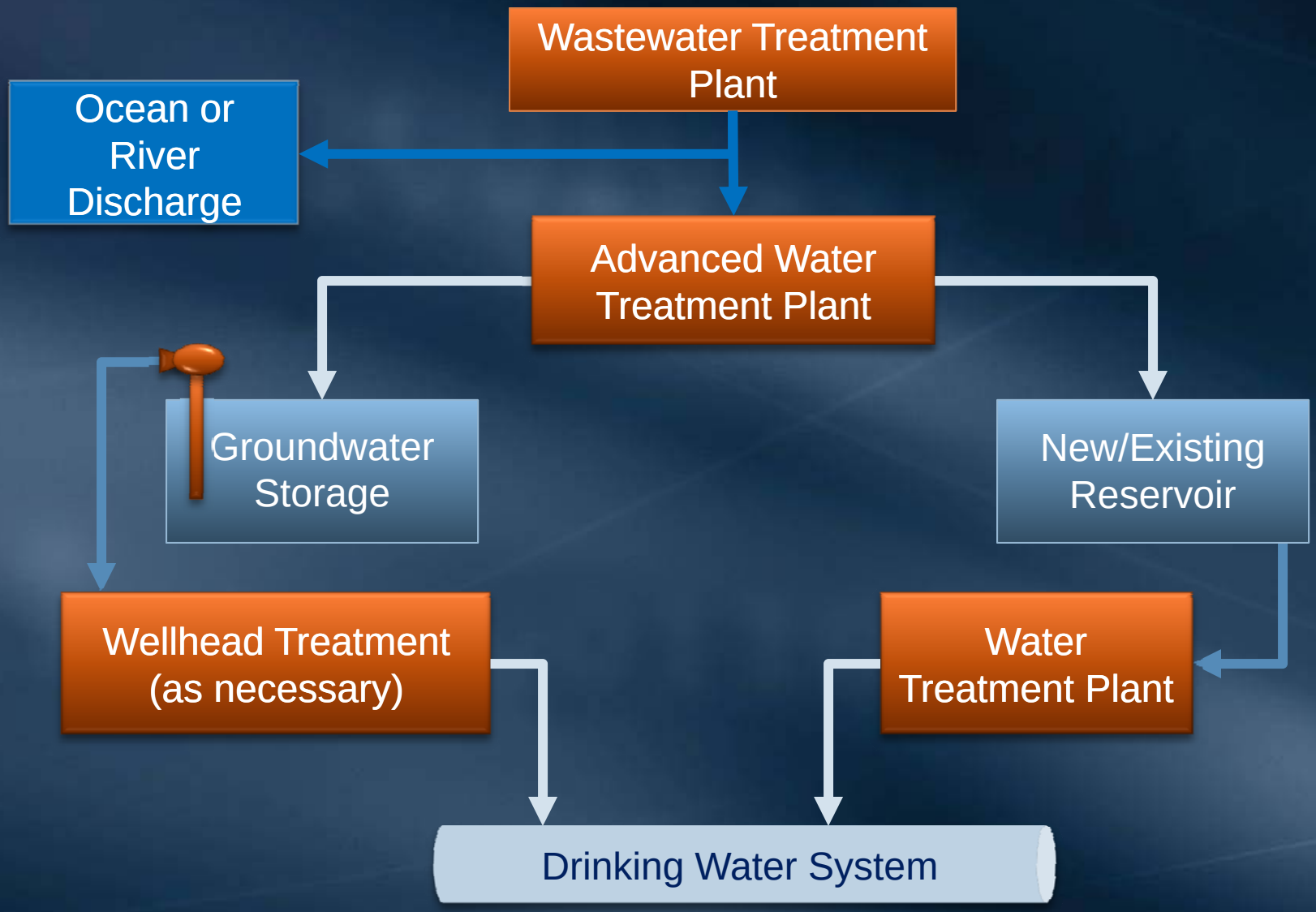
Update on the Joint Groundwater Replenishment Program

Special Committee on Desalination & Recycling
July 26, 2011
Item 3b

Why Recycled Water?

- Supply diversity
  - 20 by 2020 objectives
  - Reliable
  - In basin supply
  - Potable/emergency
- Technology advancements
- Existing regional use

Indirect Potable Reuse



Advanced Water Treatment

for indirect potable reuse

Treated Wastewater

Micro-Filtration (MF)

Reverse Osmosis (RO)

Ultraviolet Light (UV) with Hydrogen Peroxide

Environmental Buffer

Metropolitan/LACSD Water Purification Study
Original Drivers-2009

- Metropolitan
  - Local, reliable, dry-year supply
  - Multi-year drought
  - 2009 Comprehensive Water Package (Delta Plan)
- LACSD
  - Board endorsed plan to maximize reuse
  - Pending regulation for reuse (S.B. 565 – Pavley)

Present Opportunity

- Develop a regional source of supplemental water
  - LA County Sanitation Districts
  - Indirect potable reuse
  - Near-distilled water quality
  - Reliable, drought-resistant

Groundwater Recharge
at Rio Hondo Spreading Grounds

Recent Metropolitan Recycled Water Actions

- August 2009- Board informational report
- March 2010- Board action
  - Authorize MOU with LACSD
  - Authorize consulting agreement and studies
  - Focus on Joint Water Pollution Control Plant (JWPCP)
    - Upstream reclaimed water already under contract
    - Up to 200 mgd available
- Present- studies underway
  - Pilot plant
  - Technical studies

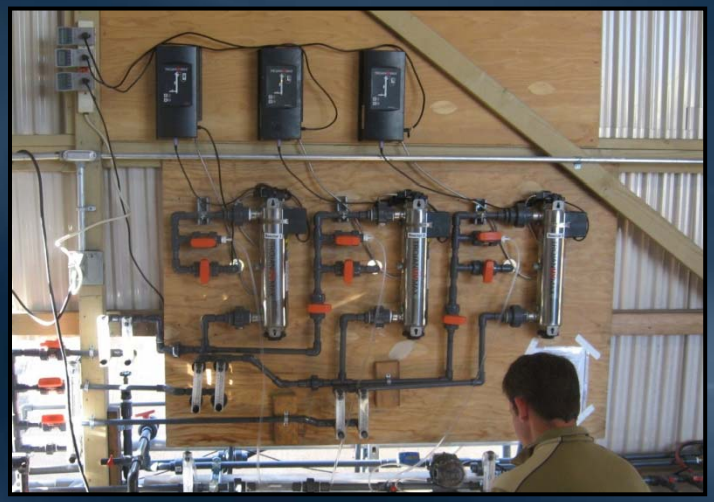
Technical Studies

- Pilot plant testing
- Strategic Assessment
- Technical Memoranda
  - Water quality
  - Institutional and regulatory issues
  - Physical facilities
  - Alternatives analyses

Pilot Plant Study

- JWPCP Secondary Effluent
- Operational since June 2010
- 2 treatment trains
  - Microfiltration, Reverse Osmosis, Ultraviolet/Peroxide
  - Membrane Bioreactor, Reverse Osmosis, Ultraviolet/Peroxide
- WaterSmart grant funding
  - Federal Bureau of Reclamation
  - $334,208

Microfiltration Unit



Ultra-Violet /Peroxide Unit

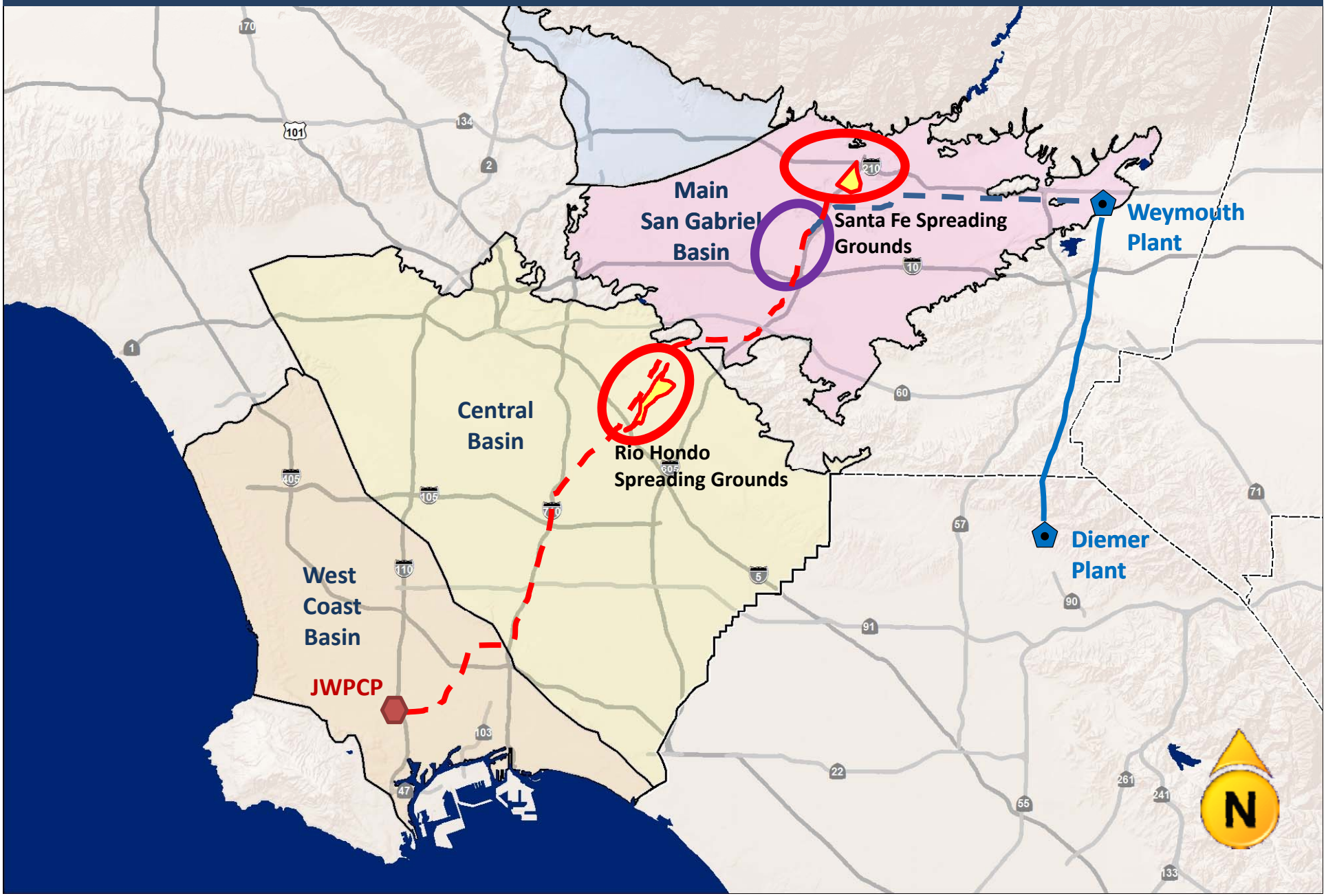
Overall Findings

- Large project is technically feasible
  - 150 MGD or greater
  - Phased implementation required
  - Metropolitan operational constraints can be addressed
- Open reservoir storage has limitations
  - No clear regulatory pathway to approval
  - Limited sites for storage capacity required

Overall Findings (Cont.)

- Groundwater basins are a key resource
  - Large storage capacity
  - Potential for traditional replenishment program
  - Potential for storage/export program
  - Current adjudications limit potential program size
  - Extracted water quality requires further study
- Stakeholder partnerships are key

Potential Purified Water Program



Changing Conditions

- Initial Study Drivers-2009
  - Multi-year drought
  - State-wide water shortage
  - Low storage levels in basins and reservoirs
  - Potential recycled water legislation
- Current Conditions
  - Above average rainfall
  - End-of-drought declaration
  - Reservoirs at or near capacity
  - Projected lower long-term demands (2010 IRP)
  - No recycled water legislation (passed or pending)

Next Steps

- Assimilate impacts of changed conditions
- Complete current studies
  - Technical Memoranda
  - Pilot Plant
- Return to Board with final report and recommendations
  - 4th quarter 2011