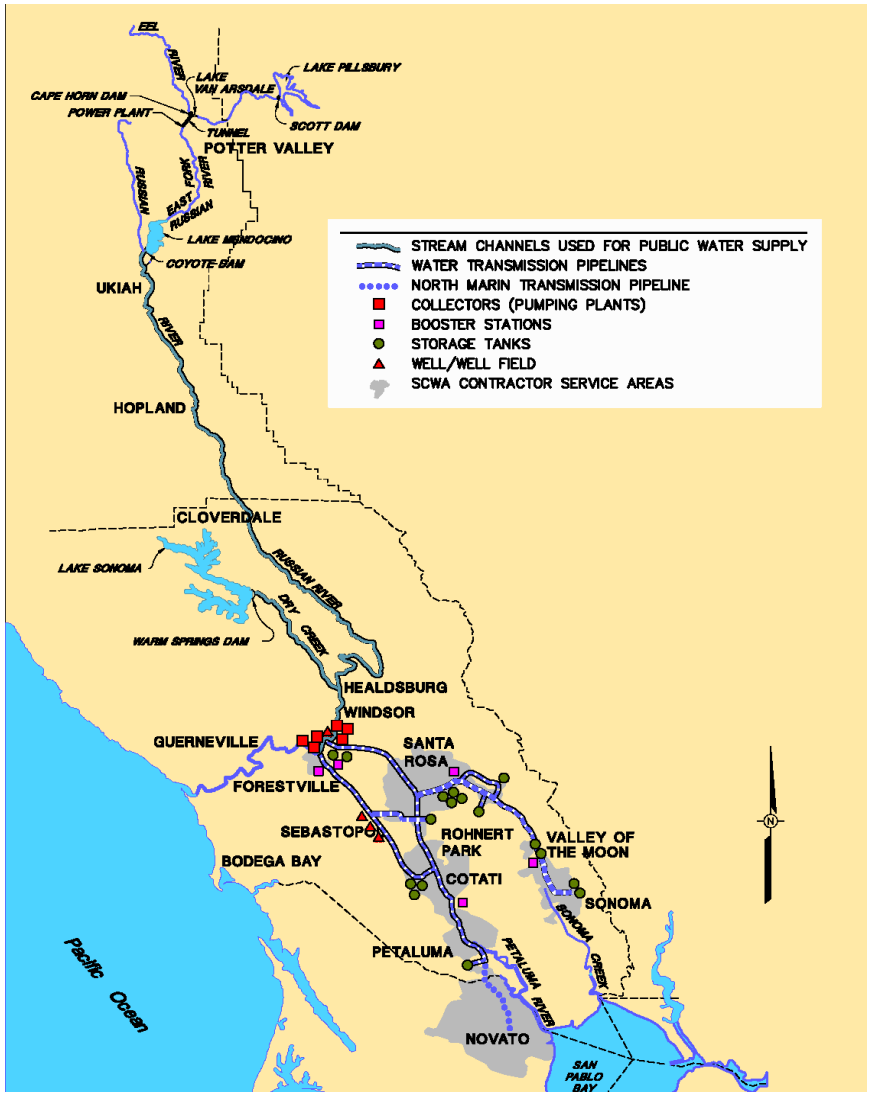
Groundwater & Land Use Management – Issues, Challenges & Opportunities – From a Water Manager's Perspective

Jay Jasperse, P.E.
Chief Engineer

SONOMA COUNTY WATER AGENCY

www.sonomacountywater.org

About The Sonoma County Water Agency



- Wholesale water supplier to over 600,000 people
- Primary source is Russian river with supplemental groundwater
- Also provide sanitation & flood control services and authority for power generation
- Lead Agency AB 3030/SB 1938 Groundwater Management Plans
- No regulatory or land use authority
- Board Directors same as County

Our Key Water Supply Challenges…

Ensure Water Supply Reliability

Changing Regulations, Drought, Growth

Maintain Operational Reliability

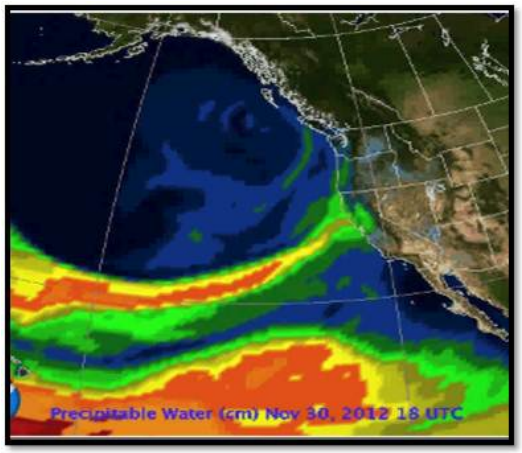
Water Quality, Aging Infrastructure

Improve Resilience Against Natural Hazards

Seismic Hazards, Extreme Weather Events

Adapt to Climate Change

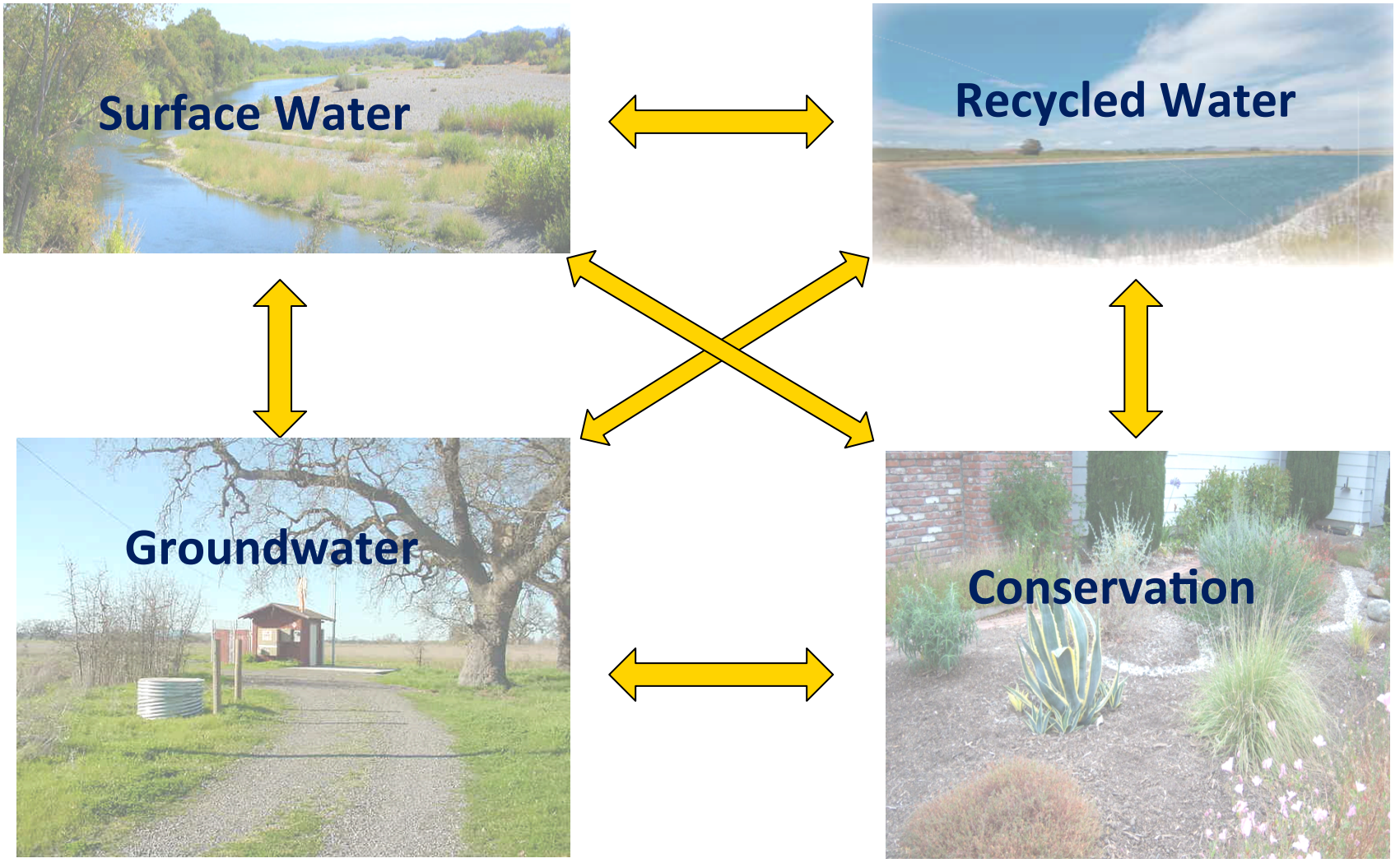
Climate Variability, Sea Level Rise, Habitat Changes, Increased Water Demand (ET, soil moisture)



Ensure Affordability & Stable Funding

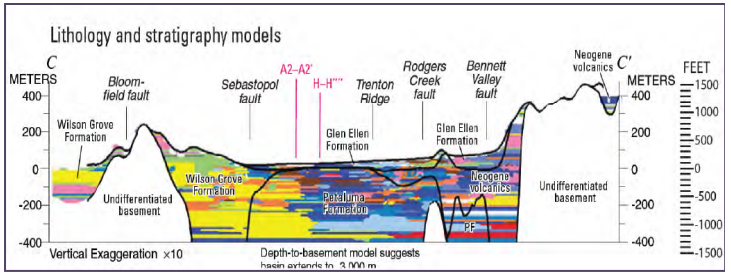
Conservation vs. Rates, Increased Regulations

Integrated Water Management:
4 Ways to Meet Water Supply Demands

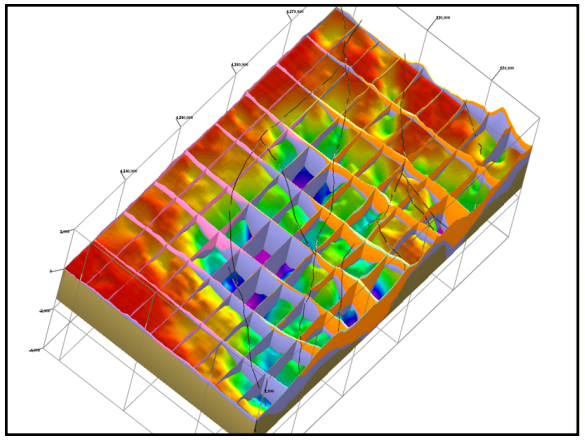


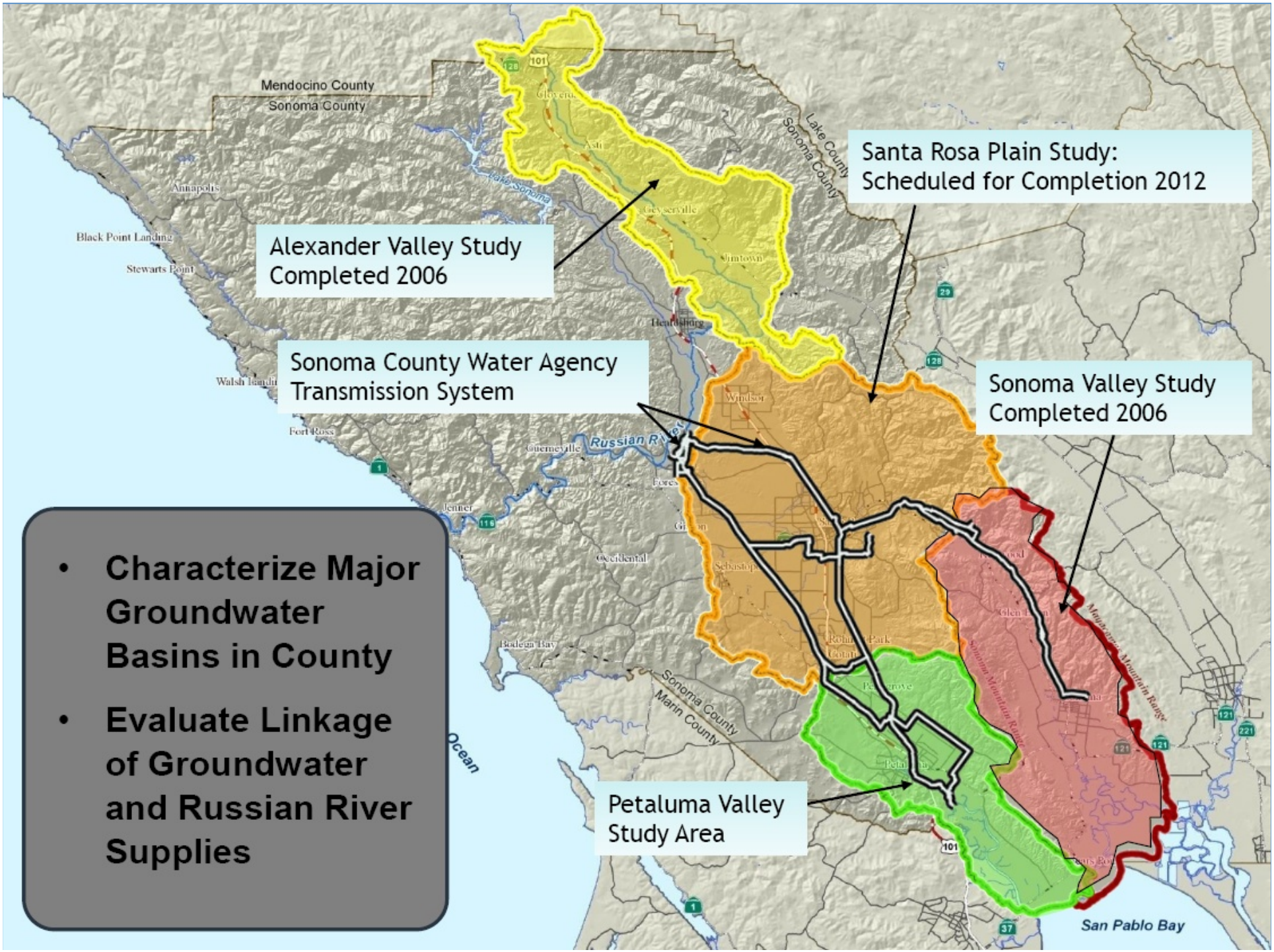
Sonoma Co. Groundwater Considerations

- **Sonoma Co. has 14 groundwater basins**
- **Groundwater basins exhibit complex geology typical of coastal areas**



- **Each groundwater basin has distinct physical, technical & political issues**
- **History of litigation on groundwater issues**
- **Groundwater is a property right**
- **No adjudications/Pump taxes/Mandatory reporting, etc.**

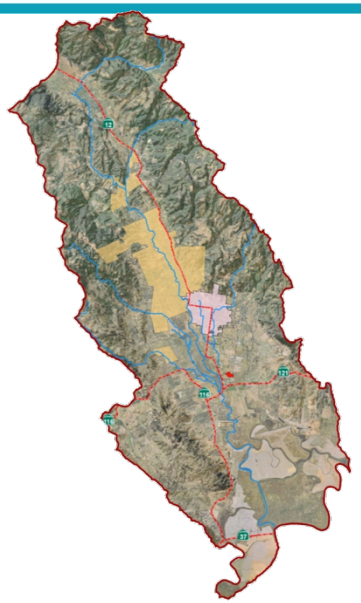


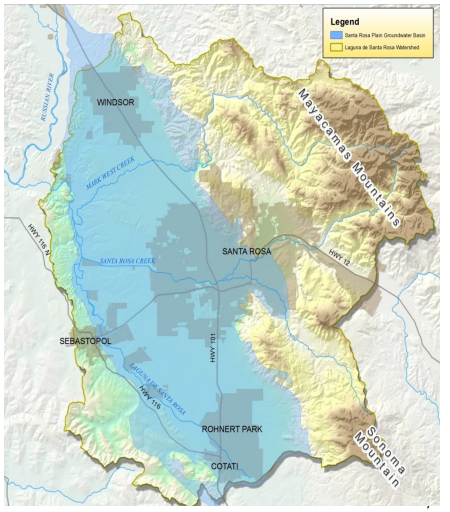


- **Characterize Major Groundwater Basins in County**
- **Evaluate Linkage of Groundwater and Russian River Supplies**

Overview of Sonoma County AB 3030/ SB1938 Groundwater Management Programs

- **Upon Conducting Scientific Studies, Convene Stakeholder Assessment**
  - **Agricultural alliances, environmental organizations, water purveyors, and residential groundwater users**
- **Based on Results – Determine Whether to Proceed With Groundwater Management Planning**
- **Voluntary, Non-Regulatory and Collaborative Process**
- **Emphasizes:**
  - **Local Control**
  - **Sustainability (Quantity and Quality)**
  - **Integration of Water Supplies**
  - **Prevent Overdraft**





Broader Challenges

- Lack consistent coordination between entities playing role in water supply & land use planning/management
- Jurisdictional complexity inhibits effective coordination
  - Retail water vs. wholesale water agencies
  - City vs. county land use planning
- Lack of understanding about respective processes (UWMPs, Gen Plans, IRWMPs)
- Different times scales for General Plans & Urban Water Management Plans
- Land use regulations vs. non-regulatory groundwater management

Examples of Challenges

- Projections of future water demands – dynamic tension often between land use planners & water supply planners
- Lack of consistency or standards in developing demand projections
- Some land use policies are not in sync with current water management practices such as:
  - Commercial ornamental turf (conflict with conservation programs)
  - Calgreen Code provides conservation higher than selected by many cities – new homes often have higher consumption than older with retrofits

Opportunities: Groundwater & Land Use Management

- Land use & water managers work together to retro-fit urban areas & infrastructure to take advantage of new concepts
  - ReNUWIt can play a role
- Recognition by land use & water managers of ecosystem functions & services
- Climate change impacts – land use practices & programs to promote adaptation to extreme events
  - Scenario-based planning using new modeling tools
  - Risk management paradigm
- Better coordination with land use planners to implement integrated water management programs

Opportunities: Implementation Of Integrated Water Management Programs

- Integrate findings from groundwater management via studies & monitoring into land use practices. Conversely – outreach to land use managers to inform about groundwater management programs
- Extend water conservation to rural areas – typically high per capita consumption, often soley rely on groundwater
- Find ways to facilitate recycled water use if benefits overall water resource reliability
- Promote & facilitate implementation of LID and stormwater recharge – both rural and urban areas – streamline permitting process