

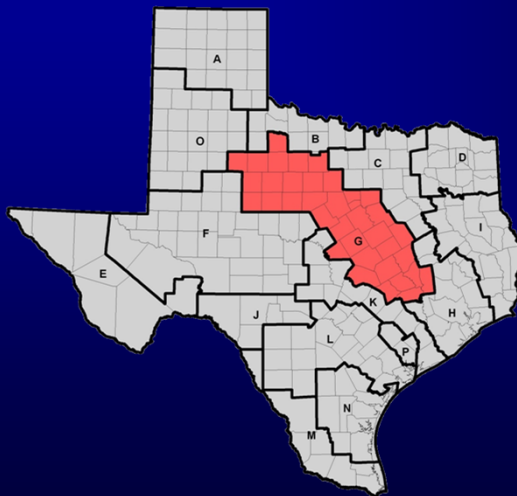
## ***New Member Orientation Workshop***

### ***Overview of the Regional Water Planning Process***

February 7, 2018



## ***Regional Water Planning***



- Started by SB1 in 1997
- New requirements in subsequent legislation
- 16 planning regions
- BRA is administrative agent for Region G
- HDR Engineering is technical consultant
  - Freese & Nichols
  - Susan Roth Consulting



2



## Interest Groups Represented (voting members)

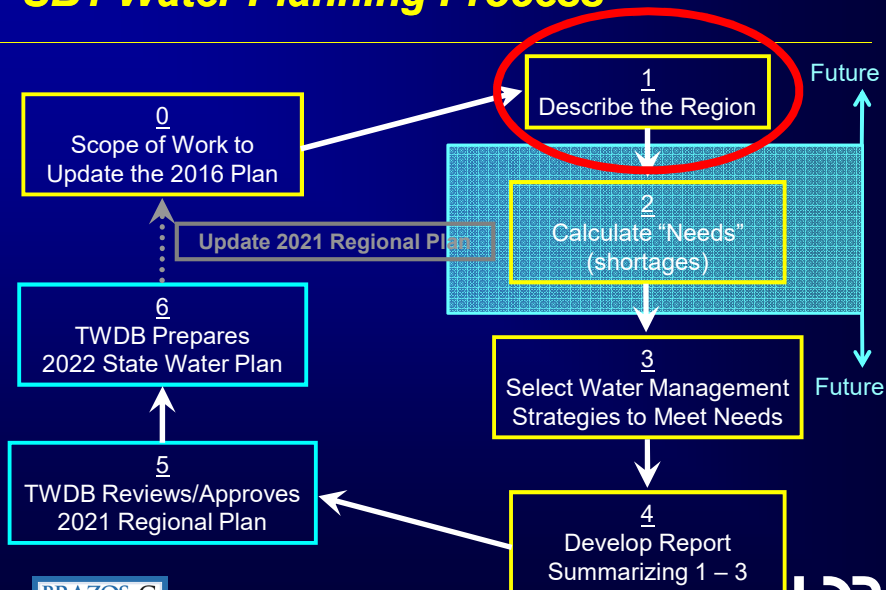
- ✓ **Agriculture** – Wayne Wilson, Dale Spurgin
- ✓ **Counties** – Tim Brown, Scott Felton, Mike Sutherland
- ✓ **Electric Utilities/Power Generation** – Gary Spicer
- ✓ **Environment** – Luci Dunn
- ✓ **Groundwater Management Areas** – Mike McGuire, Zach Holland, Gary Westbrook, Judy Parker, Dale Adams
- ✓ **Industry** – Terrill Tomacek
- ✓ **Municipalities** – Kenny Weldon, Jim Briggs, Tommy O'Brien, Wiley Stem
- ✓ **Public** – Gary Newman
- ✓ **River Authorities** – Phil Ford (David Collinsworth)
- ✓ **Small Business** – Gail Peek
- ✓ **Water Districts** – Joe Cooper, Kelly Kinard
- ✓ **Water Utilities** – Charles Beseda



3



## SB1 Water Planning Process



4





## SB1 Water Planning Process

1  
 Describe the Region

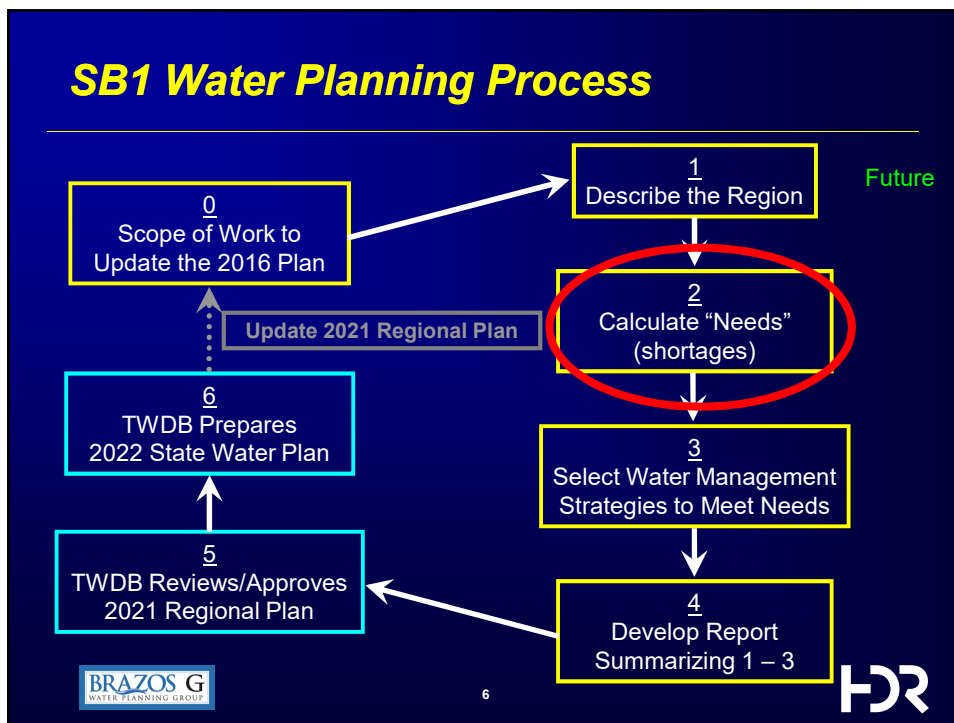
**Information Required:**

- ✓ Major Water Providers (new)
- ✓ Current water use
- ✓ Identified water quality problems
- ✓ Sources of groundwater and surface water, including major springs
- ✓ Major demand centers
- ✓ Agricultural and natural resources
- ✓ Social and economic aspects of the regional water planning area, including information on current population and primary economic activities, including businesses dependent on natural water resources
- ✓ Initial assessment of current preparations for drought within the regional water planning area
- ✓ Summary of existing regional water plans, summary of recommendations in State Water Plan
- ✓ Summary of local water plans
- ✓ Identified threats to the agricultural and natural resources due to water quantity problems, or water quality problems related to water supply.

**Status:** Future Task

5



## SB1 Water Planning Process

2  
Calculate "Needs"  
(shortages)

### Who do we plan for?

- ✓ Water User Groups (WUGs) (approx. 430 in Brazos G)
    - Municipal WUGs
      - Retail water utilities providing >100 acre-feet/yr (new for 2021 Plan)
      - County-Other: remaining population not served by muni WUG
    - Manufacturing
    - Steam Electric
    - Mining
    - Irrigation
    - Livestock
- } County-wide demands
- ✓ Collective Reporting Units (new for 2021 Plan)
  - ✓ Wholesale Water Providers (WWPs)
  - ✓ Major Water Providers (MWP) (new for 2021 Plan)

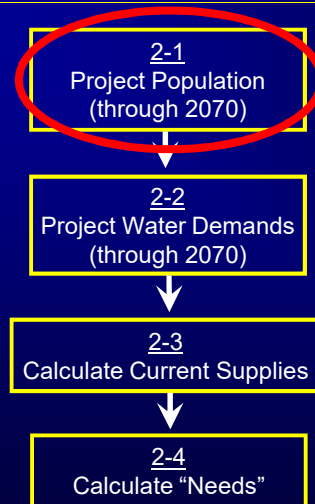


7



## SB1 Water Planning Process

2  
Calculate "Needs"  
(shortages)



8





## SB1 Water Planning Process

2  
Calculate "Needs"  
(shortages)

2-1  
Project Population  
(through 2070)

✓Municipal Water User Groups (WUGs)

- TWDB/State Data Center process for projecting population
  - Cohort-component analysis
- Projected on county-wide basis
- Disaggregate county populations to Municipal WUGs
- RWPG reviews and requests revisions


9


## SB1 Water Planning Process

2  
Calculate "Needs"  
(shortages)



2-1  
Project Population  
(through 2070)

Status: TWDB reviewing  
revision request

2-2  
Project Water Demands  
(through 2070)

2-3  
Calculate Current Supplies

2-4  
Calculate "Needs"


10


## SB1 Water Planning Process

2  
Calculate "Needs"  
(shortages)



2-2  
Project Water Demands  
(through 2070)

- ✓Municipal
  - Per-capita use (GPCD) based on 2010 Census and reported water use
  - GPCD reduced based on increased use of efficient plumbing fixtures

**Demand = GPCD x Population**

- ✓Manufacturing
- ✓Steam Electric
- ✓Mining
- ✓Irrigation
- ✓Livestock

} Developed through TWDB  
Contractors & Staff


11


## SB1 Water Planning Process

2  
Calculate "Needs"  
(shortages)

2-1  
Project Population  
(through 2070)



2-2  
Project Water Demands  
(through 2070)

2-3  
Calculate Current Supplies

2-4  
Calculate "Needs"

Status: TWDB reviewing  
revision request

Status: TWDB reviewing  
revision request




12


## SB1 Water Planning Process

$\frac{2}{}$   
 Calculate "Needs"  
 (shortages)

$\frac{2-3}{}$   
 Calculate Current Supplies

- ✓ Groundwater Availability (14 aquifer systems in Brazos G)
  - House Bill 1763 Process – Modeled Available Groundwater (MAG) from GMA process
  - MAG Peak Factor (new)
  - Limit supply to well capacities
  - Pro-rata reduction if well capacities exceed MAG
- ✓ Surface Water Availability
  - TCEQ Brazos WAM Run 3 w/Brazos G modifications
  - Firm yields for reservoirs greater than 1,000 acre-feet capacity
  - Safe yields for reservoirs upstream of Possum Kingdom Reservoir
- ✓ Apportion Groundwater and Surface Water to WUGs and WWPs
- ✓ Assign contractual supplies
- ✓ Limit supply to treatment and/or transmission capacity


13


## SB1 Water Planning Process

$\frac{2}{}$   
 Calculate "Needs"  
 (shortages)

$\frac{2-1}{}$   
 Project Population  
 (through 2070)

Status: TWDB reviewing  
 revision request

↓

$\frac{2-2}{}$   
 Project Water Demands  
 (through 2070)

Status: TWDB reviewing  
 revision request



↓

$\frac{2-3}{}$   
 Calculate Current Supplies

Status: Initiated

↓

$\frac{2-4}{}$   
 Calculate "Needs"


14




## SB1 Water Planning Process

2  
Calculate "Needs"  
(shortages)

2-4  
Calculate "Needs"

Need = Supply minus Demand

- ✓ Need determined for each WUG and WWP for each decade
- ✓ Needs will be calculated by TWDB in planning database (Aug 2018)


15


## SB1 Water Planning Process

2  
Calculate "Needs"  
(shortages)

2-1  
Project Population  
(through 2070)

↓

2-2  
Project Water Demands  
(through 2070)

↓

2-3  
Calculate Current Supplies

↓



2-4  
Calculate "Needs"

Status: TWDB reviewing  
revision request

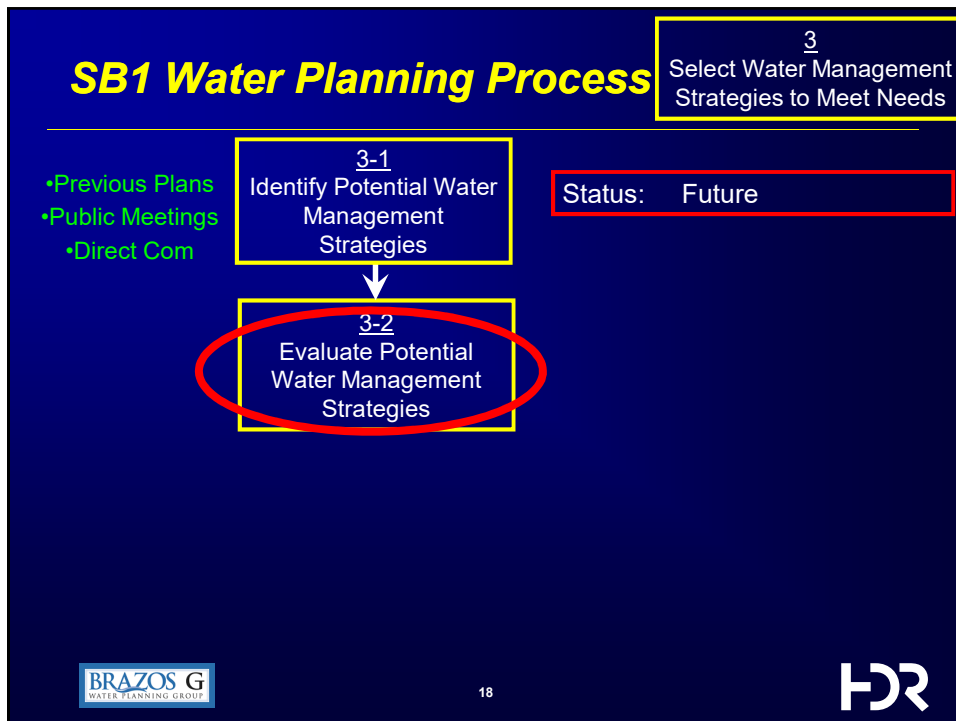
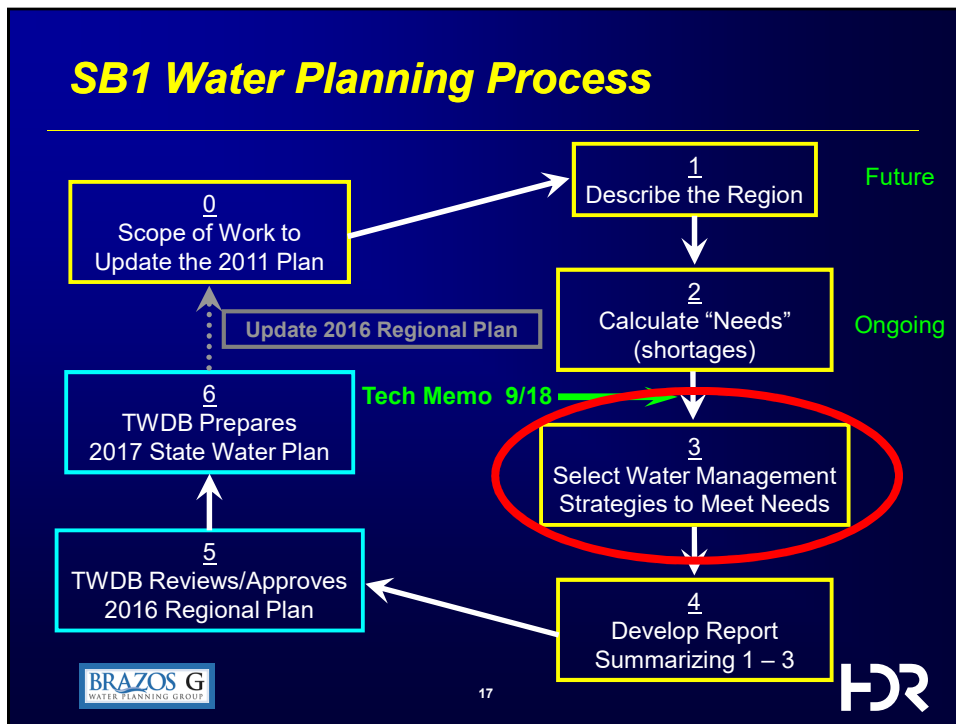
Status: TWDB reviewing  
revision request

Status: Initiated

Status: Future


16








## SB1 Water Planning Process

3  
Select Water Management Strategies to Meet Needs

3-2  
Evaluate Potential Water Management Strategies

- ✓ Water Conservation – **Must be considered for each need**
- ✓ Increased Groundwater Development
- ✓ New Reservoirs (on and off-channel)
- ✓ New Diversions
- ✓ Wastewater Reuse
- ✓ Desalination
- ✓ Aquifer Storage and Recovery
- ✓ Groundwater/Surface Water Conjunctive Use
- ✓ Upper Basin Salt Control
- ✓ Enhance Reservoir Yields
- ✓ Interconnection of Regional and Community Water Systems
- ✓ Brush Control
- ✓ Weather Modification
- ✓ Drought Management
- ✓ Other Measures


19


## SB1 Water Planning Process

3  
Select Water Management Strategies to Meet Needs

- Scope of Work
- Public Meeting

3-1  
Identify Potential Water Management Strategies

3-2  
Evaluate Potential Water Management Strategies



3-3  
Select Water Management Strategies to Meet Needs

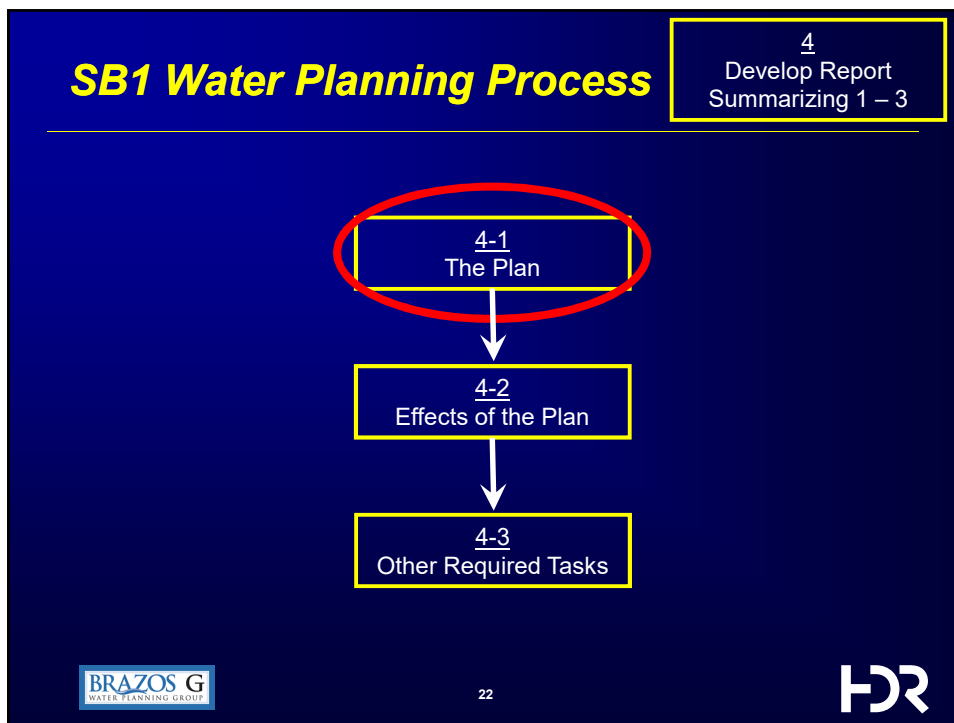
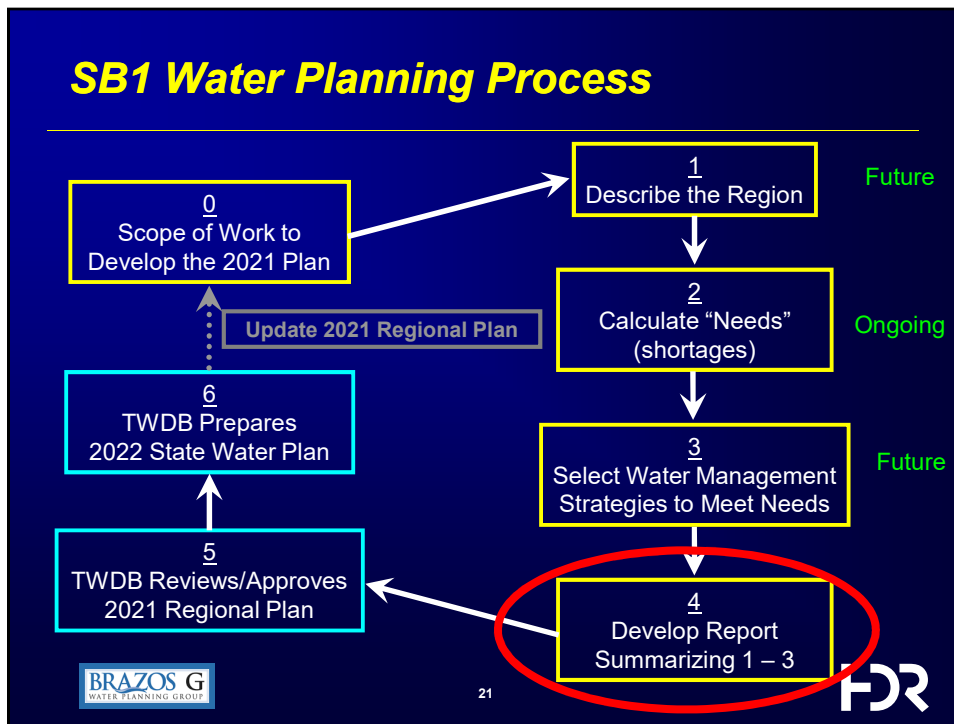
- Supply
- Cost
- Environmental
- Cultural
- Historical
- Other Factors

Status: Future

Status: Start in August

Status: Future


20




# SB1 Water Planning Process

4  
Develop Report  
Summarizing 1 – 3

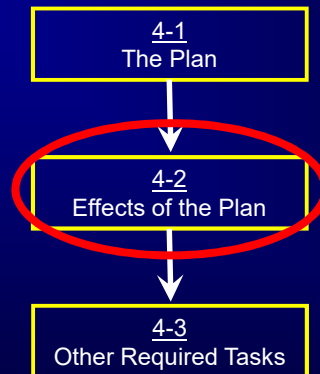
4-1  
The Plan

- ✓ Describe Region
- ✓ Project Population
- ✓ Project Water Demands
- ✓ Determine Water Availability & Supplies
- ✓ Determine Needs
- ✓ Select Water Management Strategies to Meet Needs
  - Supply
  - Environmental Effects
  - Effects on Threats
  - Cost
  - Cultural/Historical Effects
  - Other Factors



# SB1 Water Planning Process

4  
Develop Report  
Summarizing 1 – 3



# SB1 Water Planning Process

4  
Develop Report  
Summarizing 1 – 3

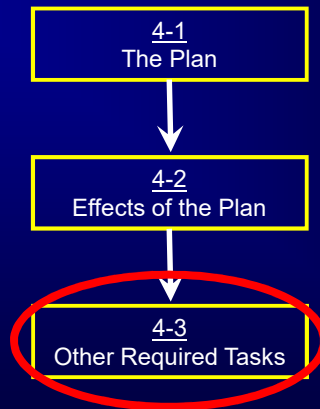
## 4-2 Effects of The Plan

- ✓Environment
  - Streamflows
  - Habitat
  - Threatened/Endangered Species
  - Water Quality
- ✓Cultural/Historical
  - Historical Sites (reservoir inundation, etc.)
  - Impacts of moving water from rural to urban areas
    - Quantity of water moved
    - Third-party impacts of moving water



# SB1 Water Planning Process

4  
Develop Report  
Summarizing 1 – 3



## SB1 Water Planning Process

4  
Develop Report  
Summarizing 1 – 3

4-3  
Other Required Tasks

Status: Future

- ✓ Water Conservation and Drought Management Recommendations
  - Develop water conservation and drought management recommendations
- ✓ Description of how the Regional Water Plan is consistent with long-term protection of the State's resources:
  - ◆ Water                      ◆ Agricultural                      ◆ Natural
- ✓ Recommend Unique Ecological Stream Segments
- ✓ Recommend Unique Reservoir Sites
- ✓ Compare 2016 Plan to actual implementation
- ✓ Compare 2021 Plan to 2016 Plan
- ✓ Prioritize recommended strategies
- ✓ Water Infrastructure Funding Recommendations
- ✓ Recommend Legislative & Regional Policy Issues (Workgroup)



27



## Recent/New Requirements

- ✓ Assess drought management response
- ✓ Assess emergency interconnects for smaller entities
  - (A) existing populations less than 30,000 (~172 in 2016)
  - (B) rely on a sole source for its water supply (multiple)
  - (C) All county-other WUGs (37)
- ✓ Secondary needs analysis – remaining need after conservation and direct reuse
- ✓ Evaluate implementation of the last plan
- ✓ Prioritize strategies recommended in the Plan
- ✓ Include report tables from water planning database (DB22)
- ✓ Report data for Major Water Providers (MWP) (new for 2021 Plan)



28



