

# The Office of Infrastructure Protection

National Protection and Programs Directorate  
Department of Homeland Security

Regional Resiliency Assessment Program (RRAP)

FY2017 Bay Area Utilities RRAP Project

September 2017



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# Primary Stakeholders

- Association of Bay Area Governments (ABAG) / Bay Area Metro (BAM)
- California Office of Emergency Services (CalOES)



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# Project Goals and Objectives

- Enhance regional collaboration
- Improve regional resilience; water, wastewater, and energy
- Guide investment in lifeline utilities
- Leverage Bay Area Measure AA and/or State Proposition 1



# Project Goals and Objectives

- Challenge:
  - Lack of regional, comprehensive understanding of water, wastewater, and supporting energy infrastructure
  - Lack of information hampers decision-making
  
- Solution:
  - Develop a holistic understanding / more complete picture of water, wastewater, energy, and communication systems, their dependencies and interdependencies, and vulnerability to various hazards in the nine county Bay Area



# Project Scope

- 1. High level characterization of water / wastewater infrastructure at transmission level for nine county Bay Area
- 2. Detailed analysis of East Bay MUD: water / wastewater system at transmission and distribution level; water-energy-communication interdependencies; overall system dependencies and interdependencies; system vulnerability to seismic activity and sea level rise
- 3. Characterization of water / wastewater infrastructure and analysis of water-energy interdependencies for Bay Area Regional Reliability (BARR) member districts



# Scope Breakdown: 1. Nine County Bay Area



- Characterization of potable water infrastructure at transmission level; characterization of wastewater systems
- Water quality and quantity by system
- System interconnections and obstacles/incentives to water sharing
- Population served



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# Scope Breakdown: 2. East Bay MUD



- Comprehensive Analysis of East Bay MUD
- Water/wastewater system at transmission and distribution level
- Water-energy-communication interdependencies and overall system dependencies
- System vulnerability to seismic activity (Hayward) and sea level rise and consequence analysis



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# Scope Breakdown: 3. BARR Member Districts



- Characterization of potable water systems at transmission level; analysis of wastewater systems.
- Analysis of water-energy interdependencies at transmission level



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# Methodology

- Data Collection
  - Idaho National Laboratory's (INL) AHA and DST Tools
  - Subject to verification and supplementation by service providers
- Analysis
  - Conducted by INL
  - Overview, review, vetting, and validation by key stakeholders
- Product Development
  - Resiliency Assessment (RA), Key Findings (KF), and Resiliency Enhancement Options (REO)
  - GIS Products, Decision Support Tools and Analyses
- Implementation Phase
  - Support for Implementing REOs



# RRAP Benefits

- RRAP will:
  - Serve as a vehicle for service providers' concerns
  - Inform Risk Management Decisions
  - Apply best practices and lessons learned
  - Provide actionable decision-support tools
- Products and deliverables serve state and local governments as well as service providers
- Participation will:
  - Build relationships and enhance regional cooperation
- **Everybody Benefits From Resilience !!!**



# RRAP Partners

- **Primary Stakeholders**

- ABAG
- CalOES

- **Federal Partners**

- Federal Emergency Management Agency (FEMA) Region IX
- Environmental Protection Agency (EPA) Region IX
- United States Geological Survey (USGS)
- Department of Energy (DOE) Emergency Support Function (ESF) 12 Coordinator

- **State and Local Partners**

- Bay Area Urban Area Security Initiative (UASI)
- BARR
- California State Water Resource Control Board (SWRCB)
- East Bay Municipal Utility District

- **Other**

- American Water Works Association (AWWA)

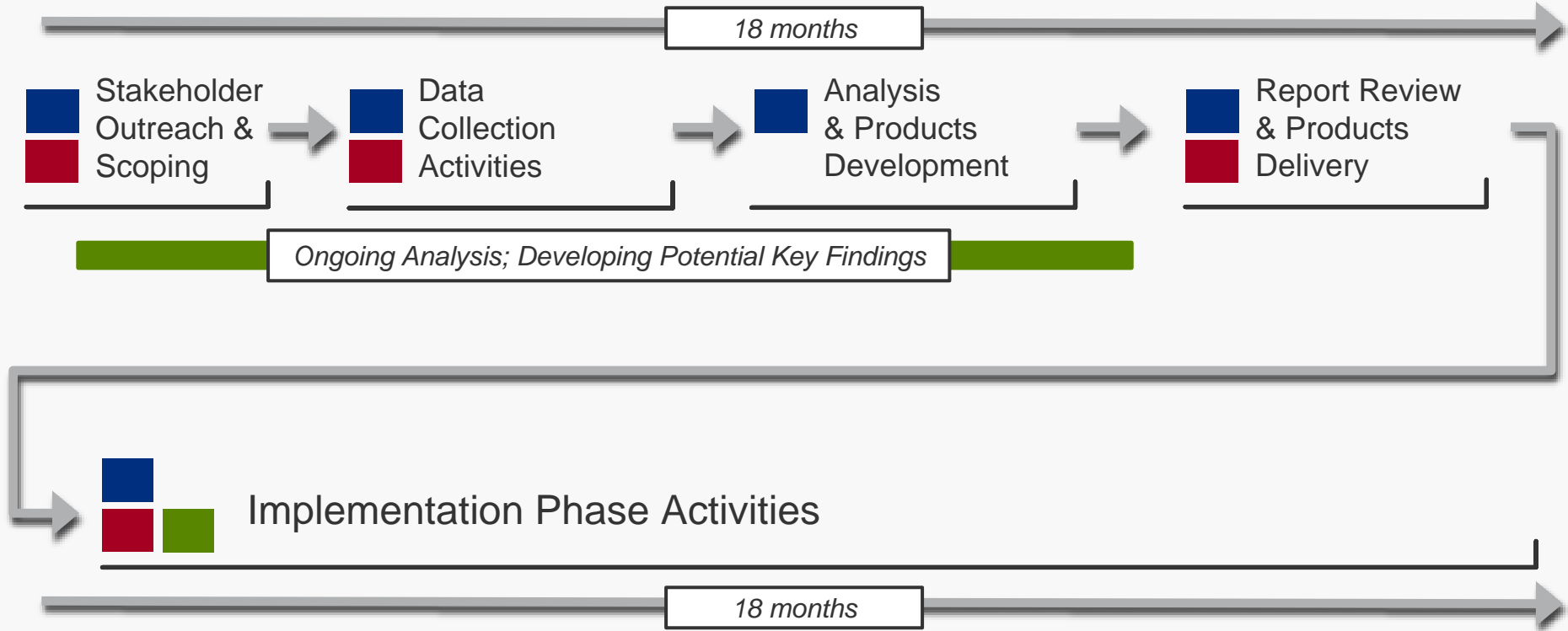


# Information Protection

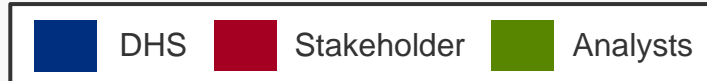
- For Official Use Only (FOUO)
  - Restricts information sharing
  - Sensitive, but not classified information
  - Requires “need to know”



# General RRAP Process



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For more information, visit:  
[www.dhs.gov/critical-infrastructure](http://www.dhs.gov/critical-infrastructure)

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