# CITY OF WINSTON

# WASTEWATER SYSTEM RATE STUDY

## PATHWAY FOR THE FUTURE

The City of Winston provides wastewater services to the community, including 50% funding support for regional wastewater treatment facility project and operational costs.

The present mission is to set the near-term future for the wastewater system for needed projects and supporting revenue requirements. The plan will set clear and achievable project and revenue goals for the next 5 years, while also balancing tradeoffs for future risks and costs for the system.

Document:
MIDEA WN 23-03 | WASTEWATER SYSTEM RATE STUDY
Revision: A | EDUCATON & OUTREACH

APRIL 15, 2024

## What a Rate Study Aims to Accomplish

A rate study provides a framework to account for infrastructure and financial priorities and enables decision making for the future.

Detailed analysis and financial model of recent past financial and project information and future project and financial needs are developed into an achievable plan for the near-term future.

Capital projects and financial requirements are critical elements of the planning effort. Several factors are weighed to develop the plan including risks and costs over time.

*What the rate study is not;* a perfect or fixed plan. The rate study provides a roadmap for what will be focused on next and a means to easily evaluate our progress over time (and to adjust where needed). The goal is to plot an achievable path that is right for Winston.

Enables a constructive and open forum to discuss important topics critical to the future of  future of Winston.

# WASTEWATER SYSTEM RATE STUDY

## OUR OBJECTIVES

- Evaluate past financial data to inform future projections
- Develop a simple financial model to support analysis & decision making
- Develop achievable near-term plan for projects and needed revenue to deliver on the plan
- Prioritize needed capital projects and expenses; provide visibility to a longer-term needs
- Identify unknowns and provides a means for gaining needed information
- Survey other similar communities for rates for discussion (where we are compared to others)
- Create a living and useful framework for periodic updating to match changing priorities
- Enable our readiness to seek funding opportunities

# WASTEWATER SYSTEM RATE STUDY

## BACKGROUND

- Winston's Leadership team called a collaborative rate study planning effort to help inform plotting of the near-term future.
- Important capital projects are strong drivers of the analysis and revenue requirements. Winston Staff, Midea Engineering & Civil West conducted workshops to define priorities.
- Analysis was prepared to inform discussions and decision making.
- Key factors driving costs
  - Significant portion of Winston's collection system are near end of useful life
  - Sufficient funding to stay ahead of needed improvements has been historically deferred
- What the future holds
  - Significant projects and costs including wastewater treatment

# COMMUNITY CENTER ROOF REHAB

## HELPFUL ANALOGY

Protection of key assets & capabilities

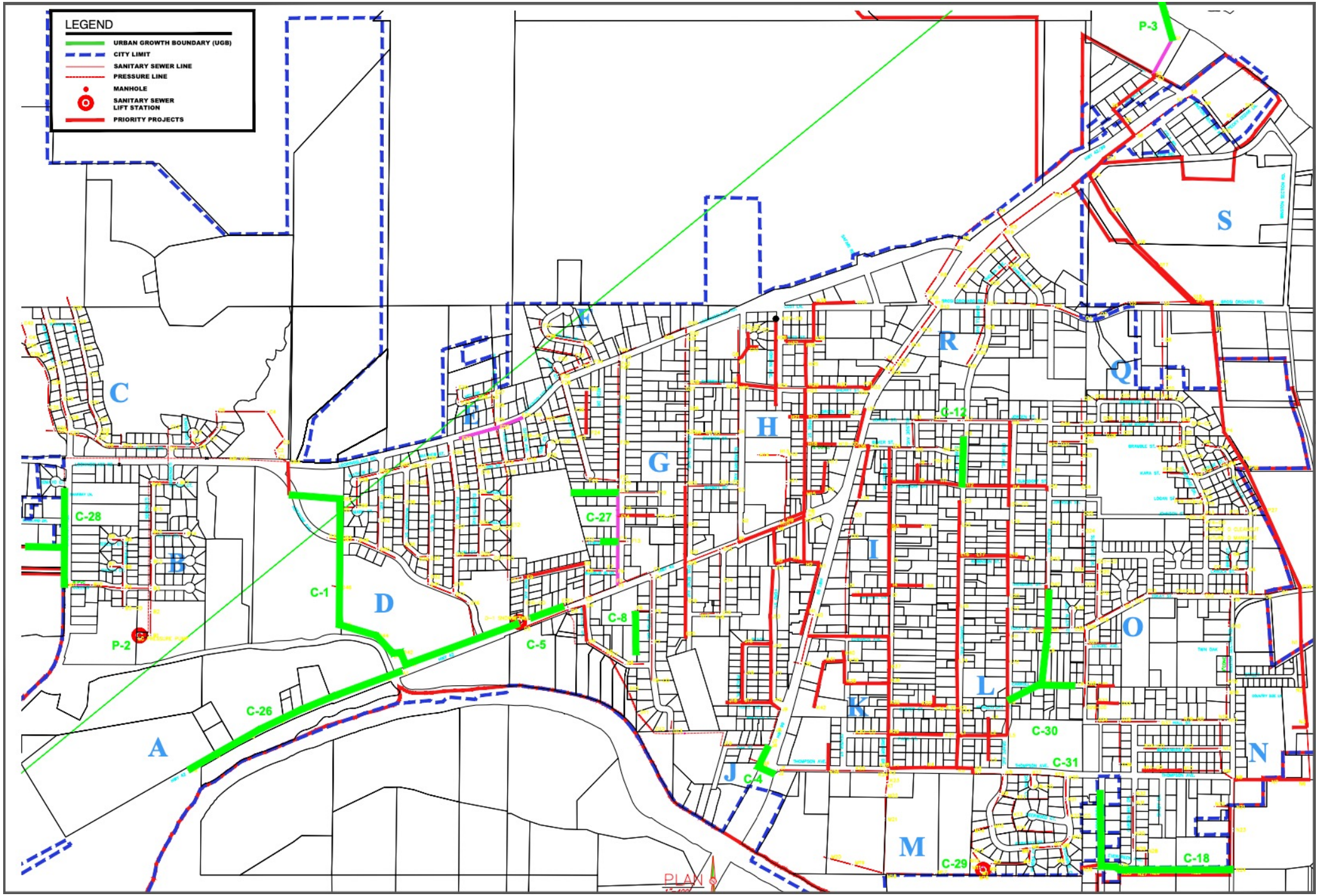
Deferred projects can result in a more costly future

Proactive stance versus reactive stance

Controlled process versus emergencies

Preparing for the future

# COLLECTION SYSTEMD RISKS
# CURRENT PRIORITIES



# WASTEWATER COLLECTION SYSTEM

## TYPES OF PROBLEMS, RISKS & COSTS

**For each problem, imagine what would happen if failure were to occur**

- Likelihood of failure and severity of result (costs, public health, liability, etc.)
- Example: Wastewater siphon to wastewater treatment plant
- Example: Community Center roof rehabilitation

**Types of problems**

- Excessive inflow & infiltration (all this water requires conveyance & treatment)
- Structural pipeline problems (risk of collapse), overflows or backups, & emergency work
- Offset pipes and failed joints (root intrusion, leaking, even sinkholes)

# WASTEWATER COLLECTION SYSTEM
## MENU OF POTENTIAL FIXES

**Types of repairs and fixes needed**

- New or improved pump stations & wastewater treatment system upgrades
- Complete new pipelines with abandonment of old lines
- Pipe bursting to replace pipelines in existing locations
- Inversion lining and sealing, grouting and lining of manholes
- New lateral re-connections
- New manholes & connections
- Spot repairs as an option with tradeoffs

# WASTEWATER COLLECTION SYSTEM

## APPROACHES & BENEFITS

**Removal of major risks & emergency costs**

- Repaired lines remove risks of failure and much higher costs for emergency work
- Emergency work and costs can “throw off” the Plan

**Cost reduction now and for the future**

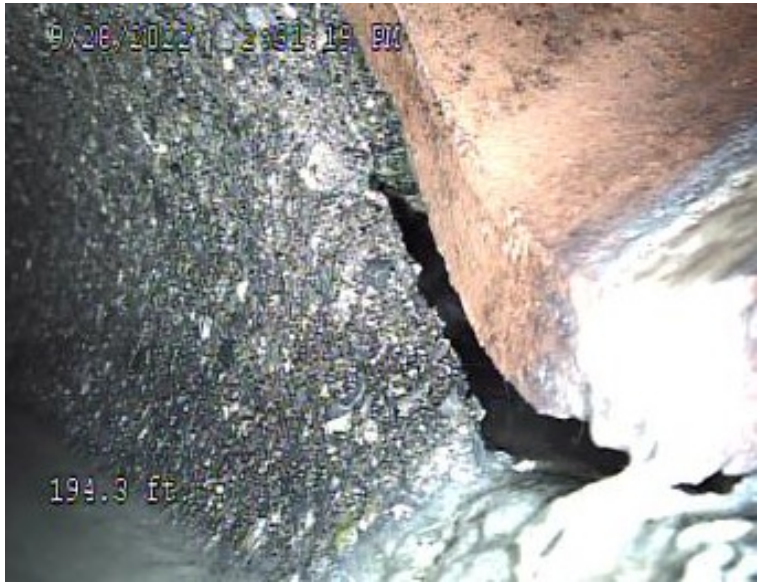
- Deferred project costs only increase in the future
- Conveyance and treatment costs are reduced when inflow and infiltration is reduced
- Future reduction in sizing of wastewater treatment plant expansion
    - Winston pays 50% of costs, so cost reductions directly reduce costs

# PROBLEMS & RISKS WE KNOW ABOUT



Offset Pipes, Failed Joints, Root Intrusion, Failed Pipes

Sources of Inflow & Infiltration are Costly to Convey & Treat




# WASTEWATER SYSTEM

## THE PROGRESS WE'RE MAKING

**System camera survey work**

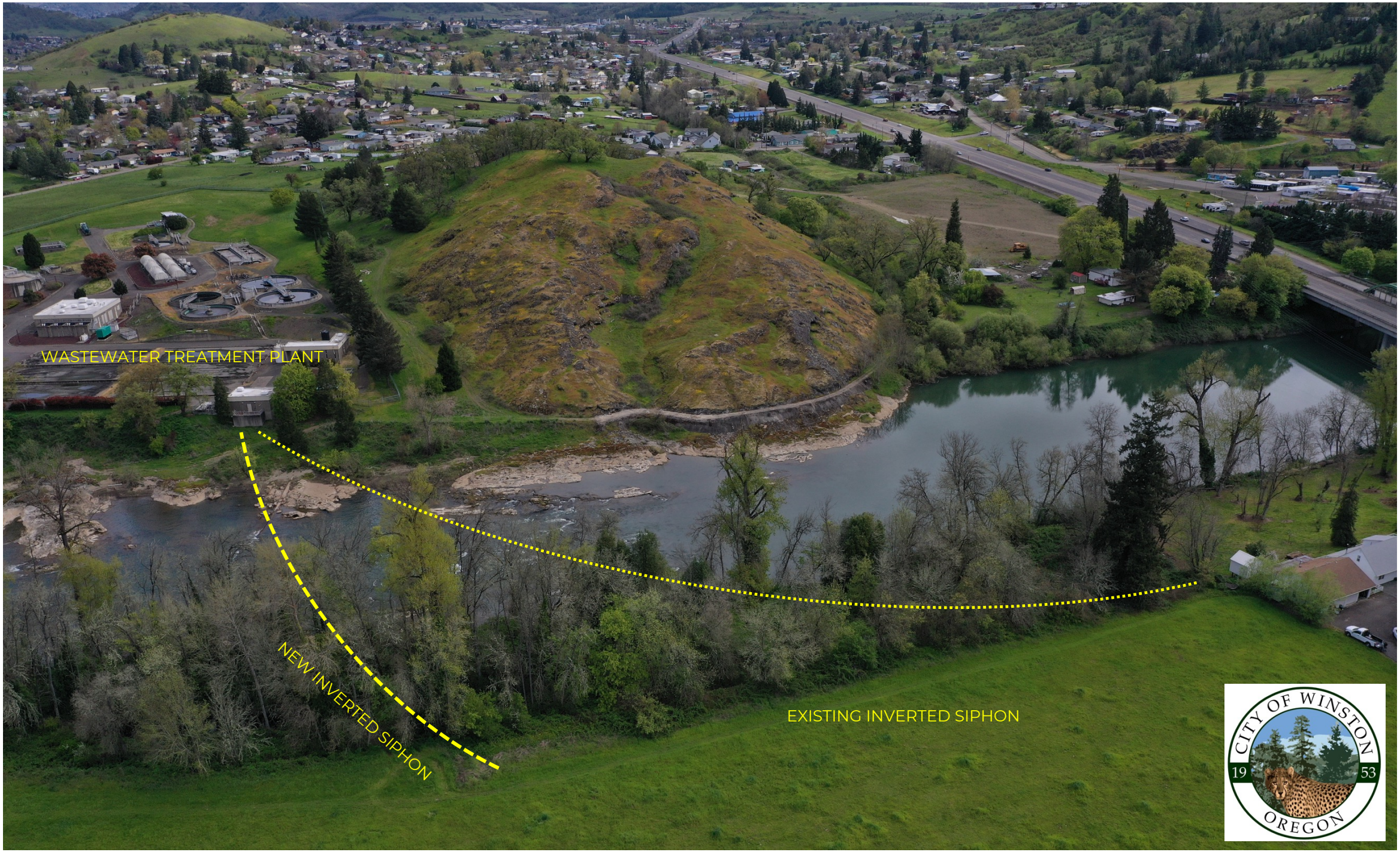
- Identification of location and scope of issues to inform priorities

**Project design, construction & planning work**

- Nearing procurement of $4M loan with $2M forgiveness to fund Siphon
- Siphon design and funding procurement to replace the siphon
- Snow Pump Station Improvements
- Numerous sewer mainline replacements & repairs
- Wastewater System Development Charges (SDC) update
- Capital improvement planning (CIP) and prioritization

# EDGEWOOD & EVERGREEN

# INVERTED SIPHON REPLACEMENT



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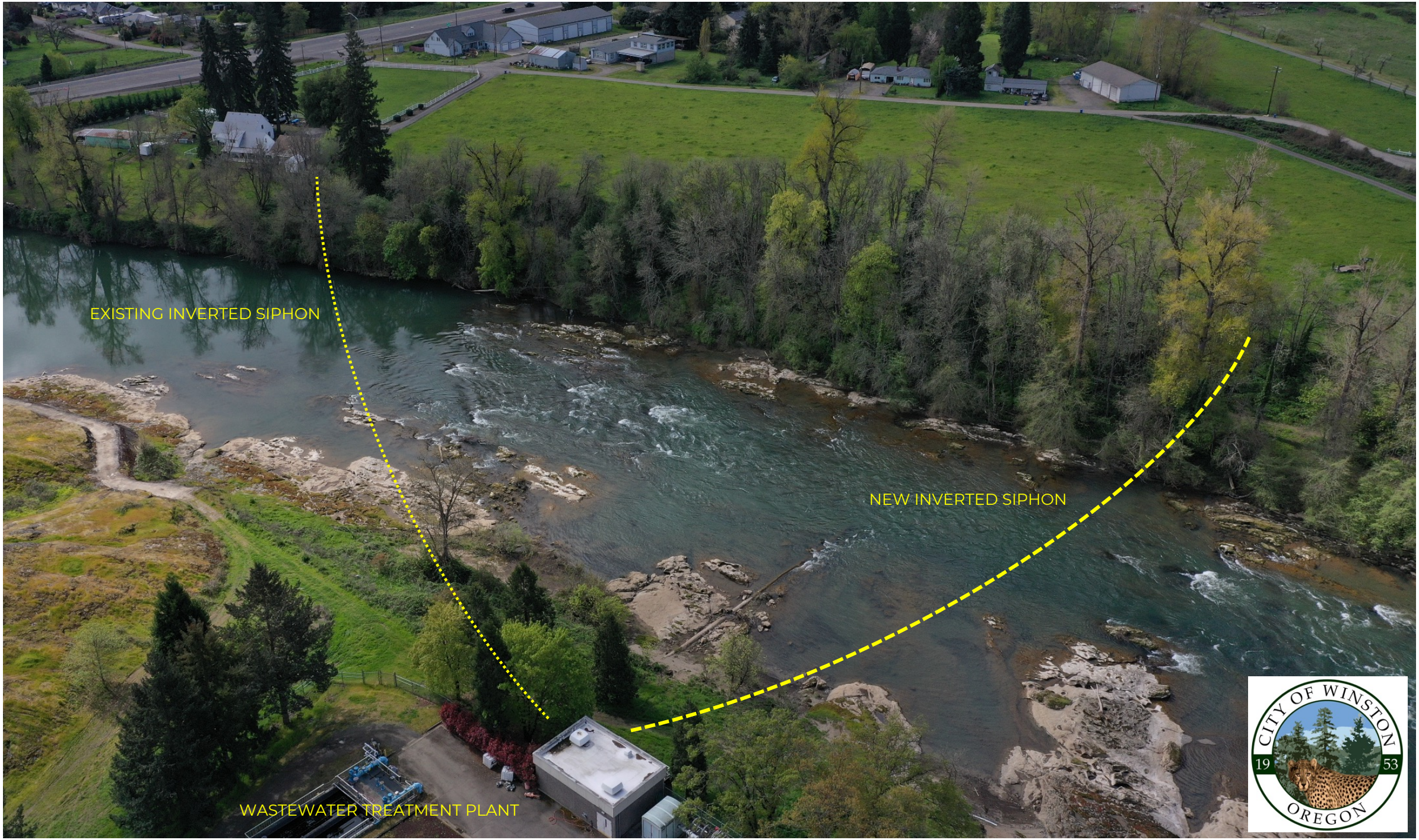


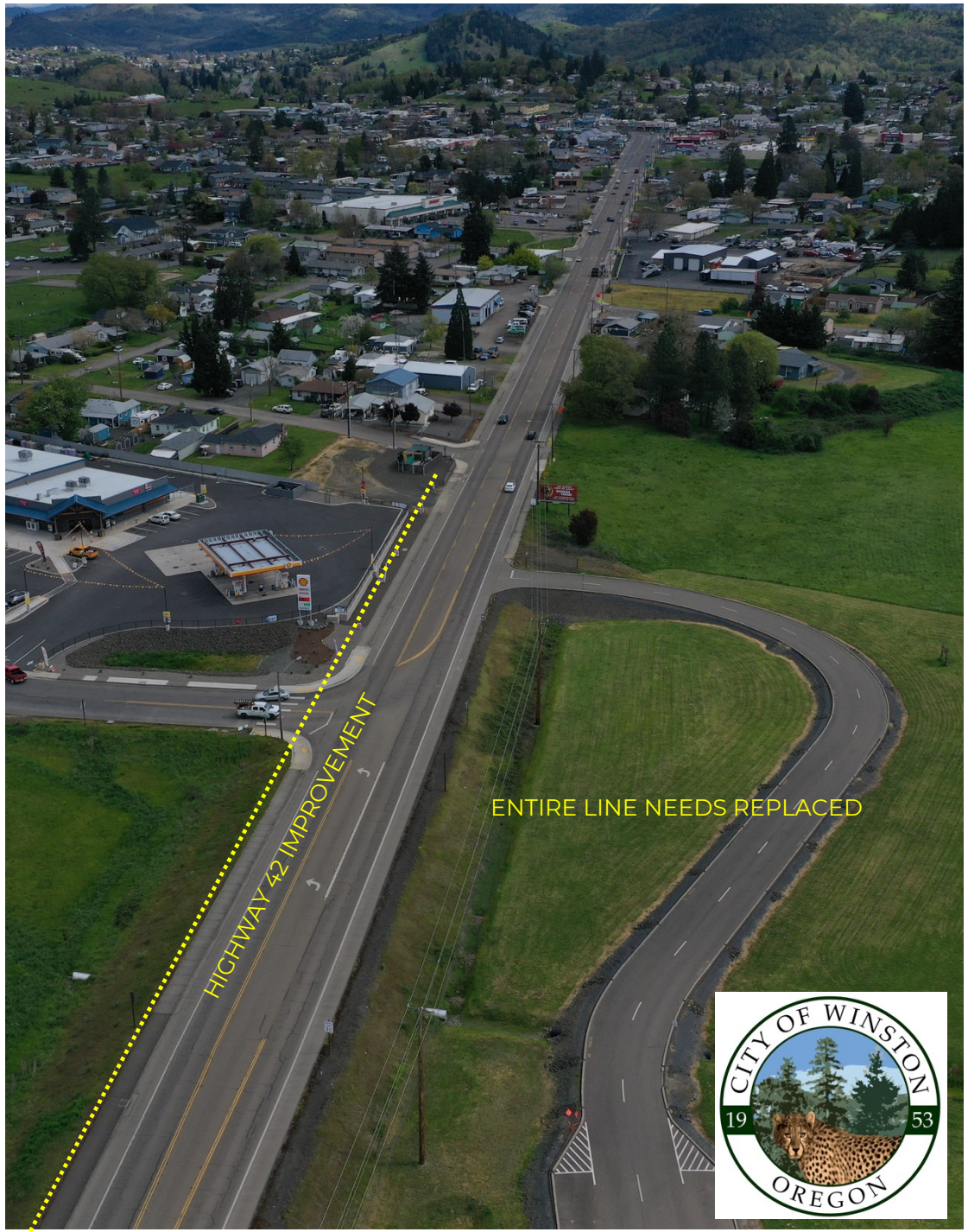
# WASTEWATER TREATMENT FACILITY

SEVERAL NEEDED PROJECTS & IMPROVEMENTS IN THE COMING YEARS

# ABRAHAM AVENUE

# ABRAHAM AVENUE

# HIGHWAY 42 SEWERLINE REPLACEMENTS

# HIGHWAY 42 SEWERLINE REPLACEMENTS

## Methodology

- Financial Model
  - Analyze past 3 years financials, and look ahead for 7 years
- Capital Improvement Plan & Other Budgetary Needs for Sewer Fund (including growth)
  - Revised and updated capital improvement plan (CIP) with clear separation of priorities
  - Layout of project timeline for each priority project with approximate funds allocation
- Collaborative working sessions to lay out 5-year plan (iterative evaluation of alternatives & priorities to meet objectives, including wastewater treatment leadership
- Develop preliminary revenue requirements (rates and debt service)
- Education & outreach with community to inform best pathway for Winston

## Goals & Objectives

- Identify key project priorities (CIP)
  - Enable visibility to projects, including future costs at the wastewater treatment facility
  - Begin saving for known future expenses (wastewater plant)
- Layout projects over time in financial model in a way that:
  - Enables a pipeline of projects are prepared for seeking of funding (get ready)
  - Ensures team and staff are not overwhelmed by the work (avoids severe peaks)
  - Accounts for highest priority project to reduce risks
  - Informs the downstream process in an intelligent way (fill knowledge gaps)
  - Avoids peaks in financial needs (generally even over time)
- Enable time to implement needed updates to rates

# CAPITAL IMPROVEMENT PLAN
## PROJECT "SANDBOX"
## WHAT SHOULD HAPPEN & WHEN

Items in red are decided priorities.

Capital Projects Sandbox

| PROJECT NUMBER | CAPITAL OUTLAY & PLANNED CAPITAL PROJECTS | Actual 2019 - 2020 | Actual 2020 - 2021 | Actual 2021 - 2022 | Adopted 2022 - 2023 | Current Projected 2023 - 2024 | Projected 2024 - 2025 | Projected 2025 - 2026 | Projected 2026 - 2027 | Projected 2027 - 2028 | Projected 2028 - 2029 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P1 | Wastewater Treatment Plant Expansion | | | | | | | $ 20,000 | $ 20,000 | $ 20,000 | $ 20,000 |
| P1A | Wastewater Facilities Plan | | | | | | | | | | |
| P1B | PLC Upgrades | | | | | | $ 200,000 | | | | |
| P1C | Digester Building & #2 Dome Rehabilitation | | | | | | | $ 10,000 | $ 10,000 | $ 10,000 | $ 10,000 |
| P1D | WWTP Blower Installation | | | | | | $ 50,000 | | | | |
| P2 | Lookingglass Pump Station (Predesign) | | | | | | $ 35,000 | | | | |
| P3 | Siphon Replacement | | | | | | | $ 500,000 | | | |
| C1 | Abraham Avenue Remotes (I/I Projetct) | | | | | | | $ 3,500,000 | | | |
| C2 | Redd Drive | | | | | | | | | | |
| C3 | Reed Street | | | | | | | | | | |
| C4 | Hwy 99 (Oak St to Thompson) | | | | | | $ 5,000 | | | | |
| C5 | Hwy 42 Concrete (tie-in to Abraham) | | | | | | | Add to Abraham ? | | | |
| C6 | Cary Street | | | | | | | | | | |
| C7 | Lookingglass Drive | | | | | | | | | | |
| C8 | Terracotta | | | | | | $ 65,000 | | | | |
| C9 | Glenchart Avenue | | | | | | | | | | |
| C10 | Center/Thompson | | | | | | | | | | |
| C11 | Gregory Drive | | | | | | | | | | |
| C12 | Darrell Avenue / Roadway Improvements | | | | | $ 55,000 | $ 375,000 | | | | |
| C13 | Park Street | | | | | | | | | | |
| C14 | Grape Avenue | | | | | | | | | | |
| C15 | Evergreen Avenue | | | | | | | | | | |
| C16 | Thompson Avenue PVC | | | | | | | | | | |
| C17 | Civil Bend Avenue | | | | | | | | | | |
| C18 | Siphon Interceptor (Evergreen) | | | | | | $ 35,000 | | Construction | | |
| C19 | Ford Street | | | | | | | | | | |
| C20 | Morgan Avenue | | | | | | | | | | |
| C21 | Rose Street | | | | | | | | | | |
| C22 | Rose South | | | | | | | | | | |
| C23 | Center Street | | | | | | | | | | |
| C24 | NE Baker Street | | | | | | | | | | |
| C25 | Grape Street North | | | | | | | | | | |
| C26 | Hwy 42 West | | | | | | $ 7,500 | | | | |
| C27 | Safe Routes to School (SRT) | | | | | | | $ 200,000 | | | |
| C28 | Brockway STEP Systems (Lookingglass PS) | | | | | | $ 10,000 | | Construction | | |
| C29 | Parkway PS Security & Site Improvements | | | | | | $ 7,500 | | Construction | | |
| C30 | Carroll & Tokay & East Side I/I Project | | | | | | $ 7,500 | | Construction | | |
| C31 | Edgewood Main Line Extension | | | | | | $ 10,000 | | Construction | | |
| C32 | Continuation of Westside Reed / Rose | | | | | | $ 45,000 | | Construction | | |
| | Capital Projects Loan Funds & Excess Rate Rev. | | | | | | | | $ 1,200,000 | $ 1,300,000 | $ 1,500,000 |
| | **Total Capital Projects Costs** | | | | | **$ 55,000** | **$ 852,500** | **$ 4,230,000** | **$ 1,230,000** | **$ 1,330,000** | **$ 1,530,000** |
| | | | | | | | | | | | |
| | Public Works Shop | $ 119,447 | $ 46,710 | $ 17,249 | $ 33,750 | $ 33,750 | $ 33,750 | $ 40,000 | $ 40,000 | $ 40,000 | $ 40,000 |
| | ARPA Expenditures - Sewer | $ - | $ - | $ 36,122 | $ 837,038 | $ 709,768 | $ - | $ - | $ - | $ - | $ - |
| | Snow Pump Station | $ 1,152,673 | $ 67,428 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - |
| | Sewer Mainline Replacements | $ 62,856 | $ 527,728 | $ 75,835 | $ 613,000 | $ 200,000 | $ 200,000 | $ 200,000 | $ 200,000 | $ 200,000 | $ 200,000 |
| | Sewer Access Road - Brockway Elementary | $ - | $ - | $ - | $ - | $ 60,000 | $ 35,000 | $ - | $ - | $ - | $ - |
| | New Equipment | $ 14,286 | $ 111,709 | $ 5,584 | $ 74,485 | $ 28,490 | $ 135,850 | $ 45,000 | $ 45,000 | $ 45,000 | $ 45,000 |
| | **TOTAL CAPITAL PROJECTS** | **$ 1,349,262** | **$ 753,575** | **$ 134,790** | **$ 1,558,273** | **$ 1,087,008** | **$ 1,257,100** | **$ 4,515,000** | **$ 1,515,000** | **$ 1,615,000** | **$ 1,815,000** |

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# WASTEWATER SYSTEM

# PROJECTED EXPENSES & RESOURCES

**Sewer Fund - Historic & Projected Expenses**

| EXPENSE CATEGORY | Actual 2019 - 2020 | Actual 2020 - 2021 | Actual 2021 - 2022 | Adopted 2022 - 2023 | Budgeted 2023 - 2024 | Projected 2024 - 2025 | Projected 2025 - 2026 | Projected 2026 - 2027 | Projected 2027 - 2028 | Projected 2028 - 2029 |
|---|---|---|---|---|---|---|---|---|---|---|
| Personnel Services | $ 362,797 | $ 380,733 | $ 425,371 | $ 560,325 | $ 602,718 | $ 626,827 | $ 664,436 | $ 704,303 | $ 746,561 | $ 791,354 |
| Materials & Services | $ 570,137 | $ 667,102 | $ 695,895 | $ 931,010 | $ 798,685 | $ 886,269 | $ 847,218 | $ 868,882 | $ 891,288 | $ 914,460 |
| Capital Outlay | $ 1,349,262 | $ 753,576 | $ 134,790 | $ 1,558,273 | $ 1,232,458 | $ 1,007,100 | $ 4,515,000 | $ 1,515,000 | $ 1,615,000 | $ 1,815,000 |
| Debt Service | $ 281,948 | $ 648,060 | $ 169,464 | $ 169,868 | $ 169,288 | $ 170,000 | $ 170,000 | $ 170,000 | $ 170,000 | $ 170,000 |
| Debt Service for New Loan | | | | | | $ 60,000 | $ 90,000 | $ 90,000 | $ 90,000 | $ 90,000 |
| Debt Service for New Loan | | | | | | | | $ 90,000 | $ 90,000 | $ 90,000 |
| Contingency | $ - | $ - | $ - | | | | | | | |
| **Total Period Expenses** | **$ 2,564,144** | **$ 2,449,471** | **$ 1,425,520** | **$ 3,219,476** | **$ 2,803,149** | **$ 2,750,196** | **$ 6,286,654** | **$ 3,438,185** | **$ 3,602,848** | **$ 3,870,814** |
| Net Fund Balance Change | $ (1,564,261) | $ (1,670,812) | $ (603,533) | $ (1,867,678) | | | | | | |

| OTHER FINANCING SOURCES (USES) | Actual 2019 - 2020 | Actual 2020 - 2021 | Actual 2021 - 2022 | Adopted 2022 - 2023 | Projected 2023 - 2024 | Projected 2024 - 2025 | Projected 2025 - 2026 | Projected 2026 - 2027 | Projected 2027 - 2028 | Projected 2028 - 2029 |
|---|---|---|---|---|---|---|---|---|---|---|
| Operating Transfers (Out) | $ (122,129) | $ (126,189) | $ (151,380) | $ (65,000) | $ (85,000) | $ (85,000) | $ (85,850) | $ (86,709) | $ (87,576) | $ (88,451) |
| ARPA Funds | $ - | $ - | $ 541,023 | $ 327,037 | $ 709,768 | $ - | $ - | $ - | $ - | $ - |
| Load Proceeds (In) | $ 788,660 | $ 438,131 | $ - | $ - | $ - | $ - | $ 4,000,000 | $ 1,200,000 | $ 1,300,000 | $ 1,500,000 |
| Loan Forgiveness | | $ 500,000 | $ - | $ - | $ - | $ - | | $ - | | $ - |
| **Total Other Financing Sources (Uses)** | **$ 666,531** | **$ 811,942** | **$ 389,643** | **$ 262,037** | **$ 624,768** | **$ (85,000)** | **$ 3,914,150** | **$ 1,113,292** | **$ 1,212,424** | **$ 1,411,549** |

# SIMILAR COMMUNITIES
# WATER & SEWER RATES

| WASTEWATER SERVICE RATE COMPARISONS<br>SIMILAR COMMUNITIES - TYPICAL RESIDENCE (EDU) | | | | |
|---|---|---|---|---|
| **Population** | **Community** | **Wastewater** | **Water** | **Total Water & Sewer** |
| 5,800 | Winston (current) | $ 46.00 | $ 46.01 | $ 92.01 |
| | Winston (low) | | | $ - |
| | Winston (high) | | | $ - |
| **Population** | **Community** | **Wastewater** | **Water *** | **Total Water & Sewer** |
| - | Green Area WSA | $ 38.00 | $ 33.26 | $ 71.26 |
| 2,500 | Myrtle Point | $ 59.04 | $ 32.50 | $ 91.54 |
| 5,620 | Philomath | $ 62.21 | $ 41.34 | $ 103.55 |
| 4,028 | Coquille | $ 63.46 | $ 64.22 | $ 127.68 |
| 11,020 | Monmouth | $ 64.62 | $ 39.75 | $ 104.37 |
| 4,000 | Tri City Sanitary | $ 64.90 | $ 42.62 | $ 107.52 |
| 8,600 | Sutherlin | $ 65.72 | $ 44.72 | $ 110.44 |
| 5,265 | Veneta | $ 66.23 | $ 34.54 | $ 100.77 |
| 3,500 | Myrtle Creek | $ 68.00 | $ 54.69 | $ 122.69 |
| 3,684 | Harrisburg | $ 97.55 | $ 37.79 | $ 135.34 |

* Value to 4,000 gallons for comparison

# WASTEWATER SYSTEM

# PROJECTED EXPENSES & RESOURCES

| Sewer Fund - Historic & Projected Revenue | | | | | | Rate Needed to Ensure Revenue Requirements Met | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | $65 | $65 | $65 | $65 | $65 |
| **REVENUE CATEGORY** | Actual 2019 - 2020 | Actual 2020 - 2021 | Actual 2021 - 2022 | Adopted 2022 - 2023 | Budgeted 2023 - 2024 | Projected 2024 - 2025 | Projected 2025 - 2026 | Projected 2026 - 2027 | Projected 2027 - 2028 | Projected 2028 - 2029 |
| Interest Income | $ 92,352 | $ 60,852 | $ 50,727 | $ 66,000 | $ 66,000 | $ 66,000 | $ 66,000 | $ 66,000 | $ 66,000 | $ 66,000 |
| Miscellaneous Income | $ 8,653 | $ 4,063 | $ 4,357 | $ 4,000 | $ 4,000 | $ 4,000 | $ 4,000 | $ 4,000 | $ 4,000 | $ 4,000 |
| Sewer User Fees | $ 1,188,396 | $ 1,221,226 | $ 1,242,033 | $ 1,300,000 | $ 1,484,000 | $ 1,950,000 | $ 1,950,000 | $ 1,950,000 | $ 1,950,000 | $ 1,950,000 |
| Sewer SDC Charges | $ 91,085 | $ 113,827 | $ 111,999 | $ 105,000 | $ 105,000 | $ 105,000 | $ 105,000 | $ 105,000 | $ 105,000 | $ 105,000 |
| Sewer User Certified | $ 76,046 | $ 54,256 | $ 45,573 | $ 60,000 | $ 60,000 | $ 60,000 | $ 60,000 | $ 60,000 | $ 60,000 | $ 60,000 |
| Sewer Connection Fees | $ 29,800 | $ 35,200 | $ 28,600 | $ 30,000 | $ 30,000 | $ 30,000 | $ 30,000 | $ 30,000 | $ 30,000 | $ 30,000 |
| Sewer Plant Upgrade Fee | $ 190,056 | $ 191,433 | $ 193,057 | $ 190,000 | $ 195,000 | $ 195,000 | $ 195,000 | $ 195,000 | $ 195,000 | $ 195,000 |
| **Total Period Revenue** | **$ 1,676,388** | **$ 1,680,857** | **$ 1,676,346** | **$ 1,755,000** | **$ 1,944,000** | **$ 2,410,000** | **$ 2,410,000** | **$ 2,410,000** | **$ 2,410,000** | **$ 2,410,000** |
| Net Cash Starting Position | $ 999,883 | $ 778,659 | $ 821,987 | $ 1,351,798 | $ 956,230 | $ 1,200,000 | $ 774,804 | $ 812,300 | $ 897,407 | $ 916,984 |
| Fund Balance (End of Period) | $ 778,659 | $ 821,987 | $ 1,462,457 | | | | | | | |
| Total Start of Period Available Resources | $ 3,342,802 | $ 3,271,458 | $ 2,887,976 | $ 3,368,835 | $ 3,524,998 | $ 3,525,000 | $ 7,098,954 | $ 4,335,592 | $ 4,519,832 | $ 4,738,532 |
| Total Resouces minus Expenses | $ 778,658 | $ 821,987 | $ 1,462,456 | $ 149,359 | $ 721,849 | $ 774,804 | $ 812,300 | $ 897,407 | $ 916,984 | $ 867,718 |

# REFLECTIONS & RECOMMENDTAIONS

## Reflections

- The process we're following will help to make achievable plan for future
- The rate structure is only a starting point, where progress and status to be reviewed and adjusted each year.
- We are making progress already, but we can do more to prepare for opportunities (funding)

## Recommendations

- Elevate rates as much as practical to reduce risks and costs
- Use the rate study framework developed to continue envisioning and refining
- Plan for additional round of forgivable loan funding

**Rate Implementation Strategy**

- Evaluate best approach for Winston to revise the rate structure
- The Plan currently assumes new rates implement in next fiscal year
- What happens with a staged rate increase over time?
  - The “plan” is the same, but the “timing” will stagger accordingly
  - Pros of staggered rate increases are additional time to implement and less of an abrupt change for ratepayers.
  - Cons is that the “plan” is deferred proportionally, with current system risks extending further into the future, with cost increases for future work.

# DISCUSSION & ACKNOWLEDGEMENTS

**City's Leadership Team**

- Thank you for making this a priority and for trusting the team to follow a good process

**City Staff**

- Thank you for your hospitality, patience and time. Your expertise and knowledge of the wastewater system and the community has inspired the planning effort.

**Winston-Green Wastewater Treatment Team**

- Chris Sherlock joined several team working sessions and provided helpful information to develop a meaningful forward-looking plan for the wastewater treatment system.

**Civil West Engineering**

- Thank you for fostering collaboration to save time and money for the community.