



Trinity River Authority

Denton Creek Regional Wastewater System

Odor Controls In Place and Planned

December 9, 2008





Expansion to 11.5 MGD

Dec 2009; June 2010

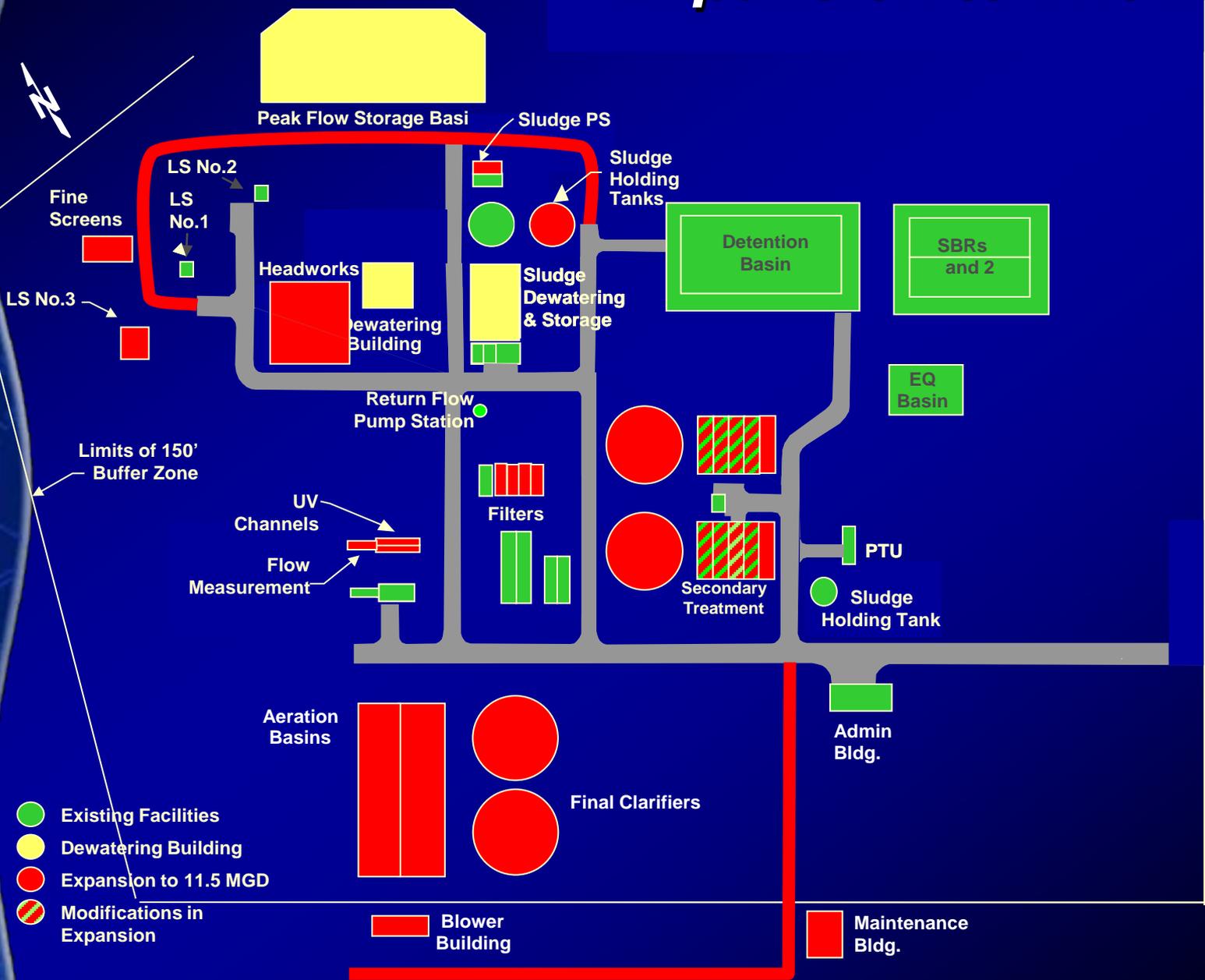
- Increased flows.
 - Current average = 4.8 MGD
- Expanding service area
 - Population
 - New areas
- Improved/new technology





Site Plan

Expansion to 11.5 MGD





Types of Odors/Detection Thresholds

COMPOUND NAME	DT (PPM)	DESCRIPTION
Ammonia	37	Pungent, horse urine
Dimethyl sulfide	0.001	Decayed cabbage
Hydrogen sulfide	0.005	Rotten eggs
Indole	-----	Fecal, nauseating
Methyl mercaptan	0.001	Rotten cabbage
Phenyl mercaptan	0.002	Putrid, garlic
Skatole	0.050	Fecal, nauseating





Conditions Resulting in Odor Summer 2007

- Increase in flow and solids generation
 - Solids accumulated in basins
 - Obtained mobile belt press
 - Constructed new dewatering building
- SBR equipment premature malfunction
 - Fast track for new equipment
 - Now repaired
- Collection system flows and sizes
 - Collection system designed for future growth
 - Long detention times lead to high odor generation





Conditions Resulting in Odor Incidences Winter of 2008

- Causes of odor conditions
 - Extreme cold weather led to freezing of pipes providing water to Vapex unit
 - Pump failed at $Mg(OH)_2$ units
- Resolution of odor conditions
 - Units now on daily maintenance check rounds. Will not eliminate occasional failures, but will minimize down time.
 - Heat tracing of lines will minimize opportunities for pipe freezing and failure





Conditions Resulting in Recent Odor Incidences

- Vandalism on pipeline to Vapex unit
- Operation of the sludge holding tanks to optimize centrifuge operation
- Hydraulic turbulence in the influent preliminary treatment structure





Resolution of Current Odor Conditions

- Bury the pipeline to the Vapex unit
- Modify operations on the sludge holding tank
- Install decanter for sludge withdrawal
- Evaluate installation of odor atomizers at influent structure
- Cover new influent structure and install odor control
- Locate new influent structure at the west side of plant





In Conclusion

- TRA wants to be a good neighbor and minimize odors perceived in the vicinity of the DCRWS
- TRA wants neighborhood involvement to help identify odor characteristics and thus sources
- TRA wants to provide the needed wastewater facilities to allow development in the area
- TRA wants to be a good steward of the finances associated with providing high quality treatment facilities with a minimum of odors

