# Future Infrastructure Improvements

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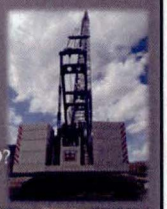
## KEY *FUTURE* INFRASTRUCTURE IMPROVEMENTS

- Water Treatment Plant Upgrades - $(WATS)
- Water Storage Improvements – *$7.5M*
- Water Resource Recovery Facility - *$105M*
- Landfill Expansion & Improvements –*$10M*

## WILLISTON WATER TREATMENT PLANT



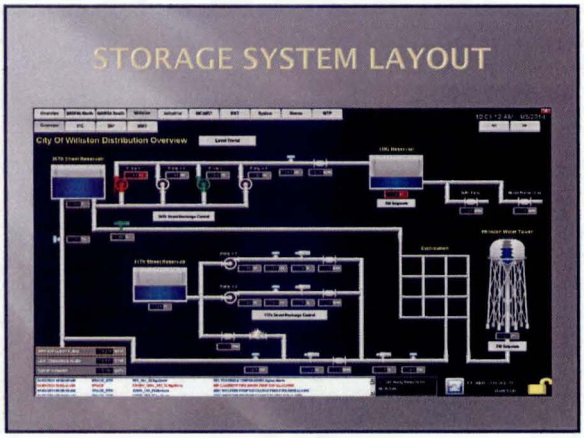
- Regional facility operated by City
- Source: Missouri River
  - Phase 3: 14 MGD
  - Phase 4: 21 MGD
  - Subsequent Phases: 35 MGD, 50 MGD?
  - Treatment process
    - Pre-sedimentation Basins
    - Actiflo & Conventional Filtration
    - Lime softening
    - Chlorine & UV Disinfection

## WILLISTON WATER TREATMENT PLANT

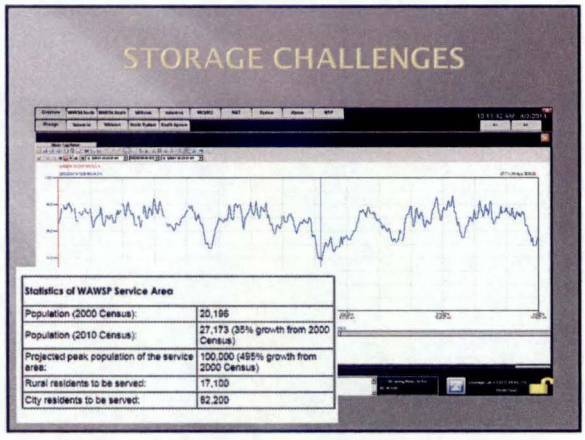
- Under construction since 2011
  - Williston WTP Improvements
    7 MGD→10 MGD→14 MGD →21 MGD→28MGD
  - Reservoirs:
    - 11 MG of total system storage
  - Pump Stations & Distribution System:
    - Over 100 miles of pipeline, pump stations, valves & meters

## WATER TREATMENT PLANT

## STORAGE SYSTEM LAYOUT



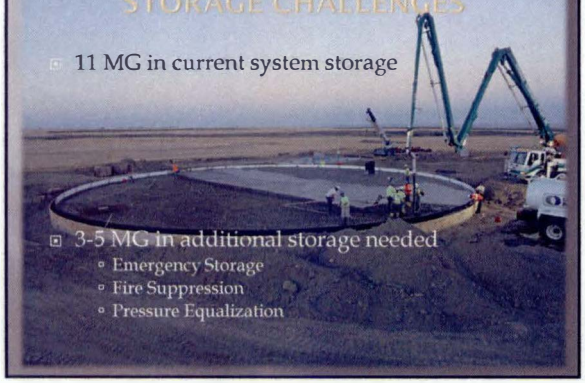

## STORAGE CHALLENGES



| Statistics of WAWSP Service Area | |
|---|---|
| Population (2000 Census): | 20,196 |
| Population (2010 Census): | 27,173 (35% growth from 2000 Census) |
| Projected peak population of the service area: | 100,000 (495% growth from 2000 Census) |
| Rural residents to be served: | 17,100 |
| City residents to be served: | 82,200 |

## STORAGE CHALLENGES

- 11 MG in current system storage



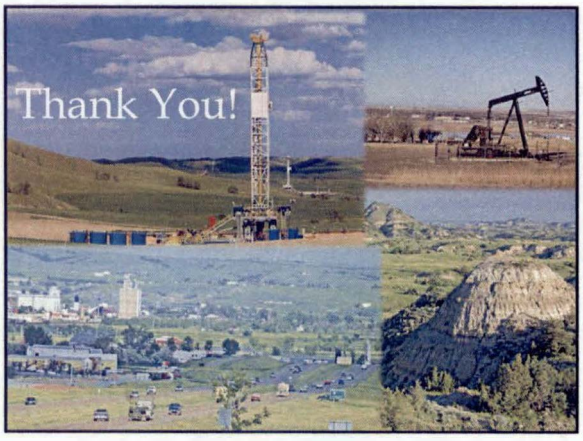
- 3-5 MG in additional storage needed
  - Emergency Storage
  - Fire Suppression
  - Pressure Equalization

## WATER RESOURCE RECOVERY FACILITY

- Completion 2014-2017, $105M project cost
  - Discharge: Missouri River
  - Existing Treatment
    - Pre-screening & grit removal
    - Aerated lagoons (3)
    - Interim tertiary treatment
  - Future Treatment
    - Ovivo Oxidation Ditch
    - Clarifiers
    - ATAD
    - Class A Biosolids,

## WATER RESOURCE RECOVERY FACILITY

## CITY LANDFILL

- Approx $10 M Expansion Cost
  - ~30 yr lifespan
  - 300-500 Tons/day intake (150-300/day oilfield)
  - New scales and shop in 2015
  - Cells 5-6 excavation in 2016-17

## CITY LANDFILL