Emergency Water Supply Master Plan & Policies

PRESENTED TO ENVIRONMENTAL SERVICE COMMISSION

OCTOBER 7, 2020 | DOUG LANE, UTILITIES SENIOR ENGINEER

Agenda

Goals

Master Plan Outline

Proposed Policies

2020 Emergencies

Global Pandemic

Widespread Social Unrest

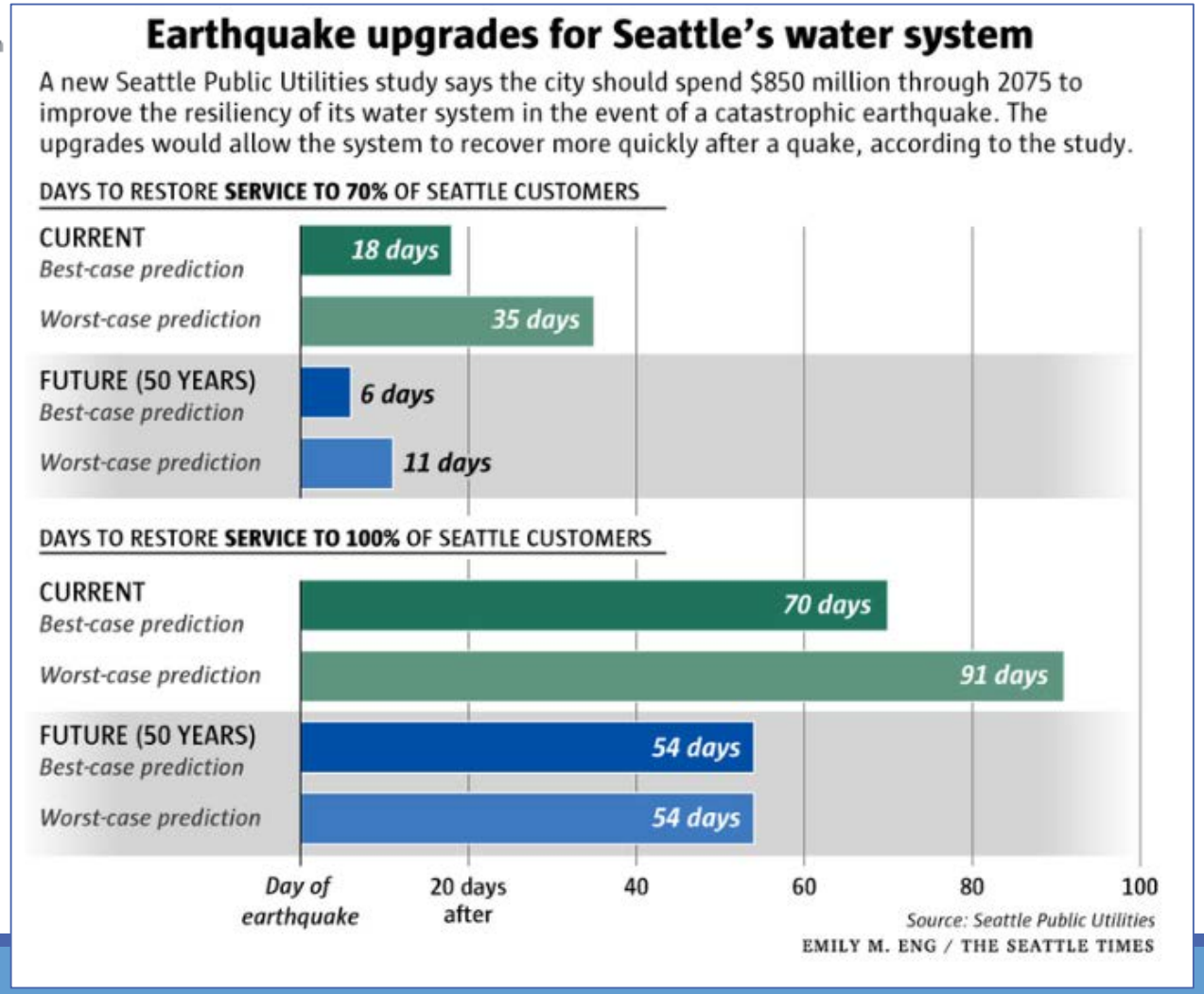
Historical Wildfires

???

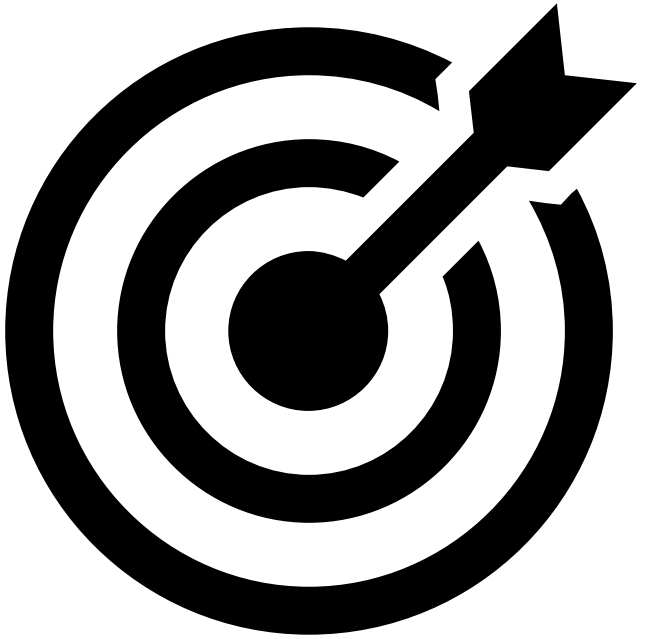
The Seattle Times

Seattle, suburbs would lose all water pressure within 24 hours of catastrophic earthquake, city study says

Originally published December 2, 2018 at 6:00 am



Goals



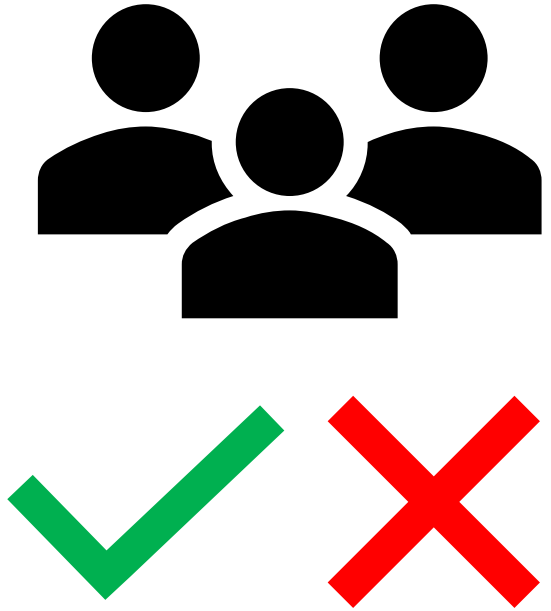
- PUBLIC AWARENESS AND CONSENT
- POLICIES FOR EMERGENCY MITIGATION
- GUIDANCE FOR FUTURE INVESTMENT

Public Awareness and Consent

Washington Administrative Code (WAC) has only one requirement for emergency levels of service:

It must be approved by vote of customers or governing body (e.g. City Council)*

*WAC 246-290-420



Public Awareness and Consent

STAKEHOLDERS	OUTREACH STRATEGY
ESC and City Council	Briefings, meetings, review/comment
Customers	General and targeted outreach
Emergency responders	Direct engagement
Adjacent utilities	Coordinate and share
Regulators	Submit for approval

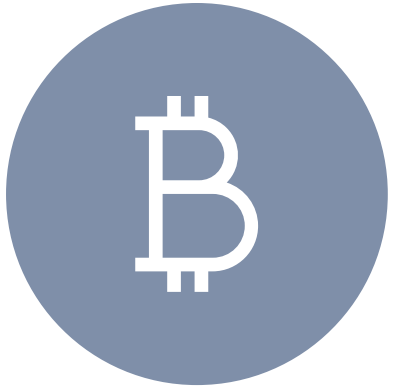
Public Awareness and Consent

INTER-DEPARTMENTAL STAKEHOLDERS	INTEREST/COORDINATION
Parks Department	Irrigation water rights
	Parks as potential distribution points
	Water use curtailment
Fire (Operations)	Alternative water supplies/strategies
Fire (Emergency Management)	Awareness and consultation
Development Services	Land use restrictions
City Manager’s Office	Comprehensive Plan and policy alignment

Why Include Policies?

INFO NEW TO COMMUNITY; INFORMED CONSENT

CITE FOR FUTURE CIP

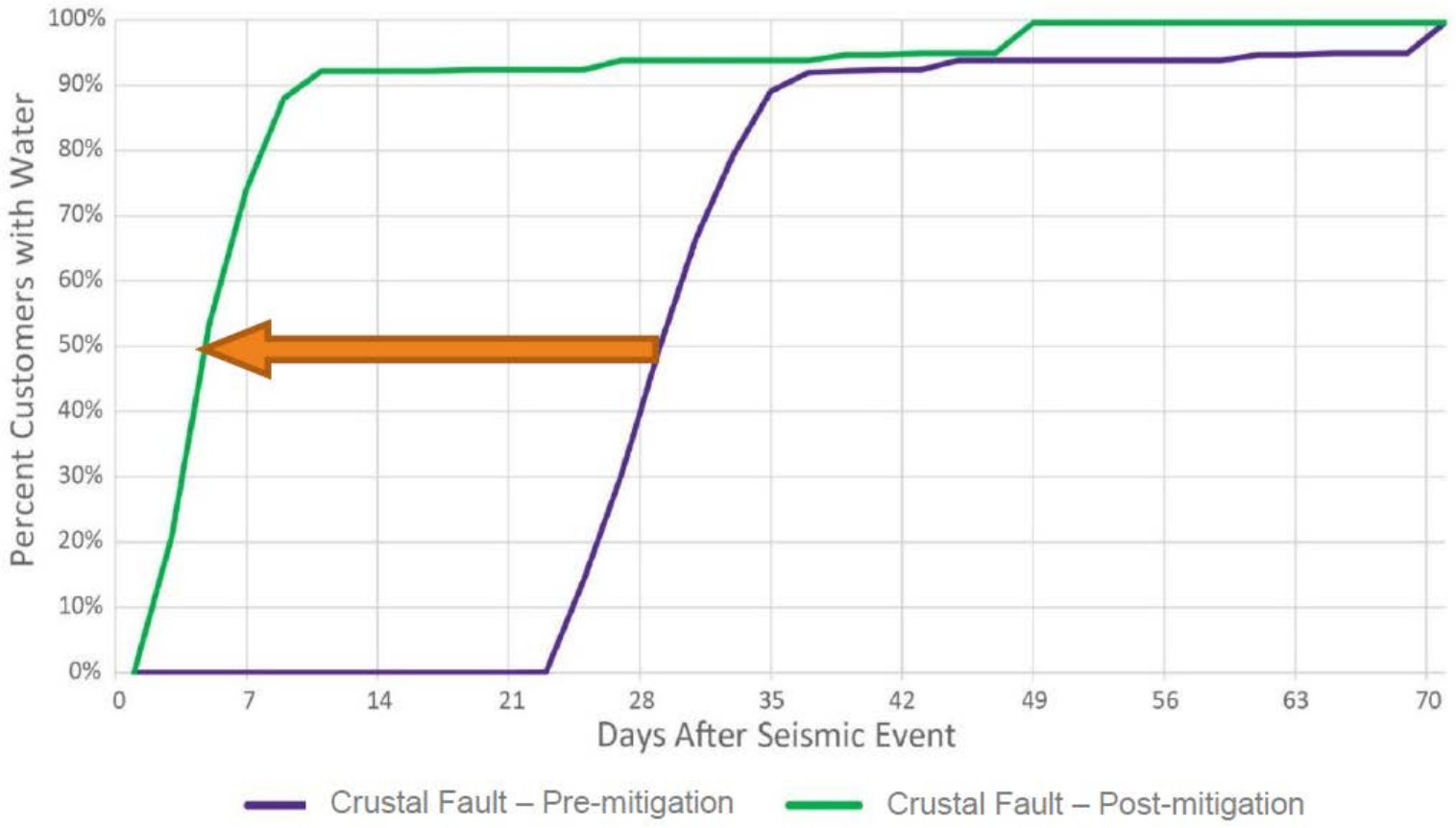


GRANTS/PERMITS/APPROVALS

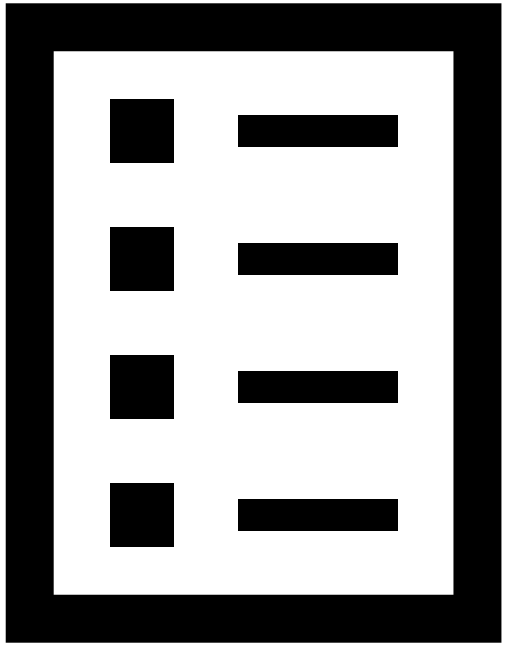
Guidance for Future CIP

The Master Plan will recommend improvements that reduce the time to restore water service.

Projects must have positive return on investment (risk benefit > cost).



Master Plan Outline



- TOPICS COVERED
- ORGANIZATION
- REFERENCES

Outline

Executive Summary

Guiding Principles / Policies

Existing Water Sources

Hazards

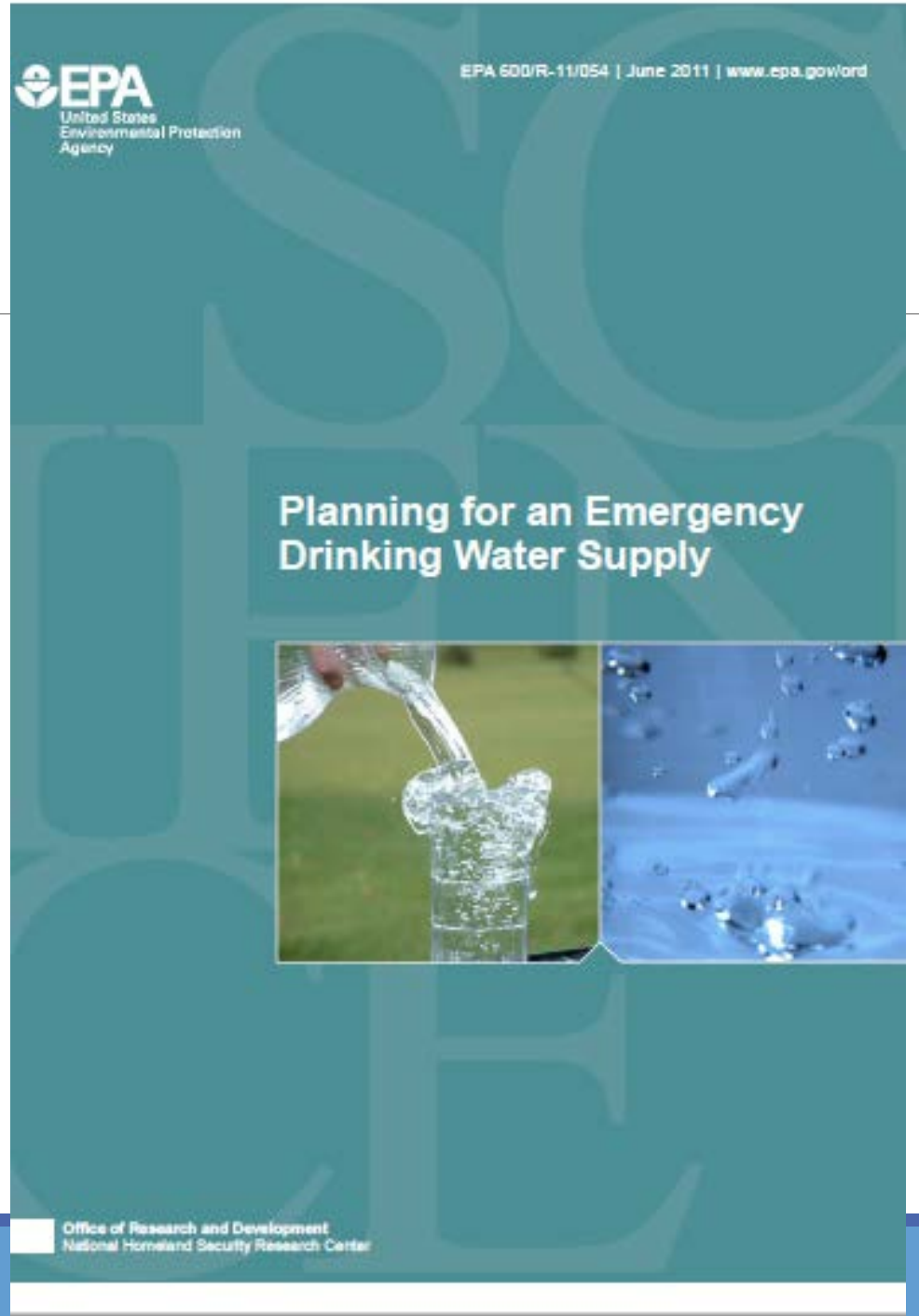
Emergency Water Needs

Regional Coordination

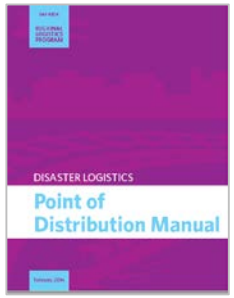
Mitigation and Alternative Supply Opportunities

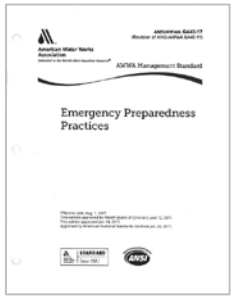
Recommendations

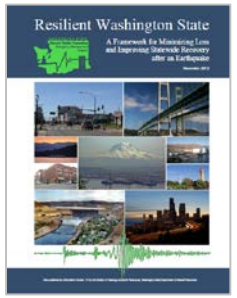
Appendixes (technical reports)

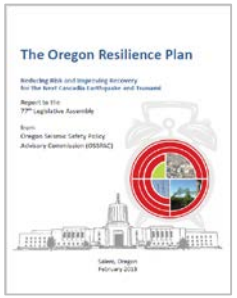


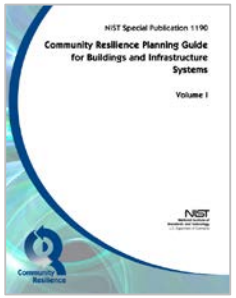
References


DISASTER LOGISTICS
Point of Distribution Manual

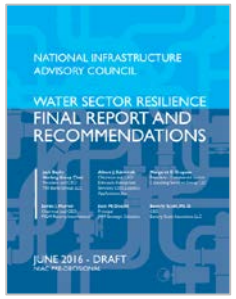

Emergency Preparedness Practices

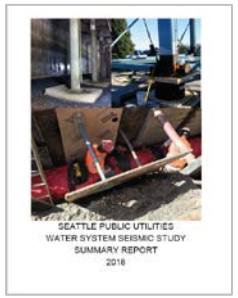

Resilient Washington State


The Oregon Resilience Plan

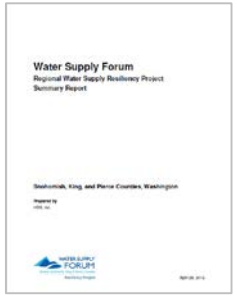

NIST Special Publication 1190
Community Resilience Planning Guide for Buildings and Infrastructure Systems
Volume I


Planning for an Emergency Drinking Water Supply


NATIONAL INFRASTRUCTURE ADVISORY COUNCIL
WATER SECTOR RESILIENCE FINAL REPORT AND RECOMMENDATIONS
JUNE 2016 - DRAFT


SEATTLE PUBLIC UTILITIES
WATER SYSTEM SEISMIC STUDY
SUMMARY REPORT
2018


AmericanLifelinesAlliance
Seismic Fragility Formulations For Water Systems
Part 1 – Guideline
April 2001
ASCE


Water Supply Forum
Regional Water Supply Resiliency Project
Summary Report


Golder Associates
TECHNICAL MEMORANDUM


GOLDER
TECHNICAL MEMORANDUM


confluence


Technical Memorandum


GOLDER
DRAFT TECHNICAL MEMORANDUM


Technical Memorandum

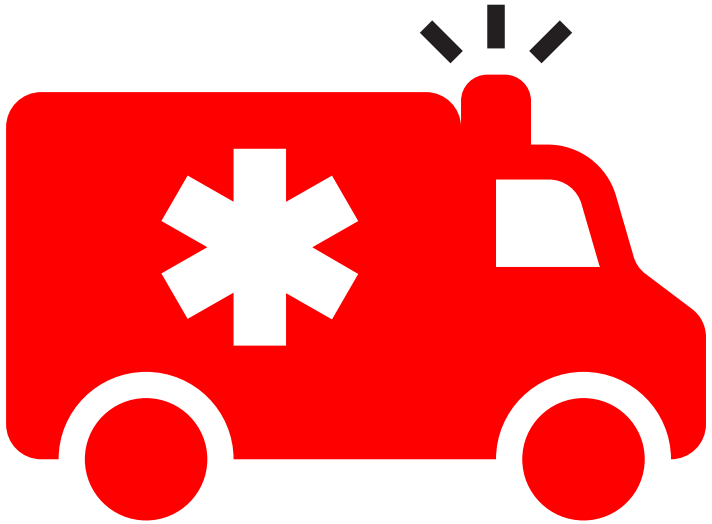

Technical Memorandum


FIRE FOLLOWING EARTHQUAKE
ASCE


JACOBS


JACOBS
Technical Memorandum

Policies



Health Care Providers

Invest in resiliency with the goal to provide uninterrupted water service at emergency rooms, and prioritize service restoration to other health care providers.

Alternative Fire Fighting Methods

Coordinate, facilitate and develop alternative fire-fighting strategies identified by the Fire Department for use during disaster recovery, prior to full system restoration.

Personal Preparedness

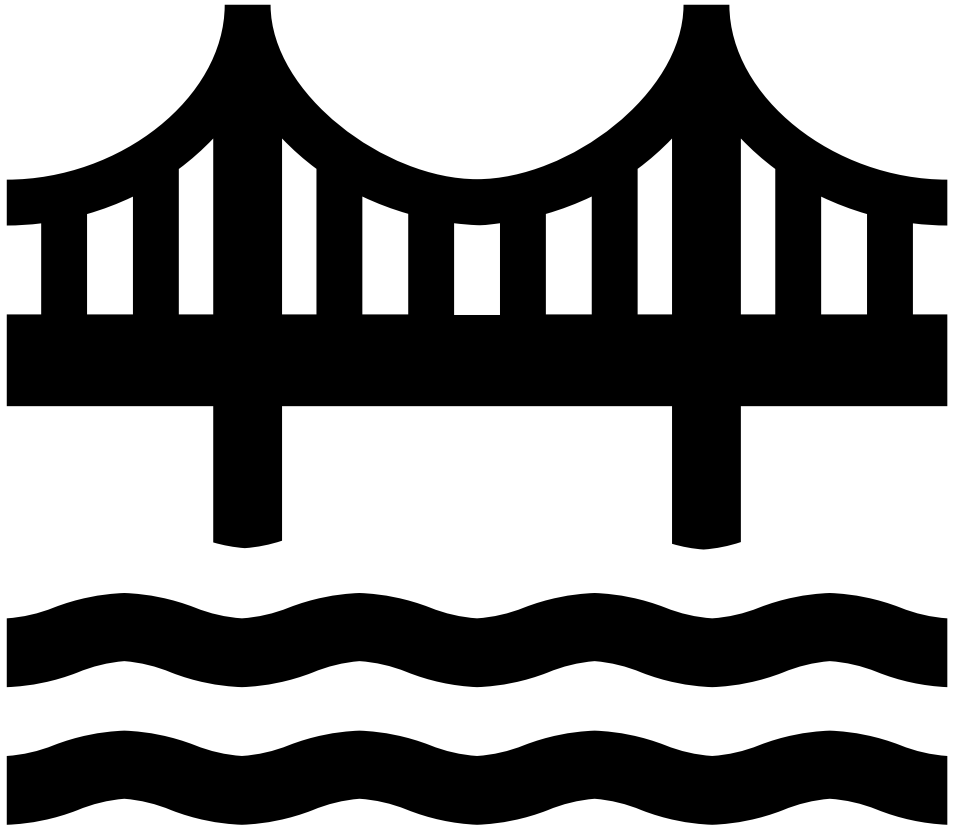
Encourage residents to store 14 days of water.

Shelters and Points of Distribution

Prioritize mitigation and response efforts to support the readiness of pre-identified shelters and points of distribution.

Business Continuity

Establish water service restoration goals to support business continuity.

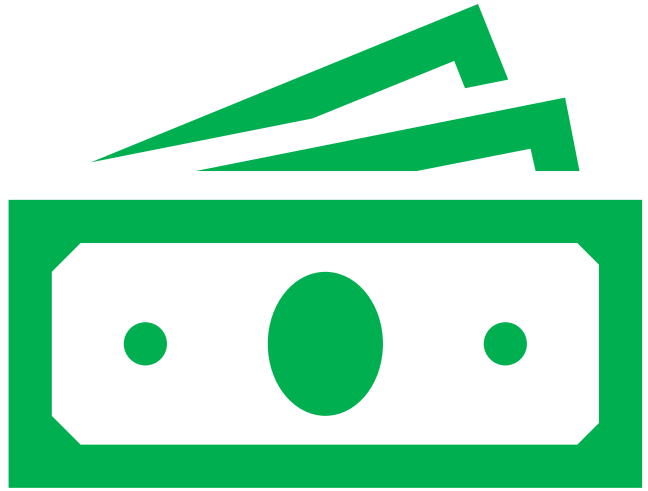


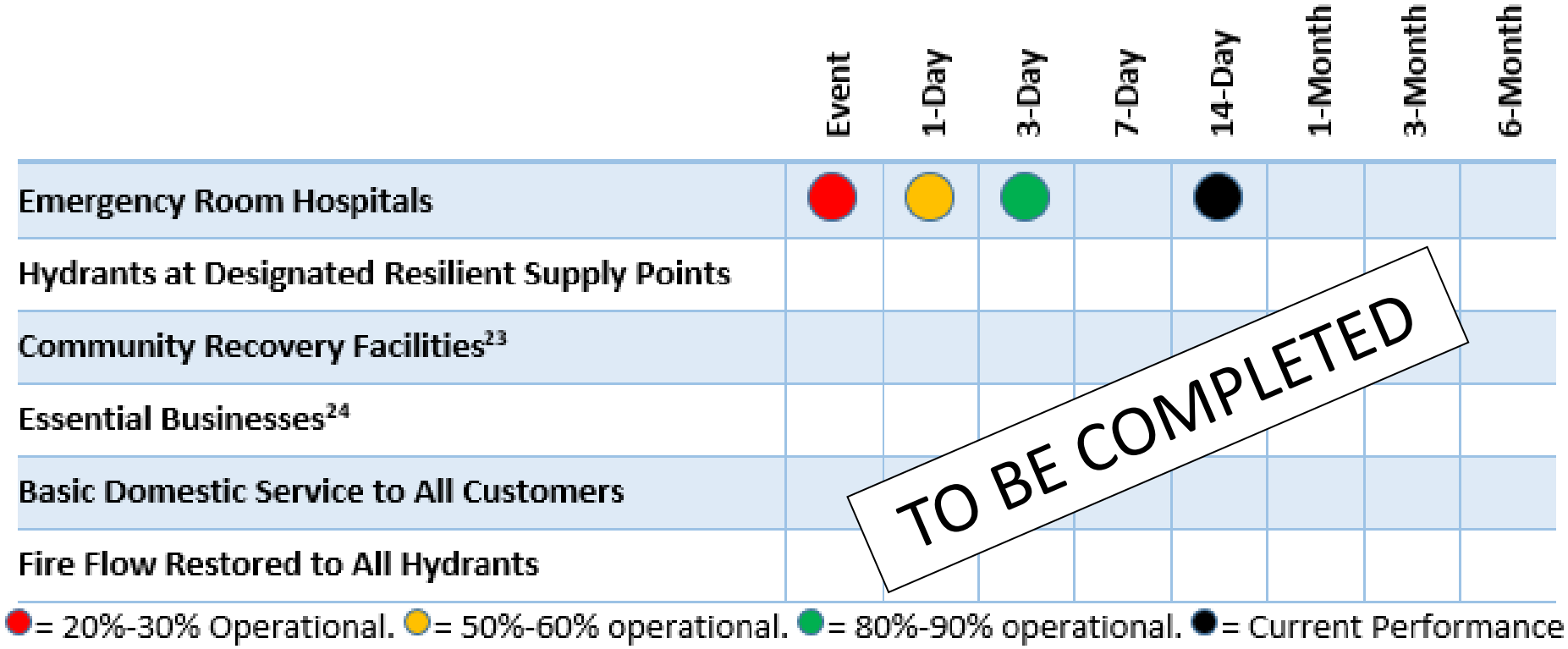
Inter-Dependent Sector Coordination

Coordinate and optimize emergency preparation with inter-dependent infrastructure sectors (power, transportation, communications, etc).

Emergency Mitigation Investments

Identify and invest in water system reliability and resiliency improvements where the benefits of reduced risk to the community exceed the costs of the improvement. Prioritize improvements with the highest benefit per cost.



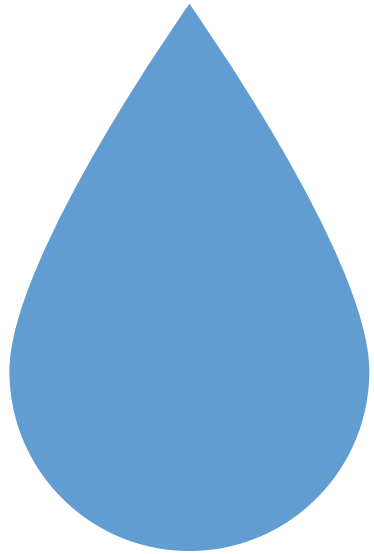


Post-Event Level of Service Goals

The City will establish medium-term (2040) and long-term (2070) post-event level of service (PE-LOS) goals, and invest as needed in resiliency to meet those goals.

Groundwater Supplies

The City should invest capital and maintenance to provide reliable and resilient wells.



Well Head Protection

Restrict land use and establish Critical Areas near wells to preserve water quality.

Questions?