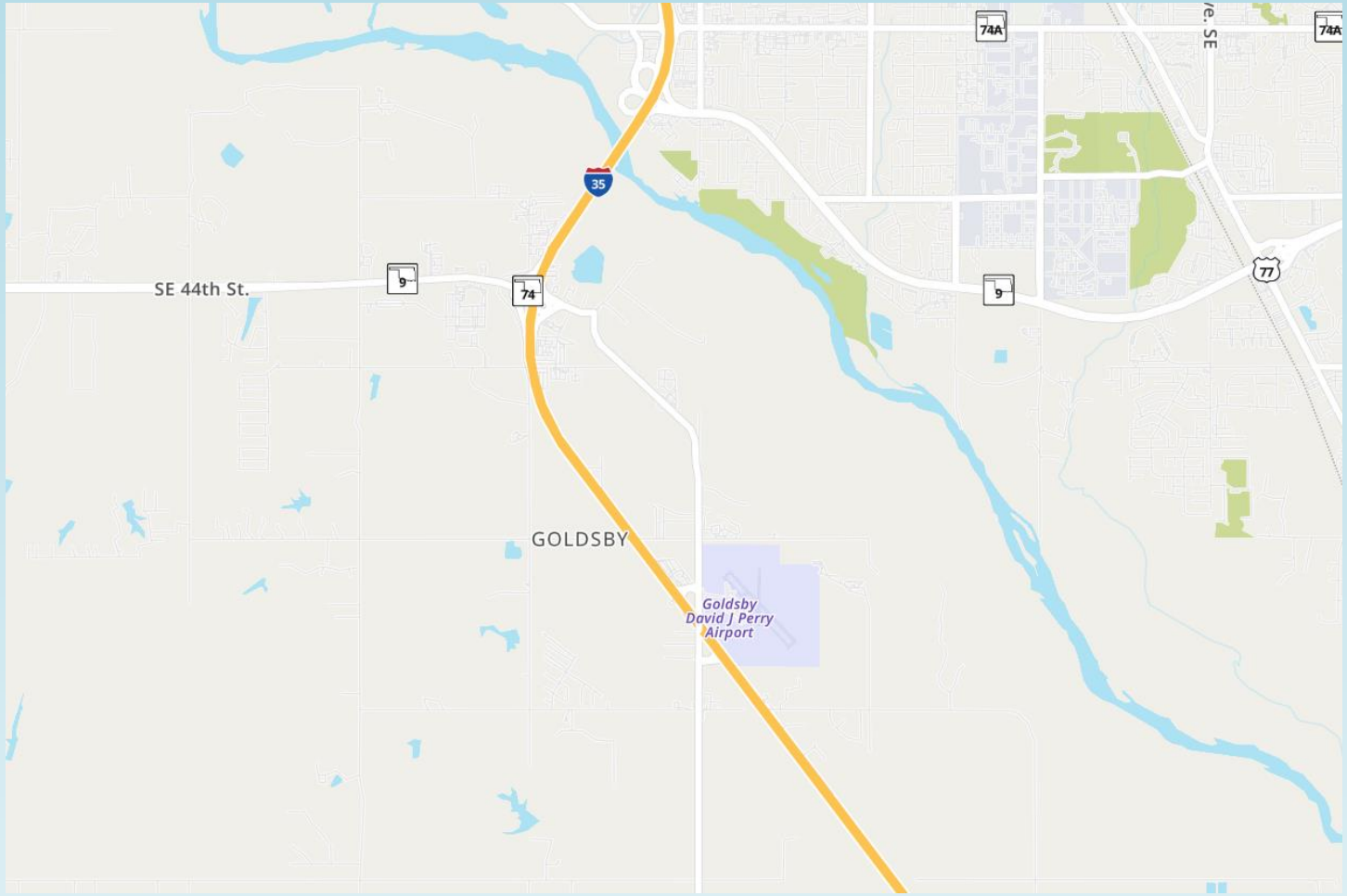
Town of Goldsby Water System

PRESENT AND FUTURE

What Does Our Infrastructure Look Like?



It Starts At The Well Sites

We have 7 Water Wells

What Can These 7 Wells Produce?

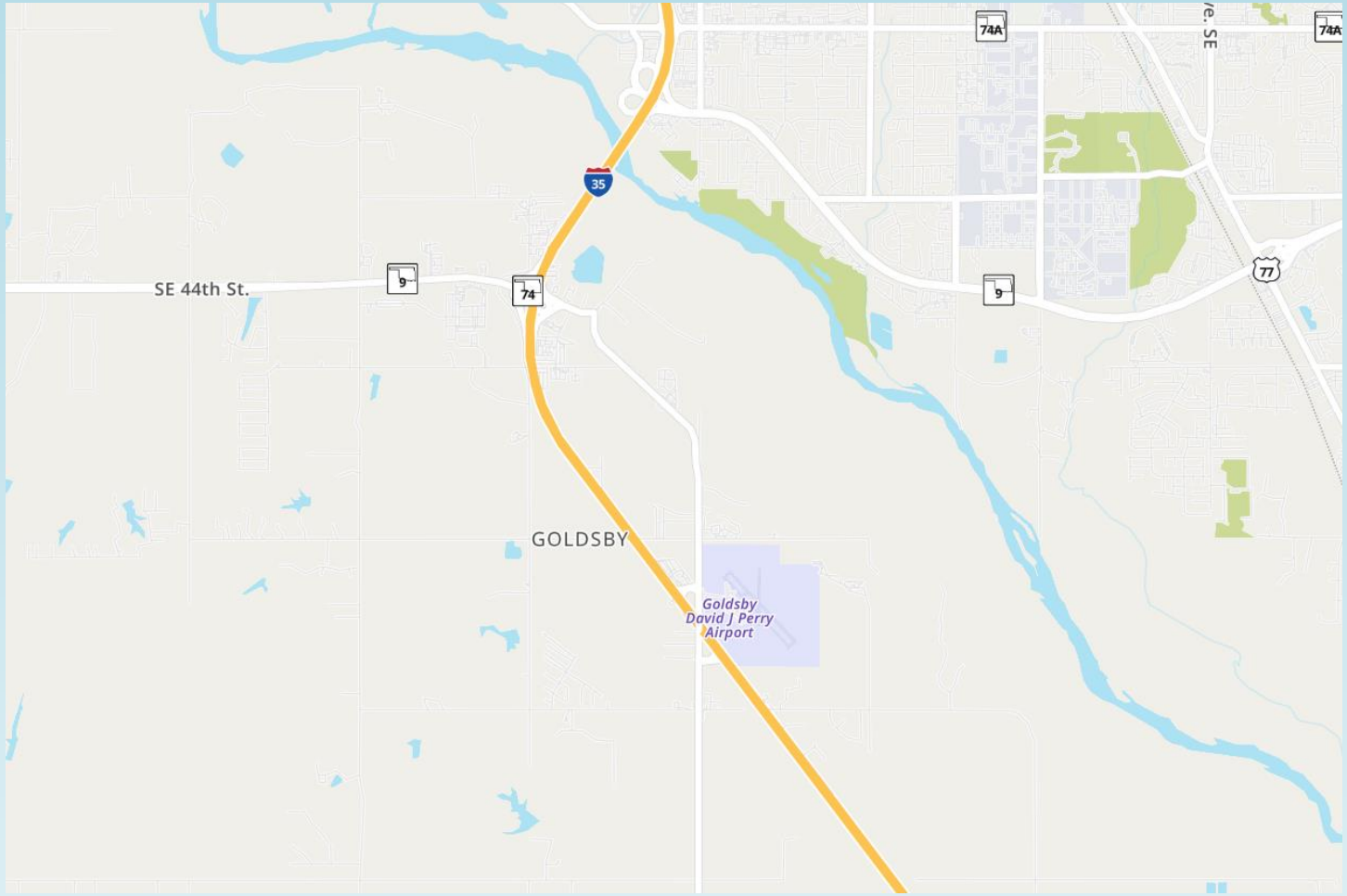
- Its All About Water Rights That You Own or Lease
- Regulated By The State of Oklahoma
- Limits Amount Of Water That Can Be Pumped Out

What Can These 7 Wells Produce?

- 1 Acre of Land = 2 Acre Feet Of Water Rights
- 1 Acre Foot Of Water = 43,560 Cubic Feet
- 7.48 Gallons Water/Per Cubic Foot
- 43,560 x 7.48 x 2 = 651,656 Gallons Of Water/Per Acre Of Water Rights/Per Year
- Goldsby Has ~ 1,120 Acres Of Dedicated Water Rights (owned or leased)
- 1,120 Acres x 651,656 Gallons = 730,000,000 Gallons/Per Year

Water Treatment Plant

- Built in 1997
- Major Expansion in 2018
- Cost of $5.5 Million
- Loan From Oklahoma Water Resources Board
- Remaining Debt = approximately $2 Million
- Paid Off in 2038 (annual payments approximately $180,000)
- Maximum Water Production = 2.0 Million Gallons/Per Day (GPD)
- 2.0 Million GPD x 30 Days = 60 Million Gallons/Per Month
- 2.0 Million GPD x 365 Days = 730,000,000 Gallons/Per Year

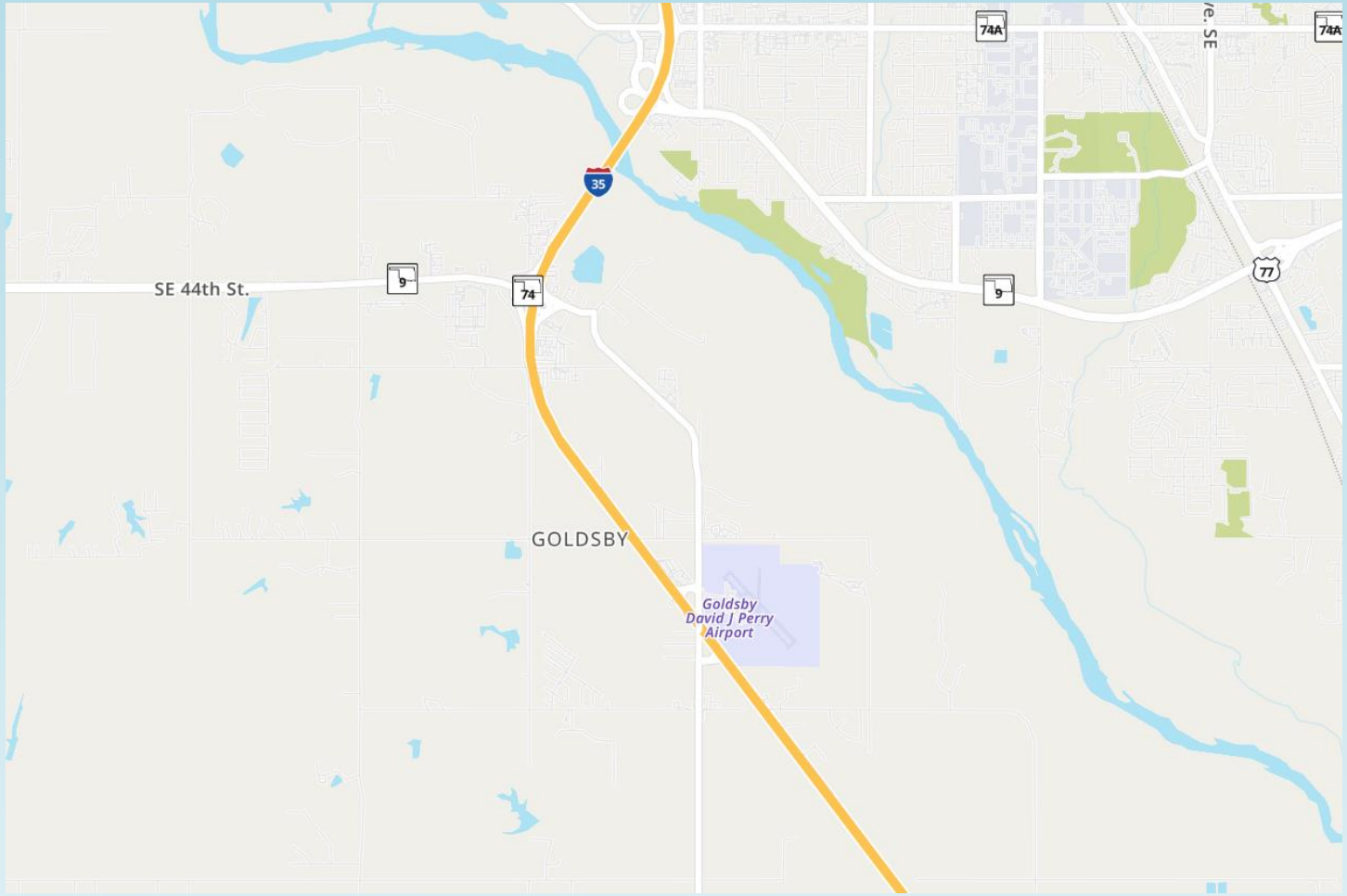


West Tower

South Tower

Total Capacity = 300,000 Gallons

At Each Tower

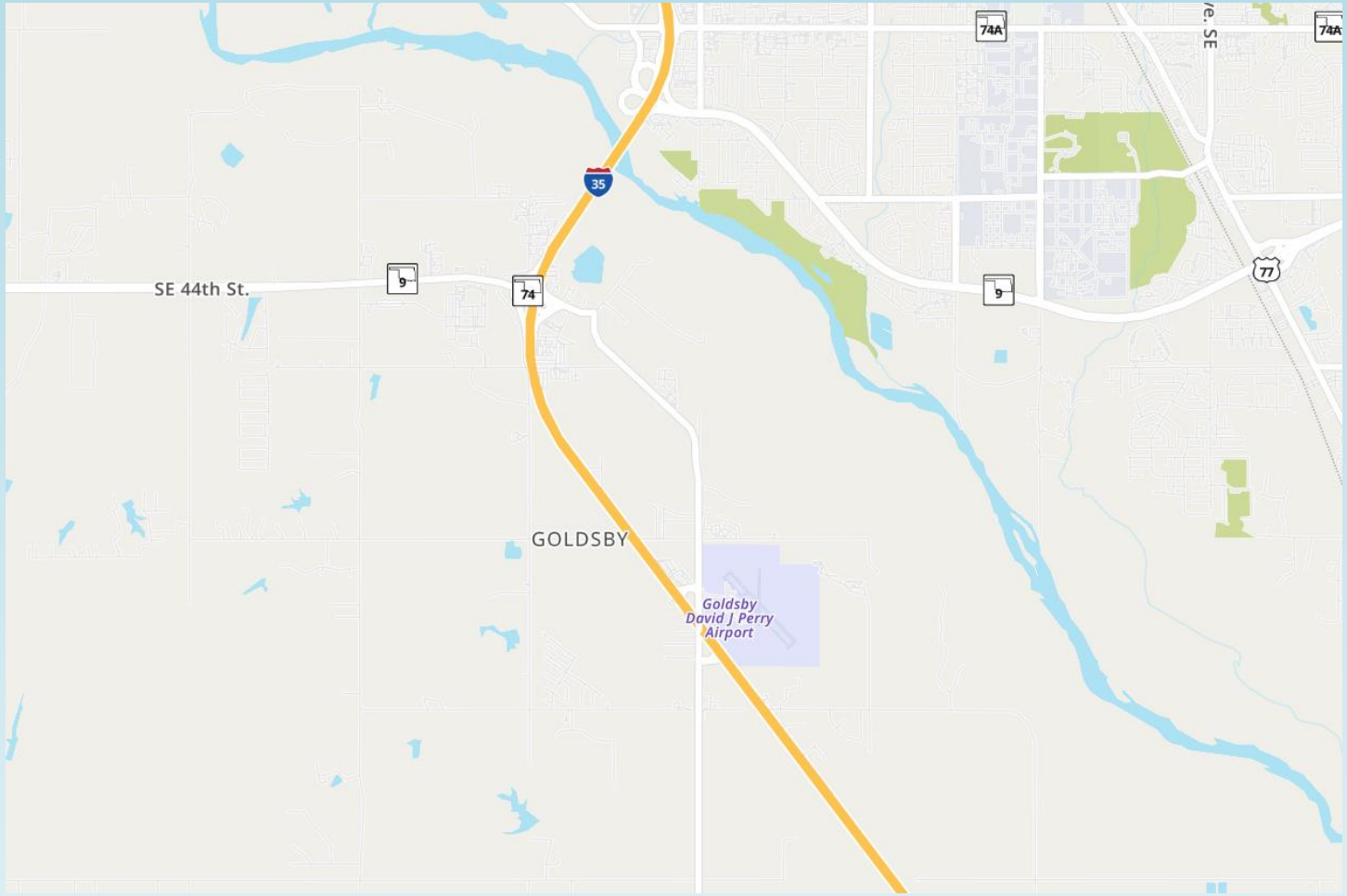


How Does Water Get From The Treatment Plant To The Towers?

West Tower

8” Water Line

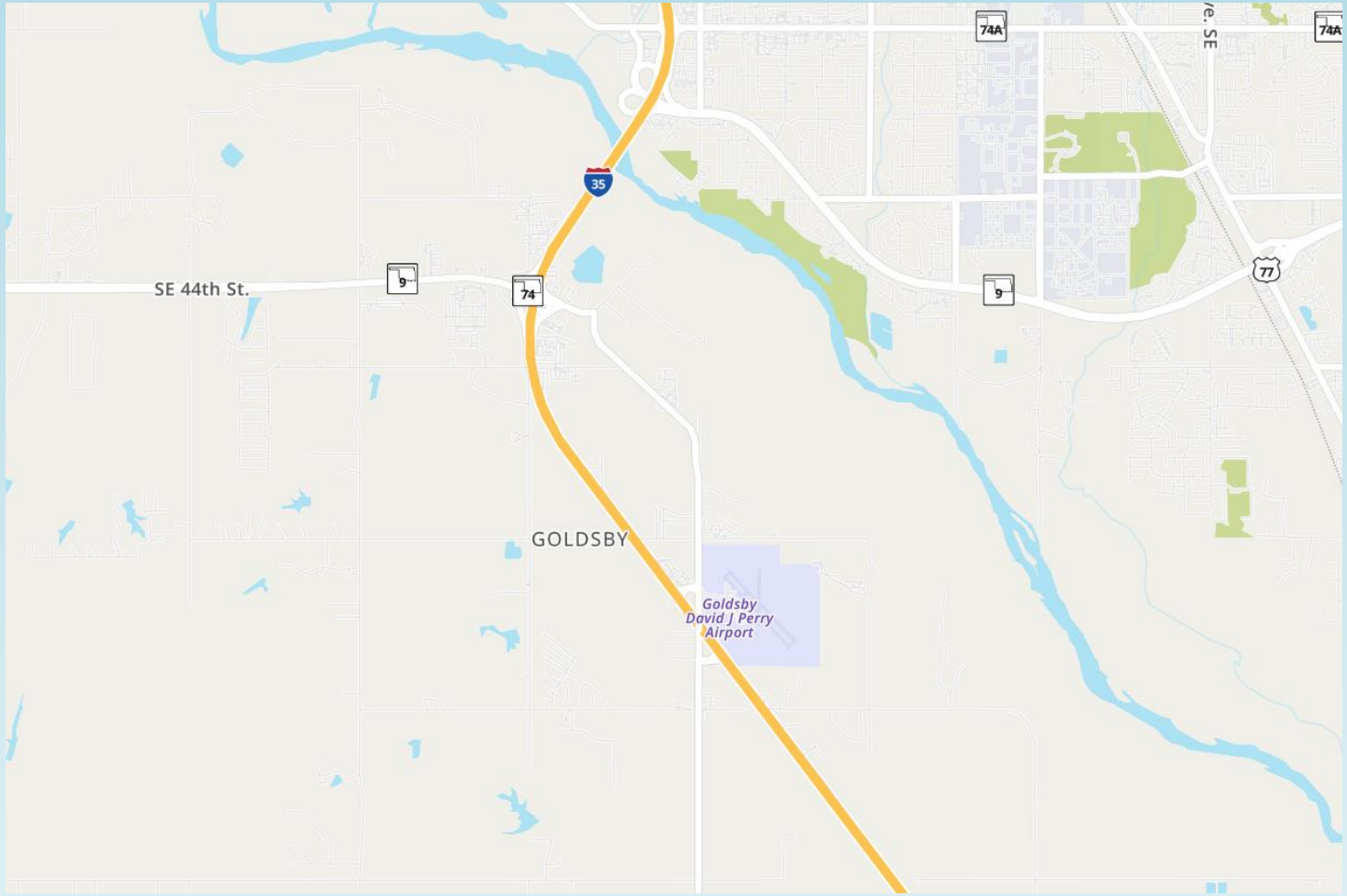
Indirect Route To
To West Tower
~ 5 Miles In Length



Current Construction Project

New 12” Water Line
Connects
West Water Tower
To
24th (Sante Fe) 12” Water Line

Duplicates Last 1.25
Of 8” Water Line



How Does Water Get From The Treatment Plant To The Towers?

South Tower

8” Water Line

Route To
To South Tower
~ 3.5 Miles In Length

How Much Water Can We Pump Through These 8” Lines From The Water Treatment Plant?

- Pump to West Tower = Maximum Capacity Is 400 Gallons/Per Minute (GPM)
- 400 GPM x 1,440 Minutes/Per Day = 576,000 Gallons/Per Day (GPD)
- 400 GPM x 1,440 Minutes/Per Day x 30 Days = 17,280,000 Gallons/Per Month

- Pump to South Tower = Maximum Capacity Is 240 Gallons/Per Minute (GPM)
- 240 GPM x 1,440 Minutes/Per Day = 345,600 Gallons/Per Day
- 240 GPM x 1,440 Minutes/Per Day x 30 Days = 10,368,000 Gallons/Per Month

End Of The Line Is The Water Meter?

- 1425 Meters
  - 1129 Goldsby Residents (79%)
  - 296 Out of Town (21%)
  - 104 Commercial

End Of The Line Is The Water Meter?

- September 2023 = 1,425 Meters (+82 = 6% increase)
- September 2022 = 1,343 Meters (+79 = 6% increase)
- September 2021 = 1,264 Meters (+84 = 7% increase)

How Are The Water Meters Distributed?

- West Tower Serves 612 Meters
- South Tower Serves 813 Meters

What Caused Our Water Crisis?

What Caused Our Water Crisis?

- Water Usage Out Of The Towers (West Tower worse)

  During Summer High-Peak Times

  Exceeds The Systems Ability To Fill The Towers

  Equals

LOW WATER PRESSURE OR WORSE - NO WATER

What Can We Do To Fix This?

- How Do We Increase Water Flow To The Towers
- Increasing Water Flow To West Tower Is Highest Priority
- 18” Water Line From Treatment Plant To West Tower?
- 18” Water Line From Treatment Plant to W. Center Road?
- Purchase Water From Newcastle?
- Other Options?
- Need Comprehensive Water Study By An Engineer

18” Water Line To West Tower

- Connect Treatment Plant To 12” Water Line At 24th
- At Least 2 years to complete this project?
- Cost At Least $4 Million Dollars
- High Capacity Pump ~$500,000
- Larger Water Storage At Treatment Plant ~$850,000
- Need Water Board/Town Board Approval To Begin

18” Water Line To West Center Road

- Connect Treatment Plant To 12” Water Line On Center
- Need Engineer To Evaluate Costs And Timeline
- Need Water Board/Town Board Approval To Begin

Purchase Water

- Newcastle 16” Water Line At Highway 9/24th (Sante Fe)
- Connects to Goldsby 12” Water Line That Runs Along 24th
- Booster Station near completion
- Newcastle Contract Limits Water Purchase to 400,000 GPD
- Considering Purchase of 150,00 GPD
- Cost is ~$26,000 per month
- ~$315,000 per year = ~$945,000 for 3 year contract)
- Need Water Board/Town Board Approval

Other Options?

- Multi-Town/Tribal Consortium?
  - Initial Discussions For New Water Line From OKC
  - More Of A Potential Long-Term Option
- Purchase Water From Norman?
  - Cheaper Than Newcastle Water?
  - Requires Additional Infrastructure
  - More Of A Potential Long-Term Option

What Can We Afford?

- Town Bank Accounts
  - ~$5.5 Million Cash
  - Current Debt ~$2.4 Million (Sewer Project)
- Water Authority Bank Accounts
  - ~$3.2 Million Cash
  - Current Debt ~$2.3 Million
- Grants Or Loans

What Did Not Cause Our Water Shortage

- Water Leak on 8” Line
- Estimated Water Loss = 80,000 to 200,000 Gallons
  - 2 – 5 GPM over 3 weeks time

Summer of 2024?

- Must Conserve Water – Mandatory Odd/Even Rationing
- Improve Awareness And Understanding Of The Problem
- Improve Notification On Water Rationing
  - Start Notifications And Water Rationing **Prior** To Summer
  - Start Water Rationing While The Tower Is Full
  - Alert On Water Bill, Facebook, Electronic Billboard
  - Newspaper, Town Website, Letter ($855)
- Need Cooperation From Every Water Meter Holder!!!!!

Looking Into The Crystal Ball?

- Bellissimo Subdivision
  - 37 Lots Platted
  - 26 Water Meters (11 Additional Meters Coming)
- Brentwood Subdivision
  - 144 Lots Platted
  - 27 Water Meters (117 Additional Meters Coming)
- Summit Subdivision
  - 124 Lots Platted
  - 0 Water Meters (124 Additional Meters Coming)

Looking Into The Crystal Ball?

- Commercial Development – Old Town Square Project
  - 19 Lots Platted
  - 3 Water Meters (16+ Additional Meters Coming)

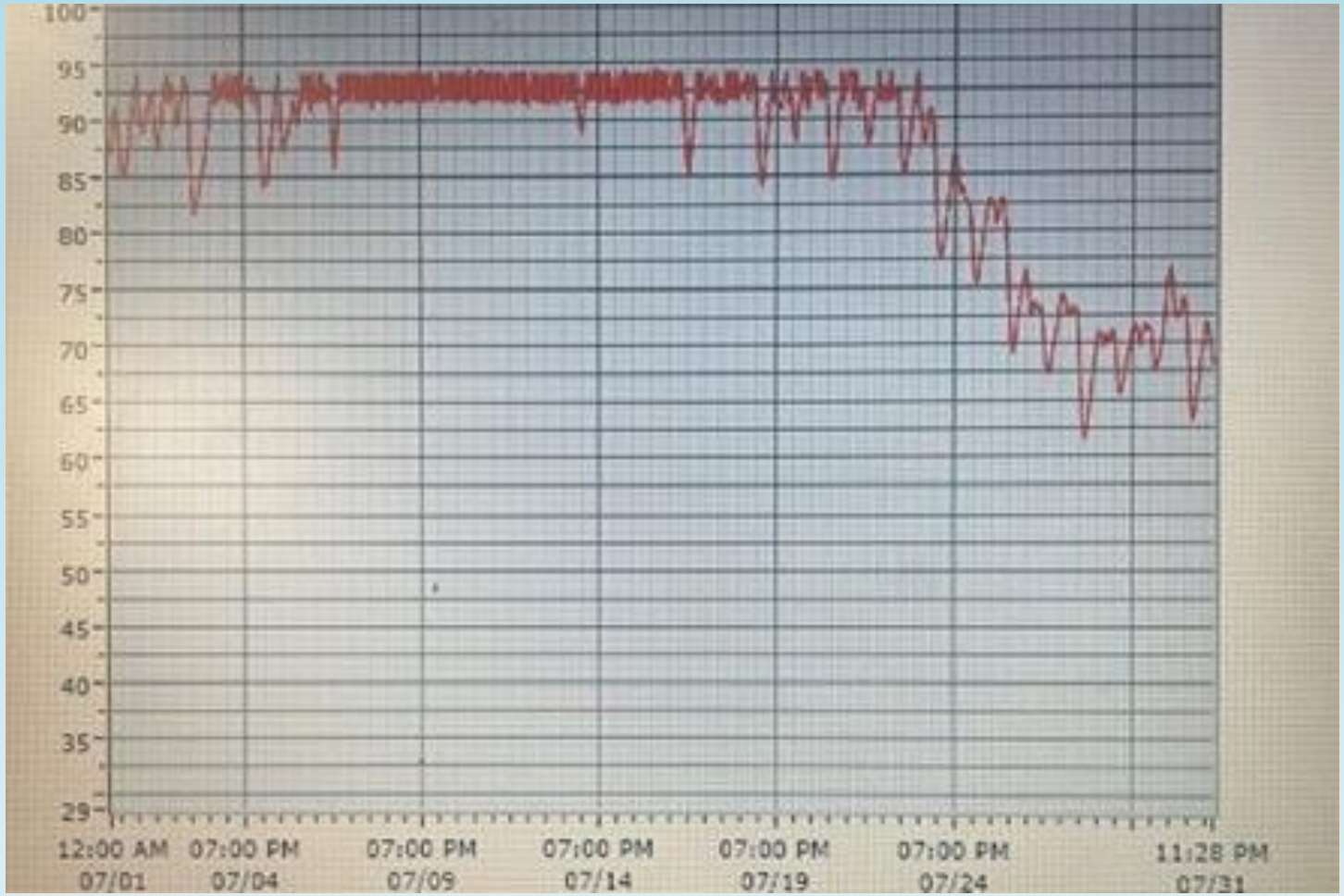
- Commercial Development – Other
  - ?? Lots Platted
  - ?? Water Meters (?? Additional Meters Coming)

What Does The Crystal Ball See?

- Future Subdivision Requests
- What Options Do We Have

What Do We Know For Sure?

- Current Water Infrastructure Is Not Adequate To Keep Towers Full During Summer High-Peak Demand
- West Tower Is Worse Than South Tower
- Water Rationing Is A Must 2022 And 2023



What Do We Know For Sure?

July 2023

What Do We Know For Sure?

August 2023

What Do We Think We Know?

- The Major Chokepoint = 8” Water Lines To Towers
- Additional Infrastructure Needed As We Replace 8” Lines
  - Higher Capacity Pumps At Treatment Plant
  - Higher Capacity Water Storage At Treatment Plant

- Current Capacity Of Water Wells Is More Than Adequate
- Current Capacity Of Treatment Plant Is More Than Adequate

What Do We Need To Know?

- Is The West Tower Pump Actually Providing 400 GPM?
- Is The South Tower Pump Actually Providing 240 GPM?
- What Is The Flow Rate Of Water Into The Towers?
- What Flow Rate Do We Need At The Towers?
- What Size Water Line Is Needed To Allow This Flow Rate?
- Will Newcastle Water Solve Our Problem?

How Do We Determine These Things?

Comprehensive Engineering Study
Of Our Water Infrastructure

Water Usage (Produced) - Total

	2021	2022	2023
JANUARY	*9,566,000*	*10,702,000*	*12,149,000*
FEBRUARY	*9,995,000*	*9,882,000*	*10,951,000*
MARCH	*10,057,000*	*10,301,000*	*11,007,000*
APRIL	*11,781,000*	*13,293,000*	*10,931,000*
MAY	*10,860,000*	*15,011,000*	*14,919,000*
JUNE	*13,577,000*	*17,571,000*	*17,571,000*
JULY	*16,911,000*	*27,995,000*	*20,804,000*
AUGUST	*18,013,000*	*25,848,000*	*25,195,000*
SEPTEMBER	*18,110,000*	*20,884,000*	*17,310,000*
OCTOBER	*11,814,000*	*15,268,000*	
NOVEMBER	*10,005,000*	*10,948,000*	
DECEMBER	*10,482,000*	*11,046,000*	
TOTAL	**151,171,000**	**188,749,000**	**140,837,000**

Water Usage (Produced) – West Tower

	2022	2023
JANUARY	*4,820,000*	*5,907,000*
FEBRUARY	*4,073,000*	*5,378,000*
MARCH	*4,622,000*	*5,534,000*
APRIL	*6,624,000*	*7,255,000*
MAY	*7,635,000*	*7,905,000*
JUNE	*9,417,000*	*10,506,000*
JULY	*15,201,000*	*12,465,000*
AUGUST	*13,616,000*	*14,726,000*
SEPTEMBER	*10,482,000*	*9,505,000*
OCTOBER	*8,144,000*	
NOVEMBER	*5,343,000*	
DECEMBER	*5,180,000*	
TOTAL	**95,157,000**	**79,181,000**

Daily Average (Produced) – West Tower

	2022	2023
JANUARY	160,667	196,900
FEBRUARY	135,767	179,267
MARCH	154,067	184,467
APRIL	220,800	241,833
MAY	254,500	263,500
JUNE	313,900	350,200
JULY	506,700	415,500
AUGUST	453,867	490,867
SEPTEMBER	349,400	316,833
OCTOBER	271,467	
NOVEMBER	178,100	
DECEMBER	172,667	

Peak Daily Production – West Tower

	2022	2023
JANUARY	284,000	321,000
FEBRUARY	219,000	343,000
MARCH	209,000	284,000
APRIL	306,000	341,000
MAY	340,000	358,000
JUNE	463,000	506,000
JULY	604,000	533,000 (28)
AUGUST	512,000	579,000 (26)
SEPTEMBER	474,000	509,000 (4)
OCTOBER	388,000	
NOVEMBER	234,000	
DECEMBER	297,000	

Numbers Do Not Add Up?

	Daily Maximum	Monthly Maximum	Yearly Maximum
Wells/Water Rights	*2,000,000*	*~61,000,000*	*~730,000,000*
Water Treatment Plant	*2,000,000*	*60,000,000*	*720,000,000*
West Tower Pump	*576,000*	*17,280,000*	*207,360,000*
Highest Day (2022 West Tower)	*604,000*		
Highest Day (2023 West Tower)	*579,000*		
Highest Month (2022 West Tower)		*15,201,000*	
Highest Month (2023 West Tower)		*14,726,000*	
2022 Total (Both Towers)			*188,749,000*

Cost To Operate Water Department

Expenses	2023 Monthly Average
Personnel (Salary, Health Ins, Retirement, WC, Taxes)	$29,718
Office (Electric, Phone, Nat Gas, OEC Fiber, Supplies, Audit, Attorney)	$2,064
Treatment Plant (Tools, Equipment, Chemicals, Electric, Fiber, Trash, Phone)	$20,642
Distribution (Tools, Equipment, Waterline Supplies, Cell Phone, Meters, Testing)	$19,282
Vehicles (Maintenance, Repairs, Fuel)	$1,828
Property Insurance	$1,330
Water Rights	$3,100
Engineering	$5,957
Loan Payment	$15,102
Other	$8
Total Monthly Expenses	$99,035

Cost To Operate Water Department

	2023 Monthly Average
Total Monthly Expenses	$99,035
Revenue	$140,548
Average Monthly Profit	$41,513
Water – Gallons Billed	13,597,544
Average Monthly Cost To Operate Water Department/Per 1,000 Gallons	$7.28

Cost To Produce Water (Excluding Fixed Costs)

	2023 Monthly Average
Treatment Plant (Tools, Equipment, Chemicals, Electric, Fiber, Trash, Phone)	$20,642
Water – Gallons Billed	13,597,544
Average Monthly Cost To Operate Treatment Plant/Per 1,000 Gallons	$1.52

Cost To Operate Water Department

Expenses	2023 Monthly Average
Personnel (Salary, Health Ins, Retirement, WC, Taxes)	$29,718
Office (Electric, Phone, Nat Gas, OEC Fiber, Supplies, Audit, Attorney)	$2,064
Treatment Plant (Tools, Equipment, Chemicals, Electric, Fiber, Trash, Phone)	$20,642
Distribution (Tools, Equipment, Waterline Supplies, Cell Phone, Meters, Testing)	$19,282
Vehicles (Maintenance, Repairs, Fuel)	$1,828
Property Insurance	$1,330
Water Rights	$3,100
Engineering	$5,957
Loan Payment	$15,102
Other	$8
Newcastle Water @ 150,000 GPD	$26,246
Total Monthly Expenses	$125,281

Cost To Operate Water Department

	2023 Monthly Average
Total Monthly Expenses	$125,281
Revenue	$140,548
Average Monthly Profit	$15,267
Water – Gallons Billed	13,597,544
Average Monthly Cost To Operate Water Department/Per 1,000 Gallons	$9.21

Is It Cheaper To Buy Water?

Expenses	2023 Monthly Average		2023 Monthly Average
Personnel (Salary, Health Ins, Retirement, WC, Taxes)	$29,718		13,597,544
Office (Electric, Phone, Nat Gas, OEC Fiber, Supplies, Audit, Attorney)	$2,064		
Treatment Plant (Tools, Equipment, Chemicals, Electric, Fiber, Trash, Phone)			
Distribution (Tools, Equipment, Waterline Supplies, Cell Phone, Meters, Testing)	$19,282		
Vehicles (Maintenance, Repairs, Fuel)	$1,828		
Property Insurance			
Water Rights			
Engineering			
Loan Payment			
Other			
Newcastle Water @ $5.48/Per 1,000 Gallons	$74,515		
Total Monthly Expenses	$127,407		$9.40/1,000

Send Questions Or Comments

- Town Of Goldsby Facebook Page
- Email: Mike@TownofGoldsby.com

Leak – Oklahoma Vista Fire Safety

- Extremely High Meter Usage Noticed At Billing Time
- Meter Shut Off July 24, 2023
- Total July Usage = 2 Million Gallons
- Goldsby Water Rationing Started On August 2

Mandatory Use Of Goldsby Water?

- Mandatory Use Of Goldsby Water vs Water Well
- **Section 16-2. Use of Municipal Utility Systems.**
- Every residential inhabitant within the corporate limits of the Town of Goldsby, Oklahoma, and every commercial or business entity or enterprise who may practically do so, shall secure all of its potable water requirements from the Water System owned by said Town and leased to the Goldsby Water Authority