



# Metropolitan's Approach to Seismic Resilience

Engineering and Operations Committee  
Item 6a, Part 1  
November 13, 2017

# Overview

- Background
- Seismic Resilience Strategy
  - Planning
  - Engineering
  - Operations (Emergency Response)
  - Reporting
  - Seismic Resilience Water Supply Task Force
- Ongoing Infrastructure Activities



# Background



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*“It was desirable that faults be crossed at right angles, to minimize damage in the event of movement, and that some flexible type of conduit on or near the surface be used so that if repairs become necessary they will be as simple as may be...”*

**- Julian B. Hinds, Nov. 24, 1938**

# Steps Toward Seismic Resilience



1930's  
Construction of  
Colorado River  
Aqueduct



1971  
San Fernando  
Earthquake



1994  
Northridge  
Earthquake



2011  
Christchurch  
Earthquake

# Seismic Resilience Strategy

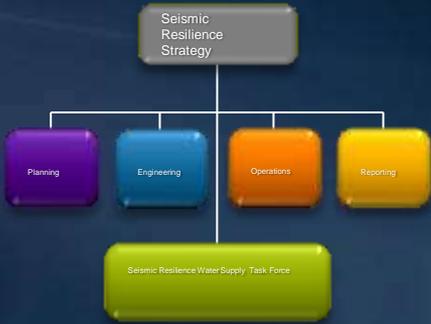
Planning

Engineering

Operations

Reporting

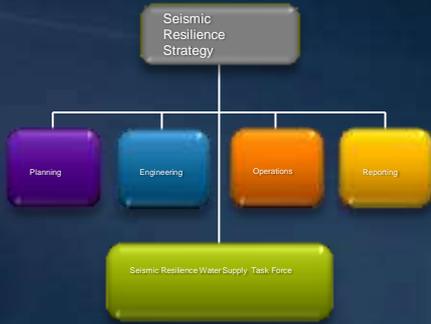
Seismic Resilience Water  
Supply Task Force



# 1. Planning

*Goal: Develop & maintain diversified water resources & emergency water storage*

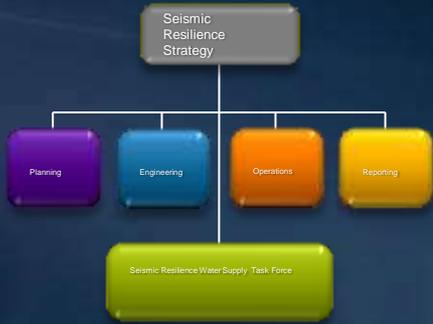




## 2. Engineering

*Goal: Mitigate seismic risks of specific infrastructure & system as a whole*

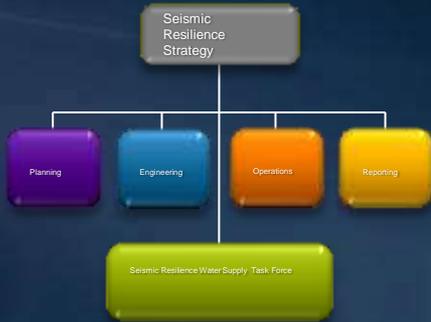




# 3. Operations

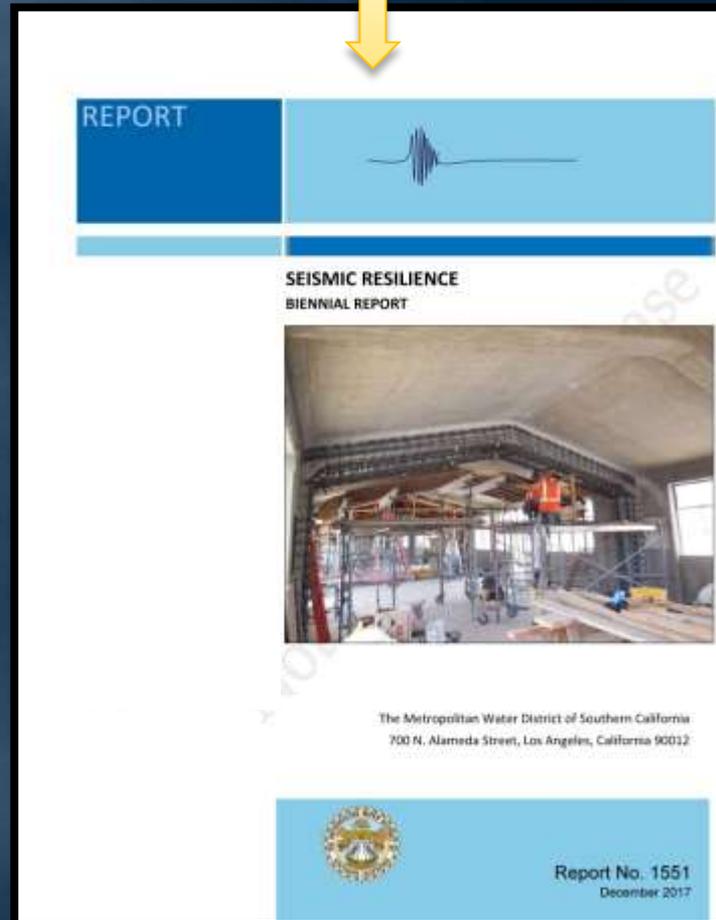
*Goal: Maintain effective emergency planning & response capabilities*

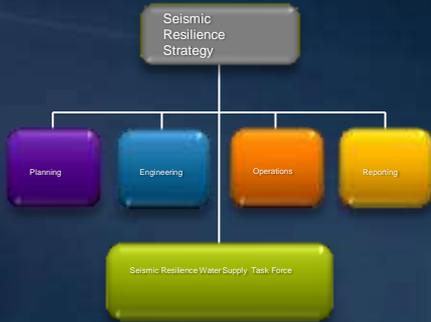




# 4. Reporting

*Goal: Improve knowledge transfer, collaboration with member agencies, & potential post-event reimbursements*





## 5. Seismic Resilience Water Supply Task Force

*Goal: Enhance the seismic resilience of imported water supplies through multi-agency collaboration*



# Ongoing Infrastructure Activities

- Strengthen at-risk structures
- Conduct vulnerability assessments of key facilities & systems
- Maintain capability to recover from seismic events
- Collaborate with LADWP & DWR on enhancing the seismic resilience of imported water aqueducts
- Increase the seismic resilience of Metropolitan's pipelines

