Using Multi-Hazard Resiliency Information for Capital Improvement Program Planning

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Water System Facts

- Nation’s Largest Municipal Utility 3.98 million Pop.
- Annual Water Sales (5-yr Ave) 662,000 AF
- Maximum Daily Demand (8/22/03) 765 million gal
- Average Daily Demand (5-yr Ave) 591 million gal
- Total Storage 339,000 AF
- LA Aqueduct System 338 miles
- Employees (Budgeted) 2,583
Water Use by Customer Type

- Single-Family Residence: 35%
- Multi-Dwelling: 30%
- Commercial, Industrial, Governmental: 28%
- Non-revenue: 7%
Water Resources

- Local Wells: 15% (96,000 AF)
- Recycled Water: 1% (1,950 AF)
- MWD: 35% (243,000 AF)
- Los Angeles Aqueduct: 49% (321,000 AF)
Water Resources– Import Water Supplies
Water Distribution System Key Statistics

- Distribution Mains ~7,200 Miles
- Service Zones 101
- Tanks and Reservoirs 102
- Pump Stations 77
- Regulating Stations 280
- Metered Services 681,000
- Fire Hydrants 54,000
Capital Improvement Program
Competing Needs

• Water Quality Improvement Projects
• Water Supply Projects
• Infrastructure Replacement Projects
• Hazard Mitigation Projects
Water Quality Improvement Projects
Water Supply Projects
Infrastructure Replacement Projects
Hazard Mitigation Projects

Granada High Tank Damage, Post 94’ Earthquake
Hazard Mitigation Projects

Water Supply Organization, Los Angeles Department of Water & Power
Flexible Inlet / Outlet / Drain Connections at Water System Tanks
Challenge

- How Do We Get Our Board to Spend Money on Hazard Mitigation When We Have So Many Competing Needs?
CIP Planning Process

- Hazard Mitigation Should be Part of CIP Planning for All Types of Projects
- Use Earthquake and Other Hazard Scenarios to Identify System Vulnerabilities
- Superimpose Potential Economic Consequences and Recovery Challenges in Vulnerable Parts of the System
- Consider Multi-Hazard Resiliency as Weighting Factor Among Project Alternatives
  - Robustness, Redundancy, Resourcefulness, Rapidity
Questions?