

Public Information Meeting

Cedar Lake Potable Water Distribution System

August 26, 2025



Potable Water Distribution System Topics

- Common Terminology
- System Overview
- What is a Water Model?
- Irrigation Systems
- Master Plan
- Proposed Improvements
- Q&A



Terminology

Potable Water	Drinking Water, Disinfected / Treated
Water Source	Shallow Bedrock Aquifer Approximately 200 Ft. to 400 Ft. Below Ground
Distribution System	Pressurized Network of Water Main to Convey Water from Source to Consumer
Water Main	Piping Used to Convey Potable Water in the Municipal Water Distribution System, Typically 4" Dia. to 16" Dia.
Fire Hydrant	Connection Point on Distribution System used for Fire Protection, Flushing, Testing, Maintenance
Isolation Valve	Valve to Control Flow of Water
Service Connection	Water Service Line Connecting Municipal Water Distribution Main to Customer's Property and Interior Plumbing Fixtures
B-Box (Curb Box)	Shut-Off Valve for a Property's Water Service Connection
Water Meter	Measures the Volume of Water Consumed



Terminology

Well Pump	Pump to Extract Water from Underground Aquifer and Bring to Surface
Booster Pump	Boosts the Pressure from a Ground Storage Tank to a Higher Pressure Suitable for Distribution System
Hydropneumatic Tank	Pressurized Water Tank
Ground Storage Tank	Water Storage at Grade Level
Elevated Storage Tank	Water Storage Suspended in the Air (~100'-160')
SCADA	Supervisory Control and Data Acquisition
Hydraulic Grade Line	The Total Energy of a Fluid in a Pipeline
Pressure	Force Exerted by Water per Unit Area of the Surface (Pounds per Square Inch or PSI)



IDEM

- Indiana Department of Environmental Management
- Drinking Water Branch
 - Enforces the Requirements of the Federal Safe Drinking Water Act (SDWA)
- Verify that Public Water Supply Systems Comply with Regulations Through:
 - Inspections
 - Inventories
 - Disinfection / Treatment Requirements
 - Development & Operator Certifications
 - Permitting



Cedar Lake Potable Water Distribution System Overview

- 3 Separate Public Water Supply Systems
 - West System (aka Utility Inc.)
 - East System (aka Robin's Nest)
 - Paradise Cove (aka Lighthouse / WPM)
- ~ 50 Miles of Water Main
 - Vary in Size from 3" to 16" – Mostly Ductile Iron
- Service Connections
 - West: ~3,100
 - East: ~350
 - Paradise Cove: 4



Cedar Lake Potable Water Distribution System Overview

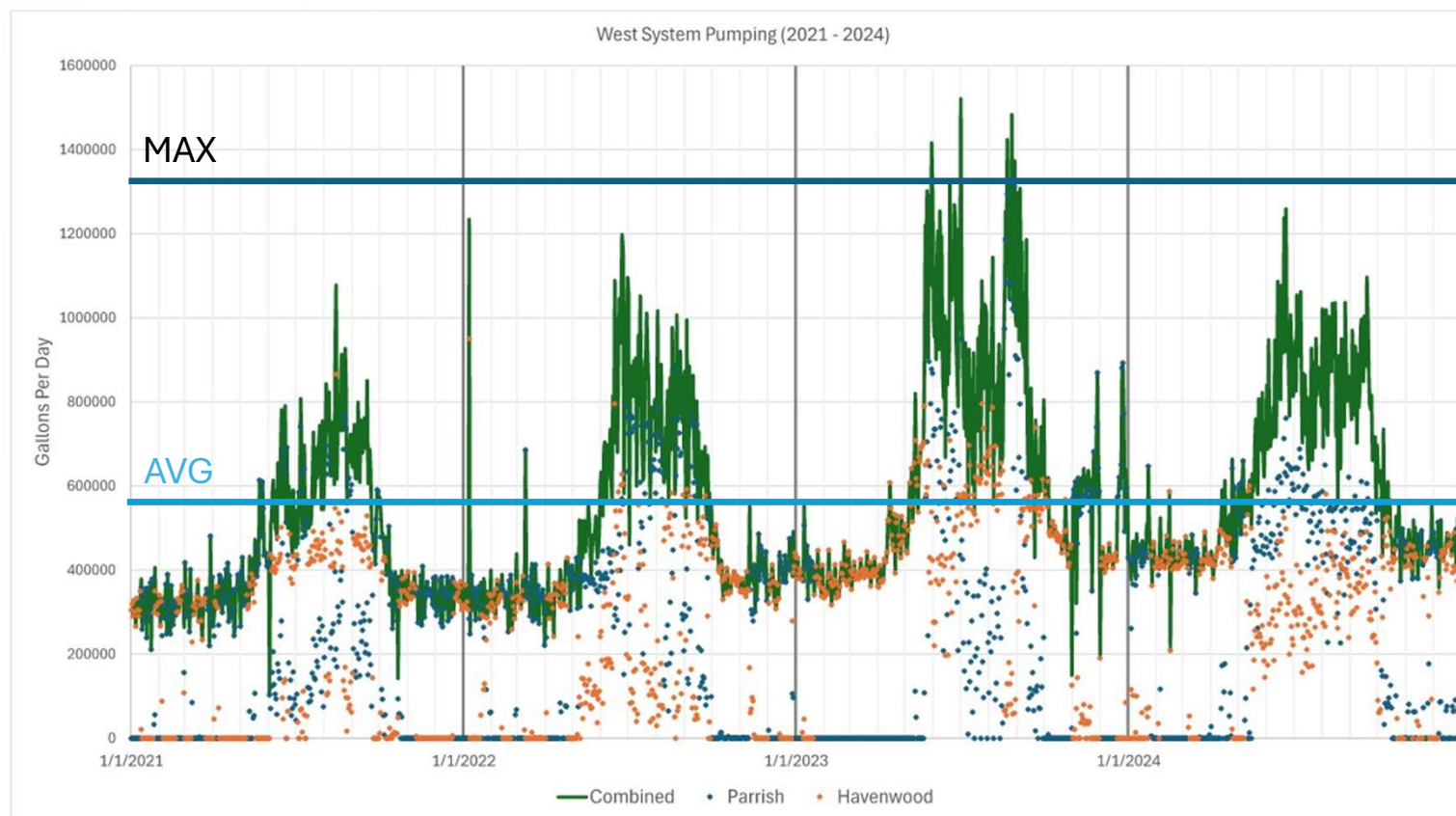
- Major System Components
 - 3 Storage Facilities
 - 560,000 Gallons of Total Storage (East, West, Paradise Cove)
 - 3 Hydropneumatic Tanks
 - 3 High Service Booster Pumps
 - 8 Supply Wells

Water Consumption Table:

System	Average Day Usage (Annual)	Maximum Day Usage (Summertime)
West	584,000 Gal / Day	1,340,000 Gal / Day
East	86,400 Gal / Day	170,000 Gal / Day
Paradise Cove	14,000 Gal / Day	28,000 Gal / Day



West Side Demand Trend



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What is a Water Model?

- Tool to Simulate and Analyze the Behavior of a Water Distribution System
- Uses Mathematical Equations to Calculate:
 - Pressure
 - Fire Flow
 - Pipe Flow
 - Flushing Operations
 - Water Age
 - Water Quality
 - Temporary Shutdown Scenarios
 - Watermain Replacement Programs
- Informed Decision-Making Tool
 - Municipal Comprehensive Planning
 - Future Capital Improvements



Irrigation Systems

- Method to Deliver Water to a Typical Landscape Area
- Must be Isolated from Distribution System
 - RPZ (Reduced Pressure Zone) Valve
 - One-Way Direction Flow Valve
 - Prevents Cross Contamination from Customer Side to Distribution System
- Increases Seasonal Usage Trending



Potable Water Master Plan

- Road Map to Guide the Future of the Potable Water System
- Utilizes Water Model Scenarios to Analyze Improvements
- Identify Deficiencies and Make Recommendations to Improve Overall Performance
- Typically Updated every 5 – 10 Years
- Highly Sensitive Information and therefore will not be made available to the Public



Proposed Improvements

Near Term (1-3 Years):

- SCADA System Improvements (West & East)
 - Allow Town Water Operators to Remotely Monitor Flows, Pressures, Tower Levels, and Pump Status
- Additional Well Production & Storage (West)
 - It is Recommended to Have 2 Times the Amount of System's Average Daily Demand for Storage (Existing West System is 1,000,000 Gallons Deficient)
- Larger Backbone Water Mains (West & East)
 - Improve Redundancy of Water System
- Asset Maintenance + Leak Detection Programs



Proposed Improvements

Long Term (3-5 Years):

- Merging of Paradise Cove & Robin's Nest System (East)
 - Expansion of East System to Connect to Krystal Oaks Tower
 - Paradise Cove Well House Upgrades
- Larger Backbone Water Mains
 - Improve Redundancy of Water System
- Water Main Replacement Program
 - Proactive Replacement of Older Mains in System
 - Usually Coincides with Road Improvement Plans



Future Additional Tank / Well Siting Study (West)

- 6 Potential Sites Analyzed
- Criteria Considered to Help Rank Decision:
 - Within Airport Approach?
 - Is the Location on Town Owned Property?
 - Centrally Located to Existing System?
 - Required Water Main Improvements to Connect
 - Elevated Tank Overflow Height
- Determined 2 Viable Locations
 1. SE Corner of Parrish and 151st Ave
 2. West of Parrish Between 141st Ave & 145th Ave



Future Additional Tank / Well Siting Study (West)

Next Steps

- Further Site Investigations / Testing
 - Geological Testing
 - Fracture Testing Analysis
 - Test Wells
 - Water Quality Testing
- Coordination with IDEM
- Acquiring Cost Estimates & Proposals
 - Tank Manufacturers
 - Well Drillers
- Coordination with Developers



Q&A Session

- Does the proposed well & proposed tower site on the West System directly impact the existing service connections?
 - *Yes, for both existing customers and development, this will increase the production capacity and storage volume of the West system*
- What is the estimated timeline of these projects?
 - *After the proposed site has been determined, a new well facility takes about 1 year to go through design, permitting, construction, electrical, testing, disinfection, inspections, and startup.*
 - *A new storage tank facility has a more restrictive schedule to adhere to be painted at the correct time of year. Typical timeframe is 1 to 2 years from design/permitting to completion.*



Q&A Session

- Can the West and East Systems be combined into one larger system?
 - *Theoretically yes, the recommendations of the Master Plan keeps this concept in mind for all proposed improvements.*
 - *Connecting the systems on the South or North side of Cedar Lake has some positives and negatives:*
 - *Positives:*
 - *All Supply Wells to be Interconnected – Increases Capacity*
 - *Both Existing Elevated Tanks to be Interconnected – Increases Capacity*
 - *Expands Service Area of the North and South*
 - *Elevations look favorable for Static Pressures*
 - *Negatives*
 - *Flood-Prone and Environmentally Sensitive Area (Wetlands)*
 - *Need Redundant Water Mains for Resiliency*
 - *Water Main Material would Need to be Resistant to the Soil Conditions*



Q&A Session

- When can the Irrigation Restrictions be lifted?
 - Restrictions are to **Remain in Place** until further notice.
 - The 2025 restrictions have proven beneficial with no major usage spikes during the summertime.
- Has this Master Plan accounted for New Development?
 - Yes, for all 3 systems to the extent of the conceptual plans provided. The demand projections also have accounted for a small percentage of private wells to transfer over to the Public Water Supply.
 - The general idea of the proposed improvements to increase the available fire flow for all customers.



Q&A Session

- Why 6 locations for the Preliminary Tank / Well Siting Study?
 - *Options. Finding the more viable and cost-effective location to be able to increase production and storage for the system.*
 - *The other locations either had too much water main improvements to connect the tank / well to the existing system or was not as centrally useful to both the existing condition and the projected future expansion of the West system.*
- *Is there an estimated cost for an elevated tank?*
 - *With the uncertainty of the steel market, typical price range of an elevated tank is about **\$5-\$6 a gallon** for an installed cost. Example: 750,000 Gallon Tank equals \$4,500,000.*

