, Co-Chair, Working Group

- Welcomed attendees, briefly described evening's program, and introduced Brad Benson, Director of Special Projects
- Click this link to view the PowerPoint presentation: <https://sfgov.org/sfport/file/2831>
- Click this link to the meeting video:
http://sanfrancisco.granicus.com/ViewPublisher.php?view_id=183

2. San Francisco Sea Level Rise and Adaptation Planning

- Port Sea Level Rise Efforts (Brad Benson, Port Staff) on FEMA Flood Insurance Program and Sea Level Rise Planning and Projects

Summary points of presentation:

- Described coordination of various City Agencies through the Mayor's SLR Coordinating Committee and the development of a City Action Plan
- Since 2009, Port has also independently engaged in SLR adaptation and study projects
- In addition to SLR planning, City is addressing current flood risk. FEMA is mapping flood risk of the Bay Area at the moment and Port is continuing to talk to agency about water level variability along Waterfront

- FEMA draft maps define “base flood elevation” (BFE) as level of Bay waters which could occur during a 100 year storm that also accounts for tides, and storm surge and waves. FEMA shows BFE for some piers at higher elevations than observed or projected by the Port
- Low areas are located at Mission Creek, Islais Creek and south of Agriculture Building and Pier 43 ½, areas for Port capital improvements to address current flood risk
- Over the long run, Port will be working with City to determine where the shore line of defense should be defined to protect the Port and upland City from SLR. That work also will have to account for seismic strengthening of the Port Seawall, to be presented at next Working Group meeting
- Port has been incorporating SLR design into projects since 2009, many with adaptation capability: Brannan Street Wharf, Phase 2 Downtown Ferry Terminal (WETA), Pier 43 Bayfront Promenade, the Pier 1 lease amendment which includes tenant obligations for SLR adaptation, Crane Cove Park; Pier 70 Forest City and SWL 337 Mission Rock propose to raise the elevation of land and developed uses to address SLR, provide adaptability, and financial measures to pay for future adaptation.
- The Port has some near term flood risk measures in place and continues long term adaptation coordination with City and BCDC

A copy of the slide presentation and the background report provided for the meeting can be found at: <http://sfport.com/waterfront-plan-archives>.

Gil Kelley, Director of Citywide Planning, San Francisco Planning, described his role in the Sea Level Rise Coordinating Committee and the Sea Level Rise Action Plan:

- - Shared brief history of Mayor Lee’s Sea Level Rise Coordinating Committee and the Sea Level Rise Action Plan
- As sea level rise science tools evolve, City uses a local-based water level review program
- City is studying adaptable SLR responses that will be able to respond overtime to different water levels
- As part of the Action Plan, the City and partners will engage with local and regional -agencies
- Partnerships include cities like Oakland, San Jose, and Berkeley as well as county partnerships
- Partnerships goal is a cohesive response and fundraising effort for federal money
- Agencies may each localize and tailor SLR solutions
- The SF Sea Level Rise Action Plan is at the forefront of climate change planning and thus has few - models, with the exception of the Netherlands’ adaptation work

Diana Sokolove, Senior Planner, San Francisco Planning presented an overview of the Sea Level Rise Action Plan:

- The Port is a key participant in the SLR Action Plan planning process, helping to illuminate local conditions with FEMA flood maps and relevant climate information along waterfront
- The estimated water level numbers presented here are from the National Research Council; they are used in the SLR Action Plan are also used in CEQA documents, development agreements, guidance documents

- As the SF Bay has risen 8 inches in the last 100 years, we want to make sure we are planning ahead for future SLR
- We use ranges in our SLR water level projections and the development community has started using innovative adaptive management techniques
- City looking at potential public funding and creative financing mechanisms
- If SF did nothing, the cost of inaction is the replacement value of public and private properties in today's dollars; cost can change depending on deeper analyses and ecological considerations
- The Ocean Beach Master Plan is a significant ongoing SLR planning effort
- For SLR adaptation, we will study science tools, monitor the lifetime of projects and their adaptive capacity, perform rigorous economic analyses, assess building codes, and seek creative financing mechanisms to alleviate cost burden on City and citizens
- Regional mayors are collaborating in Resilience Design Challenge similar to New York City's design challenge after Hurricane Sandy

Lindy Lowe, Senior Planner, San Francisco Bay Conservation and Development Commission (BCDC) presented BCDC's planning efforts on sea level rise and the Adapting to Rising Tides (ART) program:

- Adapting to Rising Tides (ART) first received funding from the National Oceanic and Atmospheric Administration (NOAA)
- ART studied Bay shoreline and ¼ mile inland
- Worked with different groups on transportation vulnerabilities including complex rail sites for cargo transport
- Wetland protection areas and creeks-bay thresholds are flood risks zones of study
- BCDC provides helpdesk support to regional jurisdictions including cities, agencies, counties, and national jurisdictions through its "digital coast" tool
- Regional partnerships aim to find seismic and flood risk reduction solutions
- The agency is using a NOAA grant to study regulatory concerns including fill policy and other adaptation measures while protecting the Bay as a resource
- There are many regional partnerships, but no one agency provides oversight. The Bay Area Collaborative provides a core for data and exchange on seismic and flood risk. Some of the most vulnerable communities are located in low lying area subject to liquefaction, on fill.
- BCDC has a Policies for Rising Tides project and BCDC Commission workshops, recognizing need to assess BCDC fill policies and laws to determine whether and how they can be changed to respond to SLR adaptation
- BCDC performed a five year review of climate strategy

3. Responses to Questions/Comments

Questions [from the Working Group and members of the public] were invited throughout the presentation, briefly summarized below, as answered.

- **Is there water intrusion risk along SF Public Utilities Commission (SFPUC) property?** The SFPUC has mapped and is designing improvements currently to protect against bay water intrusion in the SFPUC combined sewer system. SFPUC is actively planning for addressing long-

term SLR.

- **Does the Port take part in the Flood Insurance Program (FIP)?** The City joined the FIP in 2010, and adopted building standards for construction in designated flood areas. Port can continue to build on piers for maritime and historic rehabilitation projects, but other construction will require coordination with City SLR Action Plan work. Maritime uses seaward of mean high tide have insurances requirements. The program is primarily a risk management program.
- **When will a concrete plan be available and what is the structure of the Action Plan?** The Action Plan sets forth the steps to develop a City SLR Adaptation Plan, anticipated in 2018-19. It requires data and vulnerability assessments from all City departments before solutions and actions are defined to address SLR in 2030, 2050 and 2100.
- **Who is responsible for monitoring water levels?** The San Francisco Estuary Institute (SFEI) measures area water levels and quality. When FEMA started remapping SF Bay flood hazard zones, it used the same locations, which number in the hundreds. The measurement quality is different at each site.
- **Is BART part of the SLR Action Plan?** They are not listed in the effort, although BART is most concerned about The Embarcadero tunnel access to Muni and BART subway systems. If the City constructs barrier to protect Muni service, BART's exposure also would be resolved as well. BART has been working with Muni on SLR and flooding with bigger storms in other locations throughout the Bay and upland.
- **What is Caltrans' response to SLR?** BCDC has been partnering with BART and Caltrans for four years. BCDC also works regionally with the Bay Area Collaborative, including Association of Bay Area Governments (ABAG). More information is available at the ART website: <http://www.adaptingtorisingtides.org/>. Also, through its Adapting to Rising Tides (ART) program, BCDC has a help desk to provide information to assist SLR planning by multiple cities/counties. Work is starting to integrate, although no one agency presides over it all. Many transportation agencies including BART and AMTRAK Capital Corridor have active planning underway as well.
- **There is uncertainty with years of SLR, and projections may be too conservative. How do projects address this?** The City has adopted a range of SLR water levels and has guidance tools to look at life of a project and its adaptive capacity. If the project is adaptable, project may be designed for lower SLR projections and raised to higher elevation later; if project is not readily adaptable, it may have to be designed for high end of the range from the outset.
- **In City's assessment of Costs of Inaction, what is the breakdown SLR financial risk for Port property?** This detail is definitely included in the assessment and will be provided in follow-up information to Working Group.

- **What is the cost of action?** There is no estimate yet about cost of SLR protection for entire City. Port is working on seawall strengthening which includes initial cost estimates to protect Port property.
- **Has there been any coordination with the Golden Gate National Recreation Area (GGNRA)?** The City is working closely with the GGNRA on the Ocean Beach Master Plan and with a local interagency committee as part of updating the Ocean Beach Local Coastal Program.
- **How does the Ocean Beach Master Plan relate to SLR planning in SF Bay?** While west side of City is physically separated from SLR planning coordination around SF Bay, there is a regional sediment management plan that has affects on the open shore along the oceanfront of the City.
- **Vulnerable flood areas appear to be areas that are man-made. Is the San Francisco International Airport (SFO) or the Port responsible for some portion of the flood risk areas?** The goal of the SLR committee is to produce a cohesive effort, and coordination among many entities and sectors. Individual agencies may produce own solutions, but they need to be coordinated. Many interventions are beyond the Port's financial capacity and some solutions could be offshore and will involve multiple parties. There are more properties at risk than merely Port properties. The next step is collecting solutions ideas to develop comprehensive response.
- **What is the contingency plan for approved development projects along the coast?** All of the development agreements consider sea level rise, many above grade and with innovative adaptation techniques.
- **What are Oakland Airport's and SFO's plans?** SFO has short-term and long-term SLR plan and are implementing short-term levy system protection. Richard Sinkoff from Port of Oakland provided information on its flood management planning and implementation efforts at Oakland Airport. BCDC acknowledged commendable solutions to implement short-term flood measures on property the Port controls. Ideally, flood protection should include Doolittle Drive, which would protect fan marsh and Bay Trail on Caltrans land; however, Doolittle Drive is outside of the Port of Oakland's jurisdiction. Assessing own property is a start for agencies, while finding regional solutions is more challenging. The Oakland Airport has two zones of work. Commercial and general aviation/cargo projects on north field – need to identify key intervention points. South side perimeter levy redesign for SLR and seismic risks.
- **How are the Port's existing structures addressed in adaptation strategies?** An example is Pier 1 lease revision which, for the first time includes SLR measures and Chief Harbor Engineer authority to identify and address the risk. Measures may include closures to public access, relocating under-pier utilities, and flood barriers at doorways. The tenant would be responsible for the cost of these measures.

- **What are state solutions for SLR?** State offers adaptation guidance which includes broad California recommendations to municipalities. Local agencies would like to see movement on the funding question. Los Angeles has high level adaptation study.
- **Not everything is precious. What assets are worth saving? What should we armor?** Hayward Shoreline planning is a good example of assessing full vulnerability and coming to consensus that not everything can be saved. The preferred alternative was defined (though not yet adopted) is moving away from shoreline and allowing wetlands to absorb rising water. In San Francisco and with respect to Port properties, the answers will be developed in part - -by moving through the Waterfront Plan Update process.
- **Is there authority in enforcing SLR strategies?** Guidance and support are offered, but not additional authority at the time. BCDC is working with local jurisdictions and interested citizenry to educate about risk and response options, and let them make own decisions regarding SLR.
- **If there were an application to improve the seawall tomorrow, is there design guidance to approve permit?** BCDC has been working on guidance for permit applicants about water levels to plan to for near term and adaptable to future SLR. However, BCDC is not inclined to plan for protecting 6 ft of SLR now without more information about future as basis for funding and because it could jeopardize waterfront access now,
- Max Lowenstein introduced the members of the Waterfront Plan Resilience Advisory Team, with expertise to assist the Working Group in addressing sea level rise and seismic resilience during Waterfront Plan process.

The following comments were offered by members of the Working Group, Advisory Teams or public: The Waterfront Plan Update should include addition of SLR prevention measures and sustainability language, not just adaptability language

- There will be an eventual need for further authority structure to enforce regional coordination, SLR prioritization for regional assets, and adaptation implementation.
- BCDC's - needs to reconsider policies about Bay fill. BCDC does acknowledge this and may address SLR through altering regulatory interpretation, amending Bay Plan policies, or may require State Legislature amendment to McAteer-Petris Act.
- The presentation and information is important and interesting to inform the Working Group about the scope and body of effort to plan for SLR and climate change, but recognize it as context for deliberations for updating the Waterfront Plan, not solving SLR.

- The need to be aware of our own biases and values reflected in some statements about prioritizing historic resources. We should dream big and bolder, and consider the challenge for saving as many cultural resources as possible.

4. Next Steps

Next Waterfront Working Group Public Meeting – Seawall Seismic Study, Wednesday, April 13, 2016, 6-8pm, Port of San Francisco Pier 1 Office