

# PUBLIC WORKS FY 2023 BUDGET

Excellence  
Innovation  
Integrity



# Public Works Leadership Team

**Debi Meling**  
PE

Director

**Jennifer Duray**  
CPA

Deputy Director

“ Exceed expectations through innovation, integrity, and service to the community. ”

**Scott Emerick**  
PE

Distribution &  
Collection  
Superintendent

**Mac Fogelsong**  
PE

City  
Engineer

**Boris Krizek**  
PE

Environmental  
Engineer

**Kyle Foreman**

Solid Waste  
Superintendent

**Derick Miller**

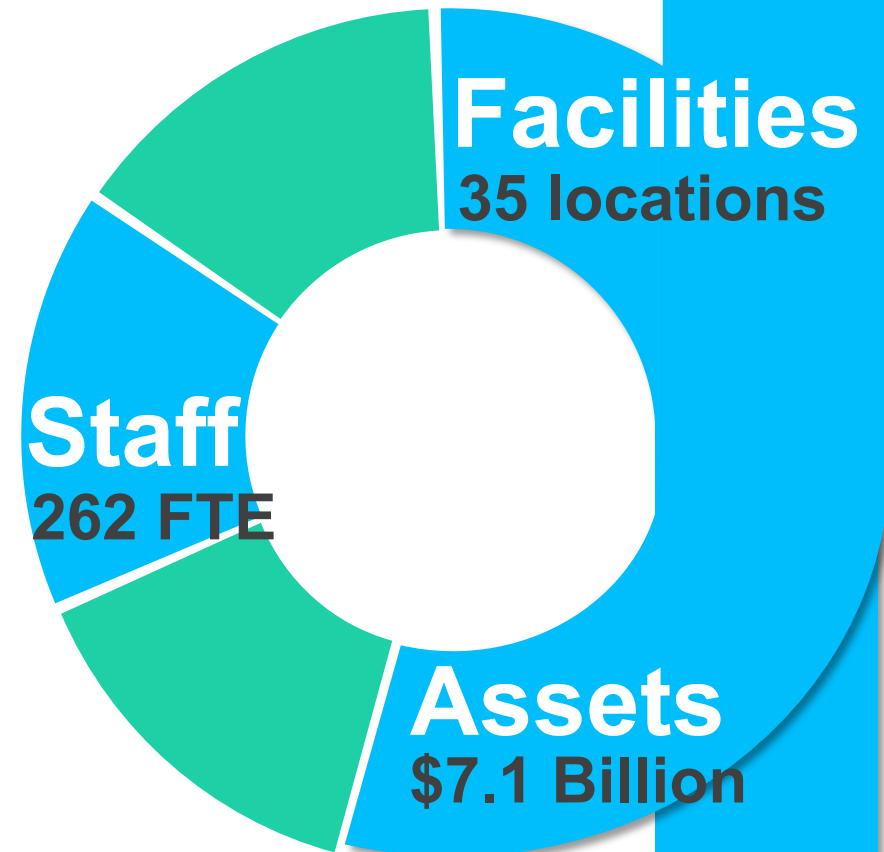
Street-Traffic  
Superintendent

**Louis Engels**  
PE

Water Quality  
Superintendent

# Public Works Responsibilities

Each member of our community is touched daily by services the City of Billings Public Works Department provides.



# Public Works Core Services

**Project &  
ROW  
Management**

**Street  
Maintenance**

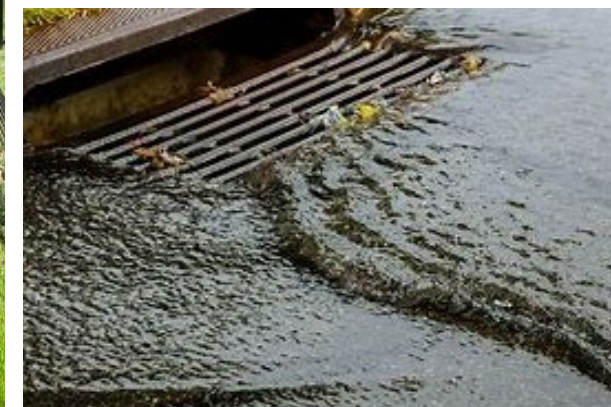
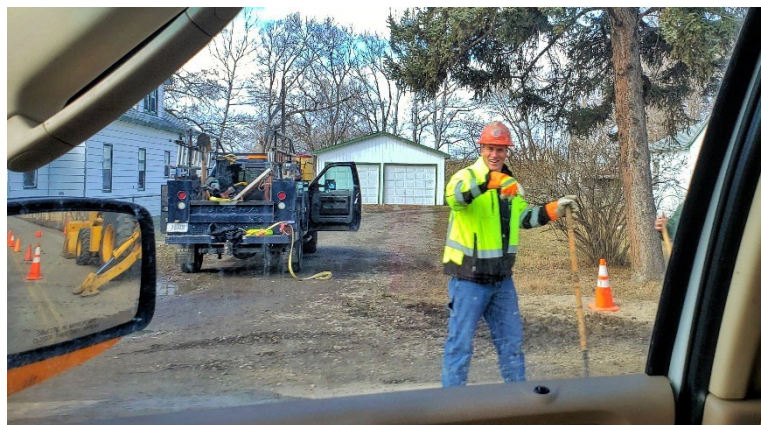
**Traffic  
Management**

**Stormwater  
System  
Management**

**Solid Waste  
Management**

**Safe  
Drinking  
Water**

**Wastewater  
Management**



# Annual Accomplishments

## Our Budget at Work



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# Project & ROW Management

## Funding Sources

Gas Tax Revenue  
Street Maintenance Districts  
Solid Waste Revenue  
Water Revenue  
Wastewater Revenue  
Storm Assessments  
System Development Fees  
SIDs and Sidewalk Bonds  
TIFDs  
Permits and Fees

## Annual Work

- Review, permit and inspect 3,000 sites and master plans annually
- Manage average of \$70 million of capital projects annually
  - Roads, sidewalks, storm, solid waste, water, and wastewater projects
- Manage projects for other Departments
- Keep engineering design and construction administration in-house for about \$11M of projects per year
  - Saves approximately \$1.2M annually by providing internal engineering services for in-house work
- Manage projects with change order history of less than 0.5%



# Street Maintenance

## Funding Sources

Street Maintenance Districts  
SILMDs  
Gas Tax Revenue

## Annual Work

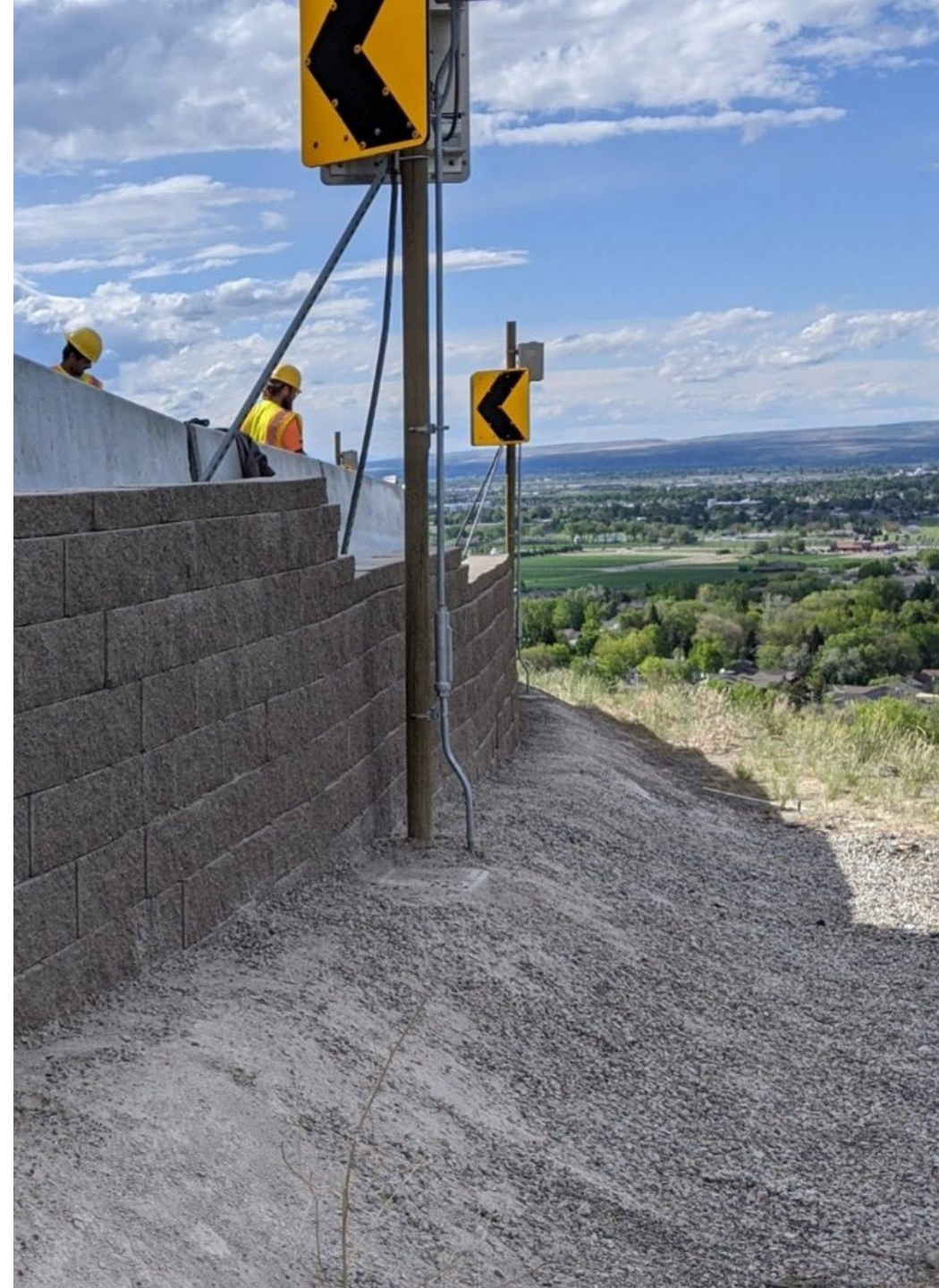
- Manage and maintain
  - 1,120 lane miles of paved streets
    - 9 miles chip-sealed, 9 miles crack-sealed, and 2 miles overlaid annually
- 117 miles of alleys
- 109 gravel streets & 35 non-maintainable streets
- 19 miles of multi-use paths
- 4,484 street lights
  - 10 replaced annually
  - 850 repaired annually
- 50 ADA corners constructed annually
- Street sweeping removes 11,756 cubic yards of material and takes about 3,212 hours annually
- Landscaping care for 618 trees, 4,800 plants, 550 irrigation zones covering 40 miles, 3,300 hours of mowing maintenance, 67 miles of ROW maintenance, and 28 interior islands





# Traffic Management

| Funding Sources   | Annual Work  |
|---|--|
| <p>Street Maintenance Districts<br/>Traffic Tech Grant<br/>Permits and Fees</p> | <ul style="list-style-type: none"><li>• Pavement markings<ul style="list-style-type: none"><li>• 497 miles of lines painted</li><li>• 323 crosswalks painted</li></ul></li><li>• 113 signalized intersections<ul style="list-style-type: none"><li>• 19 signals upgraded with new cabinets, controllers and some received Gridsmart detection</li><li>• 147 signals repaired</li></ul></li><li>• 15 roundabouts maintained</li><li>• 30 School flashers repaired</li><li>• 27,037 traffic signs<ul style="list-style-type: none"><li>• 872 replaced annually</li><li>• 773 repaired annually</li></ul></li><li>• 17 miles of gravel streets maintained 3 times/year</li><li>• 50 miles of alleyways maintained annually</li><li>• 3,500 tons of asphalt replaced</li></ul> |





# Stormwater Management

## Funding Sources

## Annual Work

Permits and Fees  
Storm Assessments

- Maintain 292 miles of storm sewer mains
  - 55,655 feet of lines cleaned annually
  - 350,000 feet of lines video inspected annually
- Manage 9,000 Intakes and Catch Basins
  - 2,000 catch basins cleaned, inspected, and rated annually
- Administer construction BMPS
- Maintain regulatory compliance
- Enforce compliance with MS4 permit





# Solid Waste Management

| Funding Sources   | Annual Work   |
|---|---|
| <p>Landfill Fees<br/>Residential Collection Fees<br/>Commercial Collection Fees<br/>Roll Off Fees</p> | <ul style="list-style-type: none"><li>• Process 331,268 tons of waste at the Billings Regional Landfill annually</li><li>• 127,053 vehicles through landfill</li><li>• City collection trucks bring 26,148 loads (113,332 tons) to the landfill annually from 35,800 customers</li><li>• Collection trucks traveled 445,000 miles.</li><li>• Ensure compliance with permits and regulations</li></ul> |



# Safe Drinking Water

## Funding Sources

Retail Water Sales  
Wholesale Water Sales  
System Development Fees  
Permits and Fees

## Annual Work

- Treat 8.7 billion gallons of potable water annually
- Manage and maintain
  - Water treatment plant
  - State certified laboratory
  - 16 reservoirs
  - 13 pump stations
  - 32,400 water meters
    - 1,005 repaired or replaced annually
    - 477 new services set-up
- 200 water service repairs
- 4,697 Hydrants
  - 76 hydrant repairs annually
- 495 miles of mains
  - 3,000 feet replaced pipebursting
  - Repaired 52 main breaks
- 32,400 water customers



# Wastewater Management

## Funding Sources

Retail Wastewater Revenue  
Wholesale Wastewater Revenue  
System Development Fees  
Permits and Fees

## Annual Work

- Reclaim 7 billion gallons of wastewater annually
- Manage and maintain
  - Wastewater Reclamation Facility
  - 11 lift stations
  - 513 miles of mains
  - Repaired 17 sewer overflows
- 36,000 Sewer Customers
- Manage pretreatment program
- Ensure compliance with EPA & DEQ



Our Investment

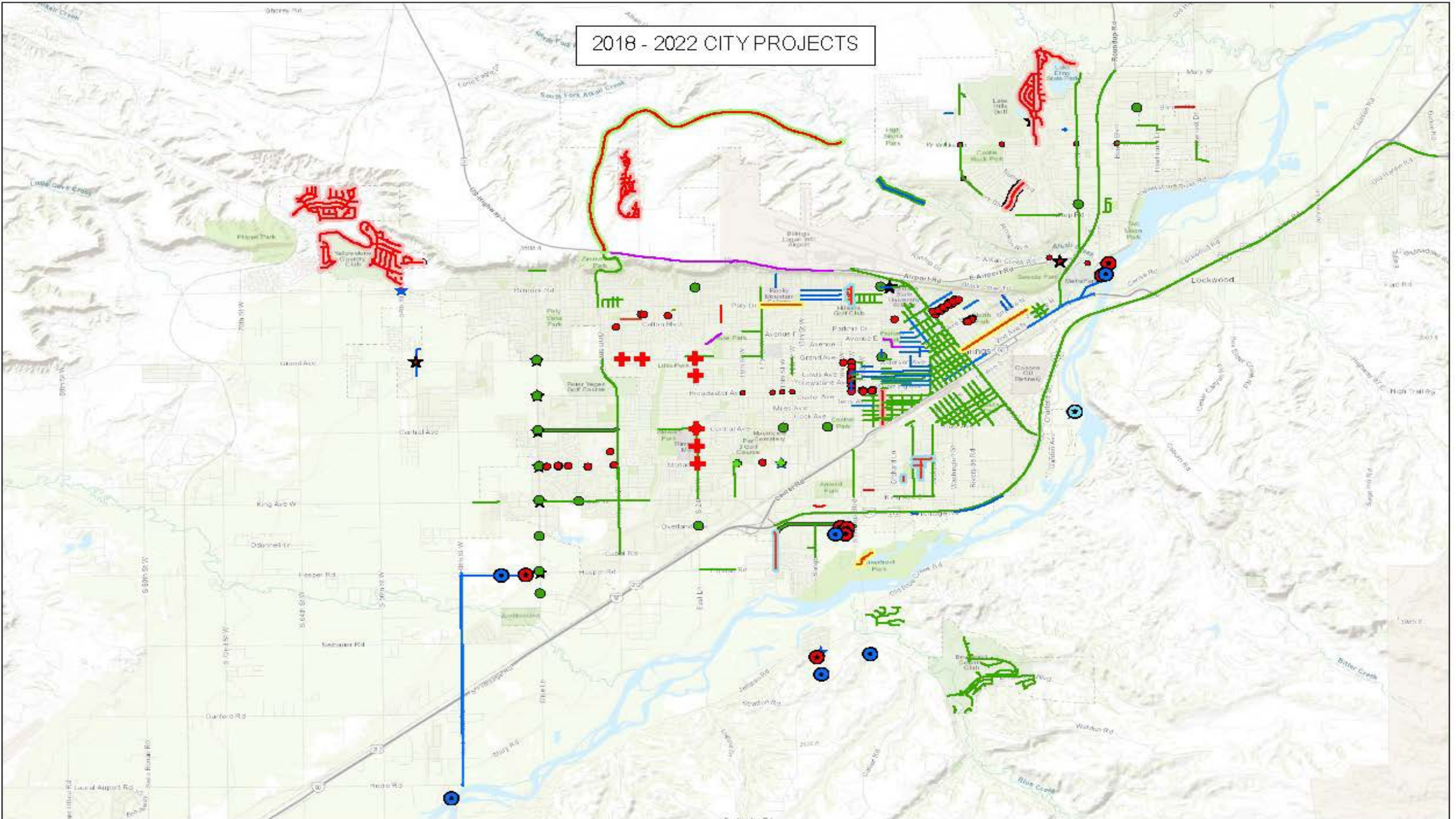
Building Infrastructure



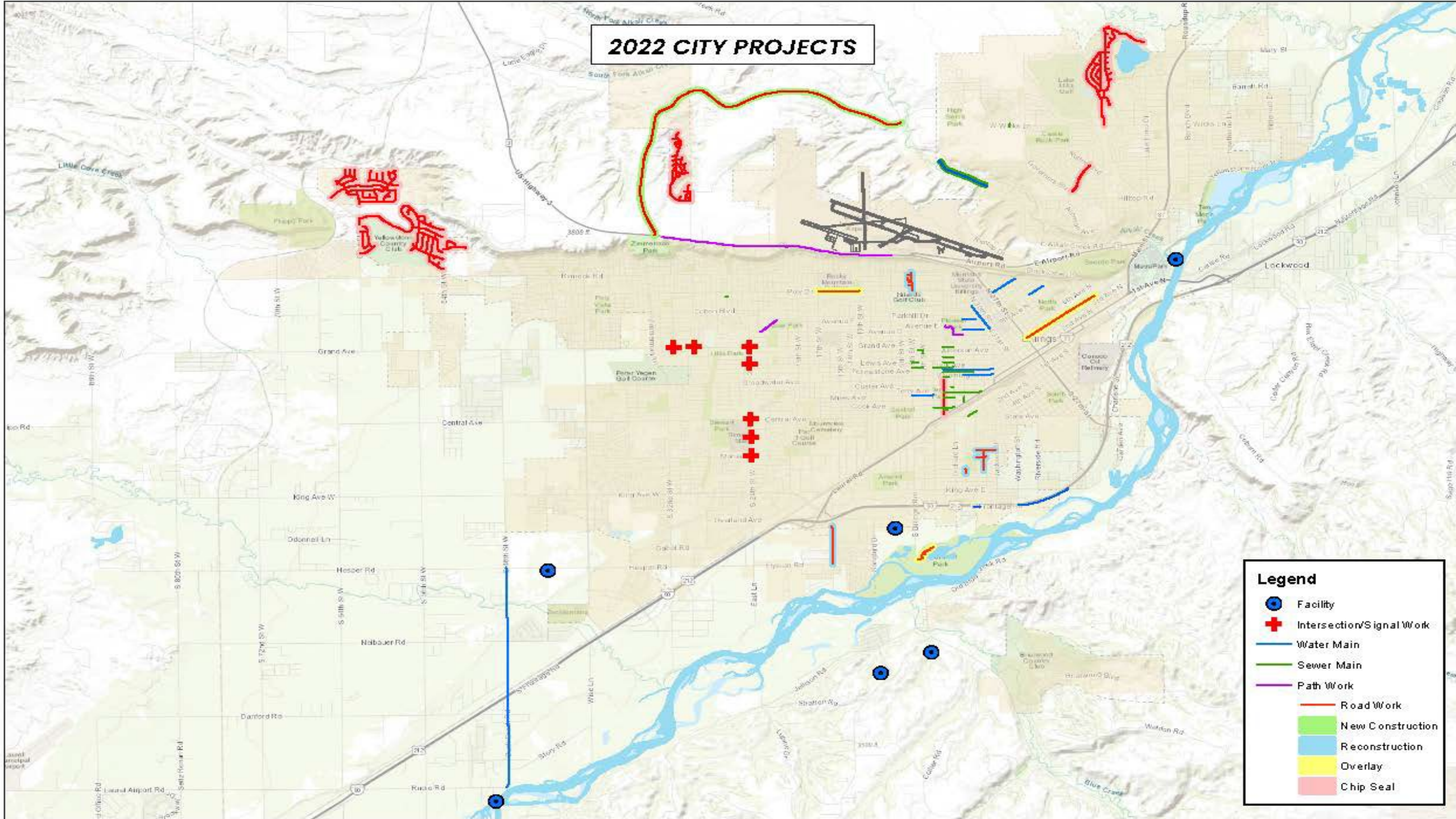
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# 2018 - 2022 CITY PROJECTS



# 2022 CITY PROJECTS



**Legend**

- Facility
- Intersection/Signal Work
- Water Main
- Sewer Main
- Path Work
- Road Work
- New Construction
- Reconstruction
- Overlay
- Chip Seal



# Project Highlights

| <b>PROJECTS COMPLETED LAST YEAR</b>                                | <b>COST</b> |
|--|-------------|
| Rimrock & Virginia Signal  | \$0.3M      |
| Neighborhood Bikeways  | \$0.2M      |
| Gleneagles Boulevard Connection                                    | \$0.75M     |
| Missing Sidewalk (Aronson Avenue)                                  | \$1M        |
| Annual Utility Pipe & Facility Rehabs                              | \$14M       |
| Lead Service Replacement   | \$0.6M      |
| Wicks Lane (Bench to Hawthorne)                                    | \$1.7M      |
| Songbird Drive Reconstruction                                      | \$1.2M      |
| 32 <sup>nd</sup> St West (King to Gabel)                           | \$4.9M      |
| Hallowell Lane Improvements  | \$4.9M      |
| Downtown 2-Way Conversion (29 <sup>th</sup> and 30 <sup>th</sup> ) | \$1.5M      |



# Project Highlights

| <b>UPCOMING PROJECTS IN CIP</b>                    | <b>FY</b> | <b>COST</b> |
|--|-----------|-------------|
| Landfill Composting Facility                       | FY23      | \$2.5M      |
| Mullowney Lane (design in 22)                      | FY 23     | \$3.7M      |
| West End Reservoir Construction                    | FY 23     | \$36M       |
| 36 <sup>th</sup> – Central to Broadwater           | FY 23-24  | \$2.9M      |
| Downtown 2-Way Conversion                          | FY 23-24  | \$8M        |
| Broadwater (Vermillion to Shiloh)                  | FY 24-25  | \$3.6M      |
| Wicks Lane   | FY 24-25  | \$2.2M      |
| 32 <sup>nd</sup> St W Widening/Signal Improvements | FY 24-27  | \$12.2M     |
| Landfill Cell 6 Expansion                          | FY 25-26  | \$14M       |
| Landfill Composting Phase 2                        | FY 25-26  | \$2.8M      |
| Rimrock Road Widening                              | FY 26-27  | \$3.7M      |



# Project Highlights

| <b>UPCOMING PROJECTS IN CIP</b>             | <b>FY</b> | <b>COST</b> |
|---|-----------|-------------|
| Water Storage and Pump Station Improvements | FY 23-27  | \$30.8M     |
| Annual Lead Service Replacements            | FY 23-24  | \$1.5M      |
| Storm Projects                              | FY 23-27  | \$14.8M     |
| Multimodal Projects                         | FY 23-27  | \$7.5M      |
| Annual Street Rehab                         | FY 23-27  | \$32.9M     |
| Annual Traffic Control Improvements         | FY 23-27  | \$4.2M      |
| Annual Water & Wastewater Pipe Rehab        | FY 23-27  | \$56.6M     |
| Annual Water/Wastewater Facility Rehab      | FY 23-27  | \$5.3M      |
| Wastewater Extensions                       | FY 23-27  | \$17.2M     |

# West End Project

## Project Name

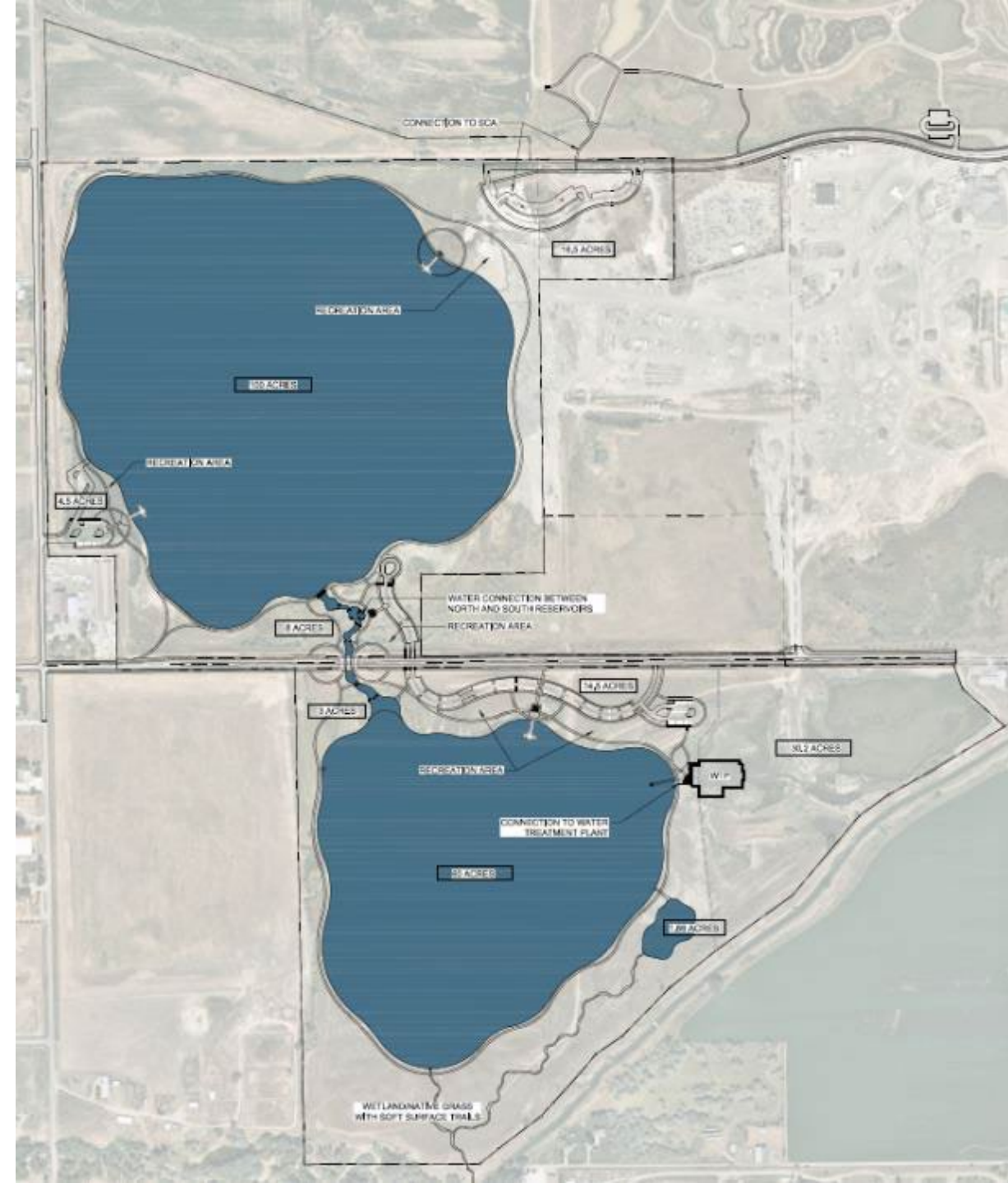
River intake and pump station

Raw water pipeline

Water Treatment Plant (18 MGD)

Reservoirs

Water Distribution





# Project Highlights

## Design of Mullowney Ln

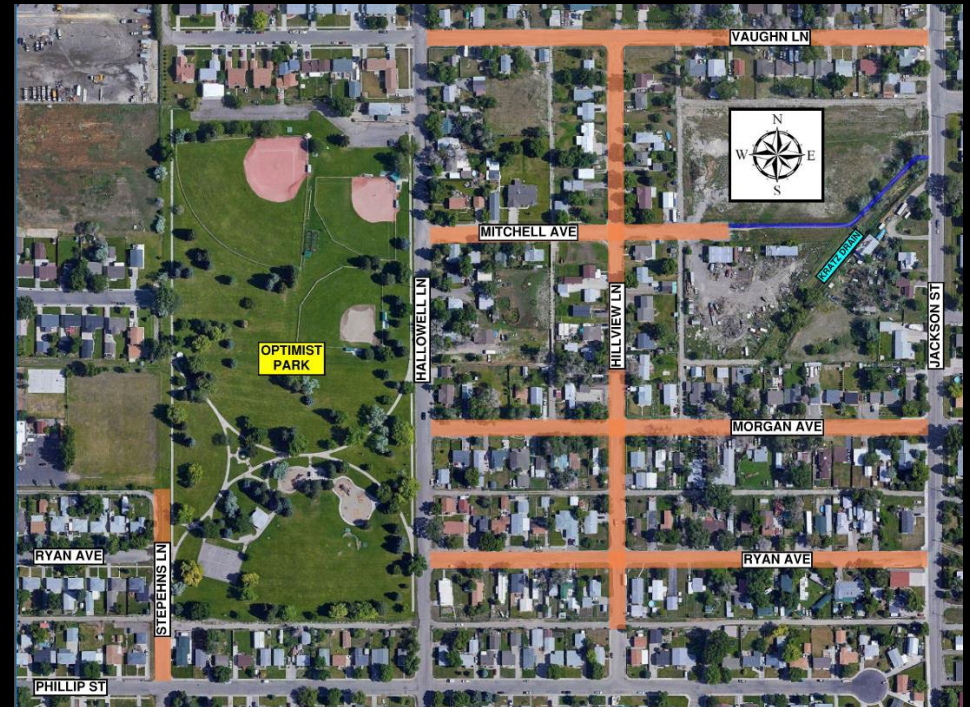
3-lane Collector street from Midland Road to Elysian will include multi-use path



## Reconstruction of South Billings

Urban Renewal District Streets

Vaughn Ln, Mitchell Ave, Hillview Ln, Morgan Ave, Ryan Ave





# Project Highlights

## Annual Projects

Chip Seal – Ironwood, Augusta Ranch, Yellowstone Country Club, Rehberg Ranch, St. Andrews Dr, Rolling Hills Drive, 5<sup>th</sup> St W

Overlay – Poly Dr from 13<sup>th</sup> to 17<sup>th</sup> St W and 4<sup>th</sup> Ave from N 27<sup>th</sup> to N 13<sup>th</sup>

## Inner Belt Loop and Skyline Trail

Planned start after agreement is signed for Build Grant





Inner Belt Loop Alignment

Alkali Creek Road

West Wicks Lane

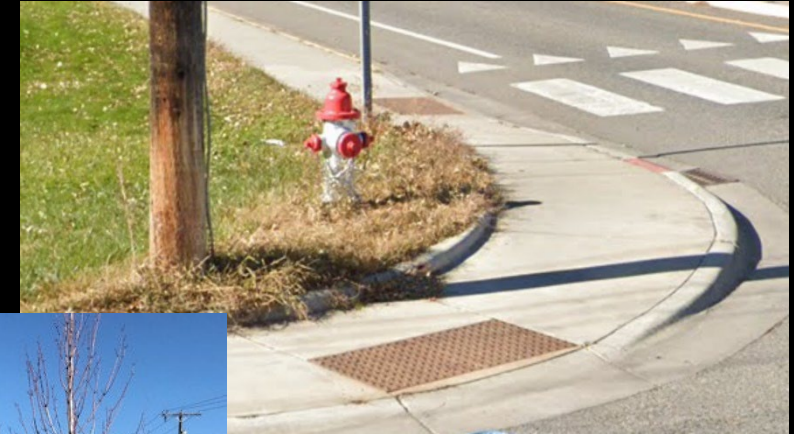
Zimmerman Trail

Highway 3



# Project Highlights

**24th and Central Improvements**  
Turn Lane, Signal, ADA



**Multi-Use Trail**  
Woody Drive to 21st St. West



**ADA**  
Broadwater Ave

**Grand Ave and 32nd St W**  
Traffic Signal and Access Control



# Our Commitment

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# Excellence

## Asset Management

- Maximize return on investment
- Data driven decisions
- Proactive continuous improvement program

## Composting

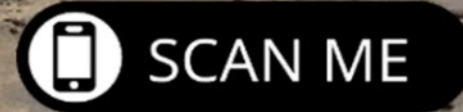
- Recover more landfill gasses and reuse refuse
- Reduce amount of waste going into landfill

## AMI/WaterSmart/Invoice Cloud

- Modernized payment & customer water management software

## Stormwater System Maintenance

- CCTV
- Rating process
- Better use of resources



# Excellence

- Cybersecurity upgrades to physically separate plant processes from internet
- Optimized water treatment plant preliminary treatment
- Received “kudos” from MT DEQ during sanitary sewer collection system visit
- Working collaboratively with DEQ on nutrient regulations
- No drinking water violations
- No wastewater exceedances
- Ditch water reuse for Centennial Park
- Working with MDT to get direct funds for streets





# Innovation

## West End Water Plant and Reservoir

- Water system redundancy
- Raw water storage
- Amenity for Billings

## Strategic Goals

- Employee task groups

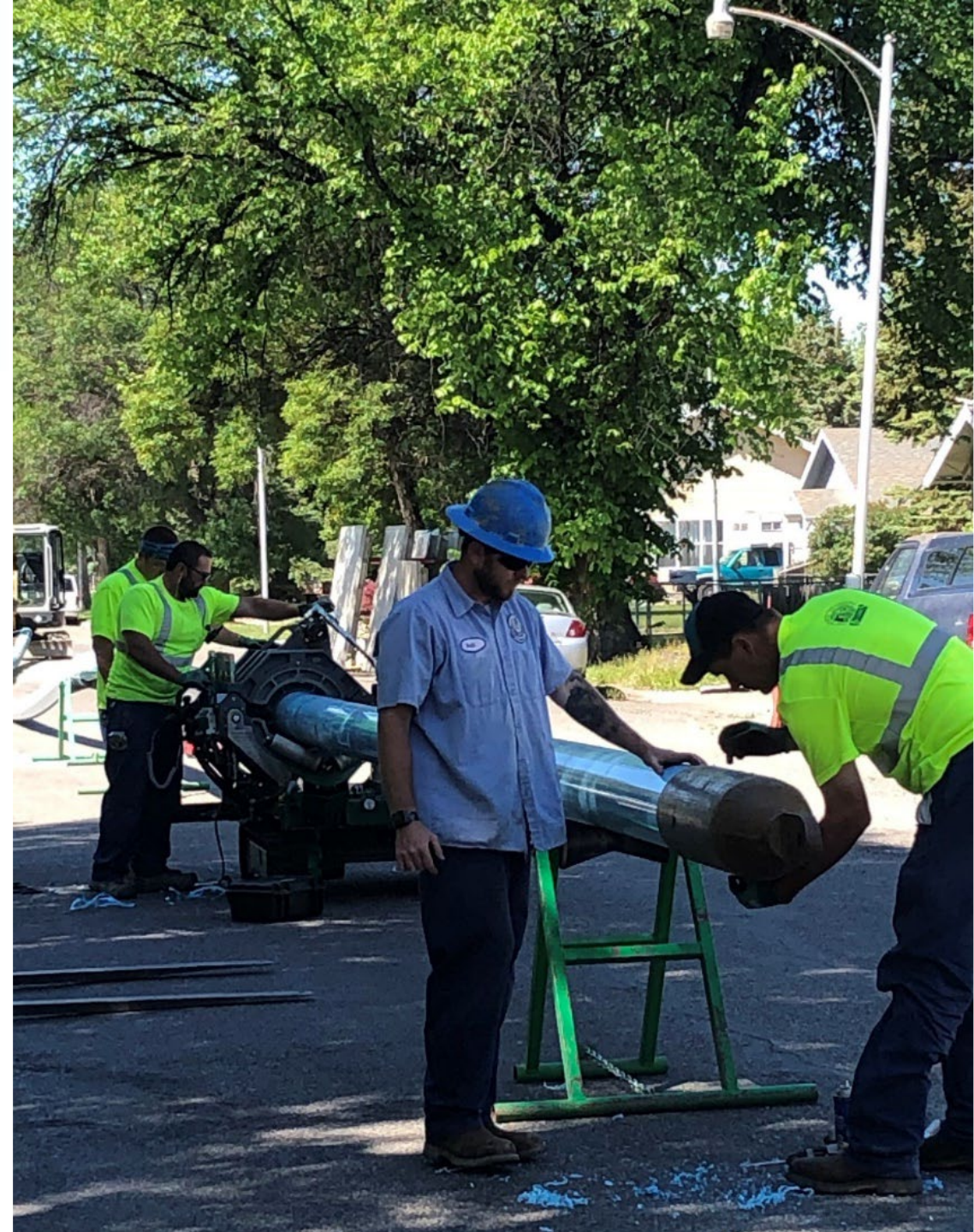
## Geographic Information Systems (GIS)

- SAG Award



# Innovation

- Phosphorus recovery from wastewater
- Wastewater operators solved digester foaming issues with optimized design
- MSU-B S.T.E.M. education video
- Trenchless technology
- Pipebursting
- Adding millings into asphalt
- WRF optimization resulted in decreased energy demand



# Integrity

## Public Communications

- Media marketing partnership with Lee Enterprises/Amplified
- Expanded digital presence
- Improvements to enhance community engagement and open data access

## Public Works Board

|                 |               |                  |
|-----------------|---------------|------------------|
| John Armstrong  | Travis Jones  | Rod Wilson       |
| Nicole Cromwell | Aaron Redland | David Wanzenried |
| Bill Enright    | Troy Smith    |                  |

## Liaison to Energy Conservation Commission

|             |              |                |
|-------------|--------------|----------------|
| Tim Erikson | Neil Kiner   | Deborah Singer |
| Glenn Foy   | Erin Robbins | Karen Stears   |
| Randy Hafer |              |                |



# Integrity

- Pay As You Throw (PAY-T)
- Groundwater investigation program with Montana Bureau of Mines and Geology
- Grant opportunities
- Lead services replacement
- Staff works around the clock and in adverse conditions to ensure continuity of services
  - 4 hour mitigation to stop heights sewer standpipe leak in the middle of the night
  - Worked through the night to restore water to the Briarwood subdivision New Year's Eve
  - Mitigated the SSO at the WRF last summer



# Looking To the Future Our Challenges



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# Challenges

**Lack of Material Availability**

**Increasing Materials and  
Construction Costs**

**Workforce Shortage**

**Expanding System**

**Regulatory Changes**





# Roads

## PAVER Program Shortfall

|           | Funding Cycle | Recommended Cycle |
|-----------|---------------|-------------------|
| Overlay   | 30 years      | 15 years          |
| Chip Seal | 25 years      | 8 years           |

Need to increase PAVER program by \$4M annually to meet recommended cycles.

Alleys

Gravel Streets

Non-Maintainable Streets



# Street Lights

**Aging Poles**

**Bad Underground Wiring**

**Limited Funding Mechanisms**





# Solid Waste

**Recycling Market**

**Issues with Trash Not Bagged**

**Drop Off Facility**





# Stormwater

## **\$140M of Existing Infrastructure Deficiencies to Handle Basic Storms**

- About \$2M per year available for capital projects

## **Not Enough Resources to Proactively Maintain System**

- Understaffed
- Limited equipment

## **Storm Program Development**



# Water & Wastewater

## 170-Year Pipe Replacement Program

- Increased replacements by 10% per year in approved 5-year CIP
- In 5 years will have a 129-year pipe replacement program
- In 10 years will have a 97-year pipe replacement program

## Inner Belt Loop Infrastructure Needs

- Will need to have cash to front cost of pipe
- Regional facilities
- All pipe costs except oversizing costs will be reimbursed upon development

## Fats, Oil, and Grease (FOG) in Wastewater System



# FY23 Budget Highlights

## Serving Billings



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# FY23 BUDGET SUMMARY

## Total Public Works Budgeted Expenses

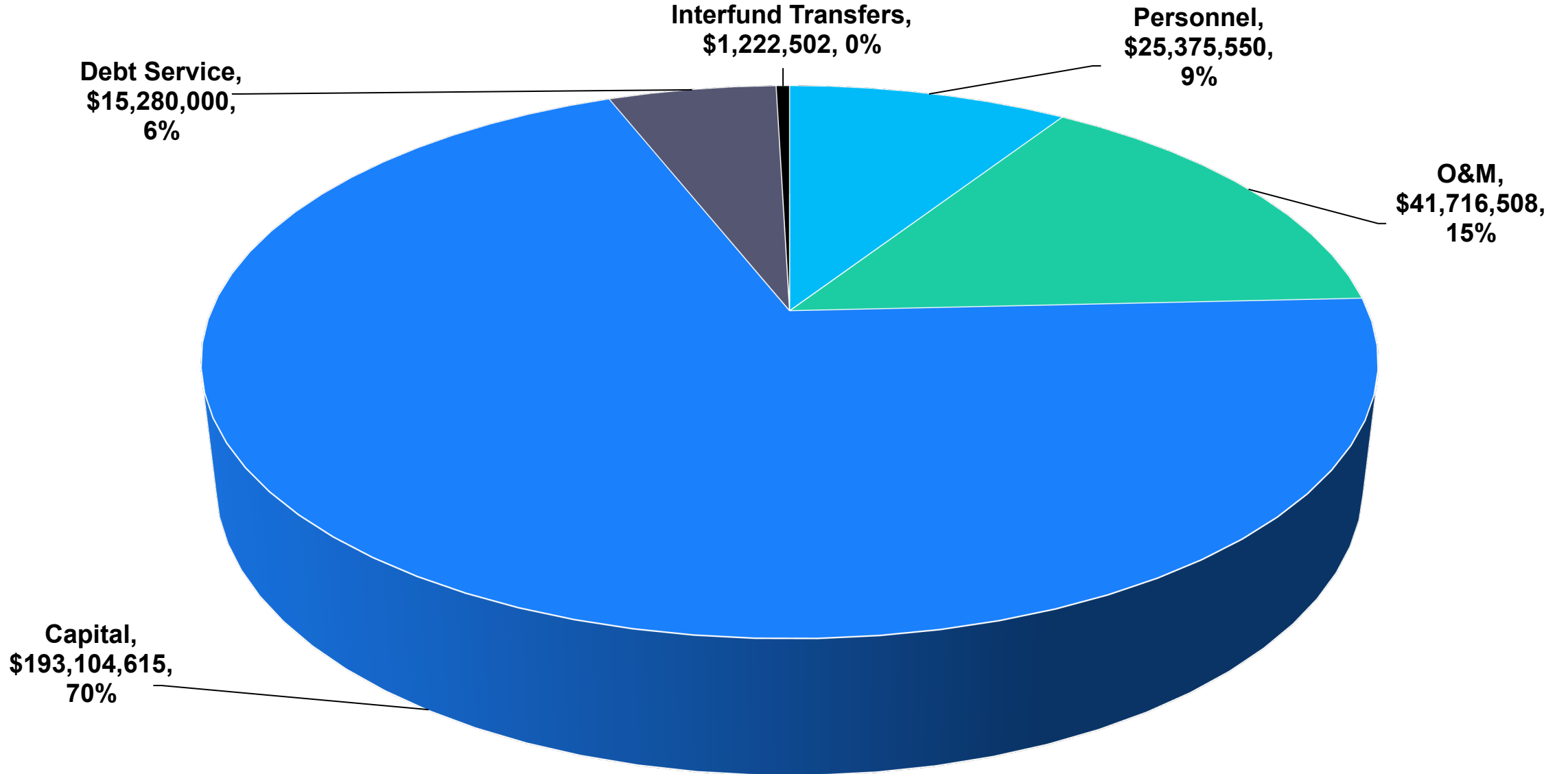
| FY22 Total    | FY23 Total    | \$ Change    |
|---------------|---------------|--------------|
| \$227,002,890 | \$276,699,175 | \$49,696,285 |

## Total Public Works Budgeted Revenues

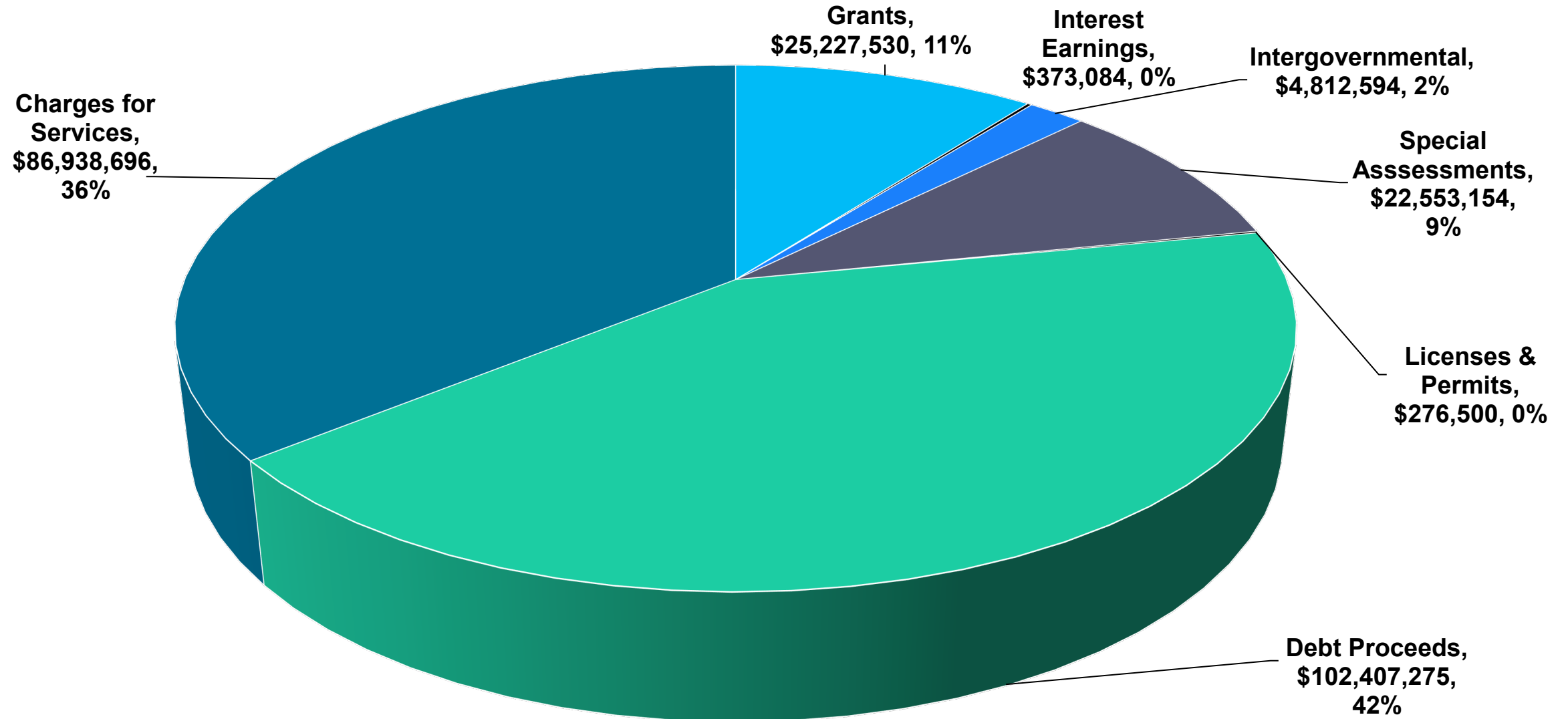
| FY22 Total    | FY23 Total    | \$ Change    |
|---------------|---------------|--------------|
| \$197,393,435 | \$242,588,833 | \$45,195,398 |



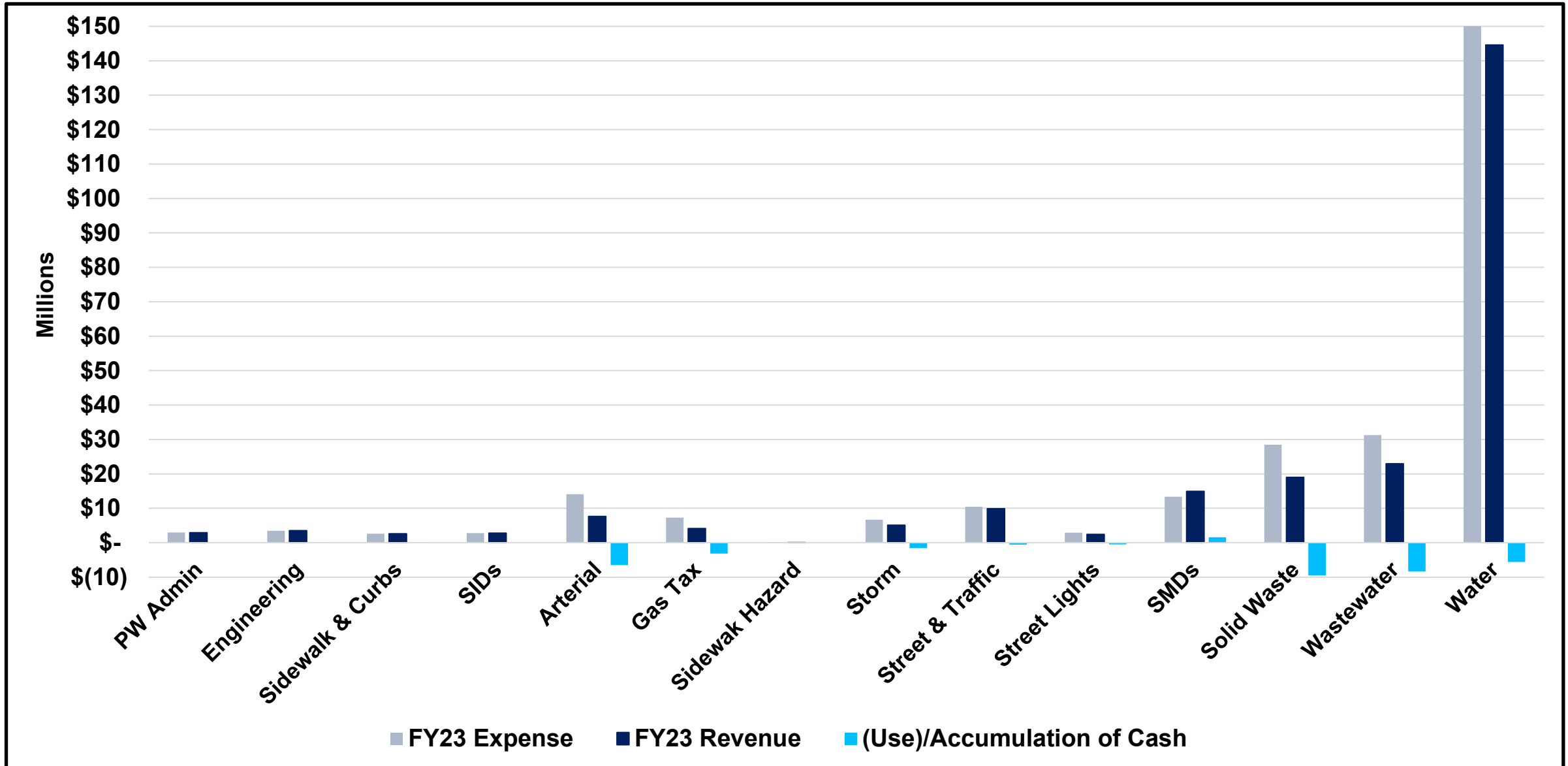
# FY23 EXPENSES = \$276.7M



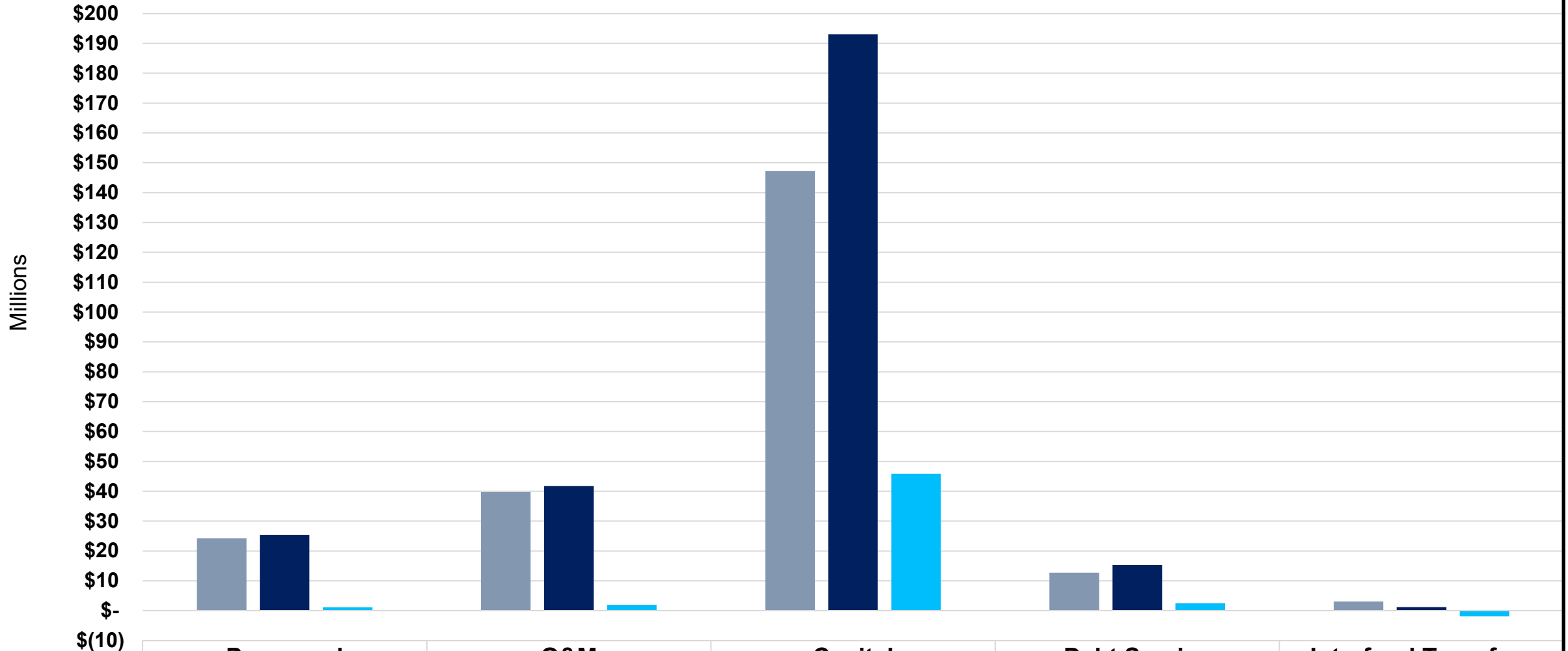
# FY23 REVENUES = \$242.6M



# FY23 EXPENSES & REVENUE BY FUND



# CHANGES IN FY23 EXPENSES



|        | Personnel  | O&M        | Capital     | Debt Service | Interfund Transfers |
|--------|------------|------------|-------------|--------------|---------------------|
| FY22   | 24,208,034 | 39,751,545 | 147,266,131 | 12,709,678   | 3,067,502           |
| FY23   | 25,375,550 | 41,716,508 | 193,104,615 | 15,280,000   | 1,222,502           |
| Change | 1,167,516  | 1,964,963  | 45,838,484  | 2,570,322    | (1,845,000)         |

# NOTABLE FY23 O&M BUDGET CHANGES

## Personnel Changes

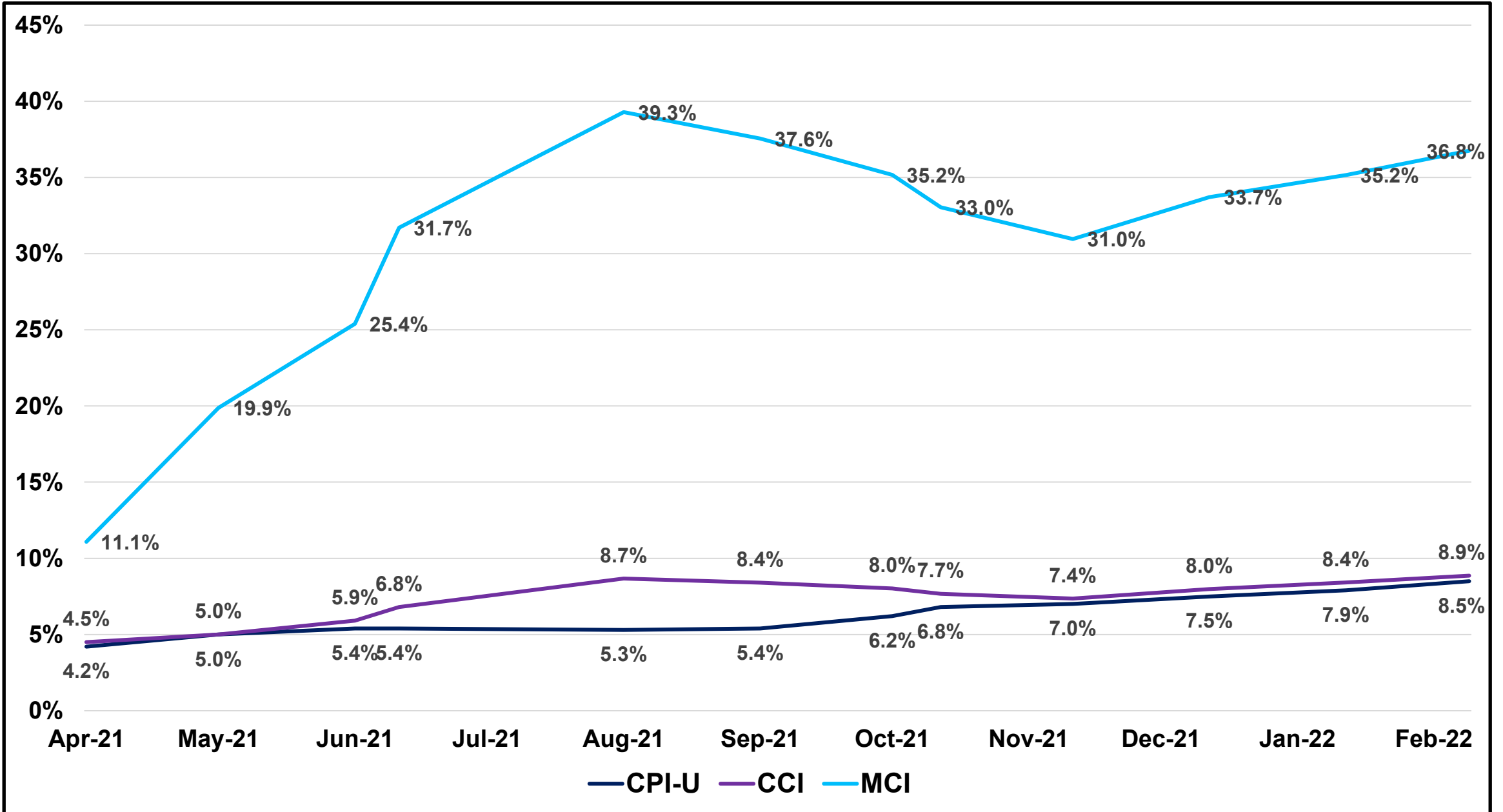
|                                  |     |
|----------------------------------|-----|
| FY22 Budgeted FTEs               | 262 |
| Asset Management Analyst         | +1  |
| Collection Workers (Solid Waste) | +2  |
| Concrete Crew (Street/Traffic)   | +3  |
| FY23 Proposed FTEs               | 268 |



## O&M Changes

|                           |           |
|---------------------------|-----------|
| Stormwater Program        | \$200,000 |
| Epoxy Paint Roundabouts   | \$210,000 |
| Solid Waste Containers    | \$300,000 |
| Landfill Litter Control   | \$100,000 |
| Fuel                      | \$640,800 |
| Water Meters              | \$360,000 |
| Pump Station Improvements | \$180,000 |

# INFLATION

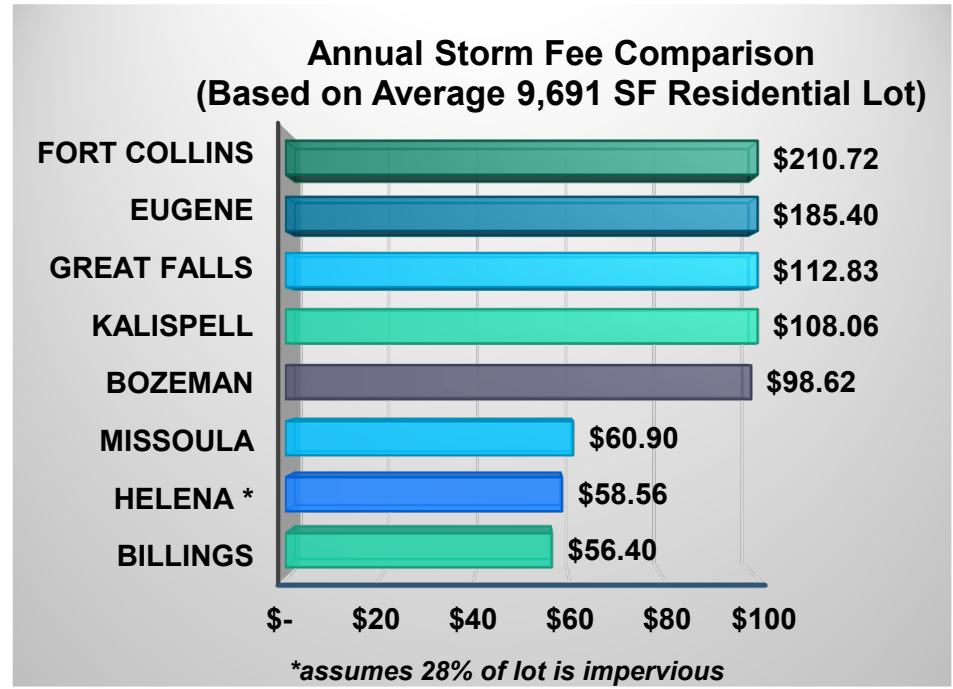
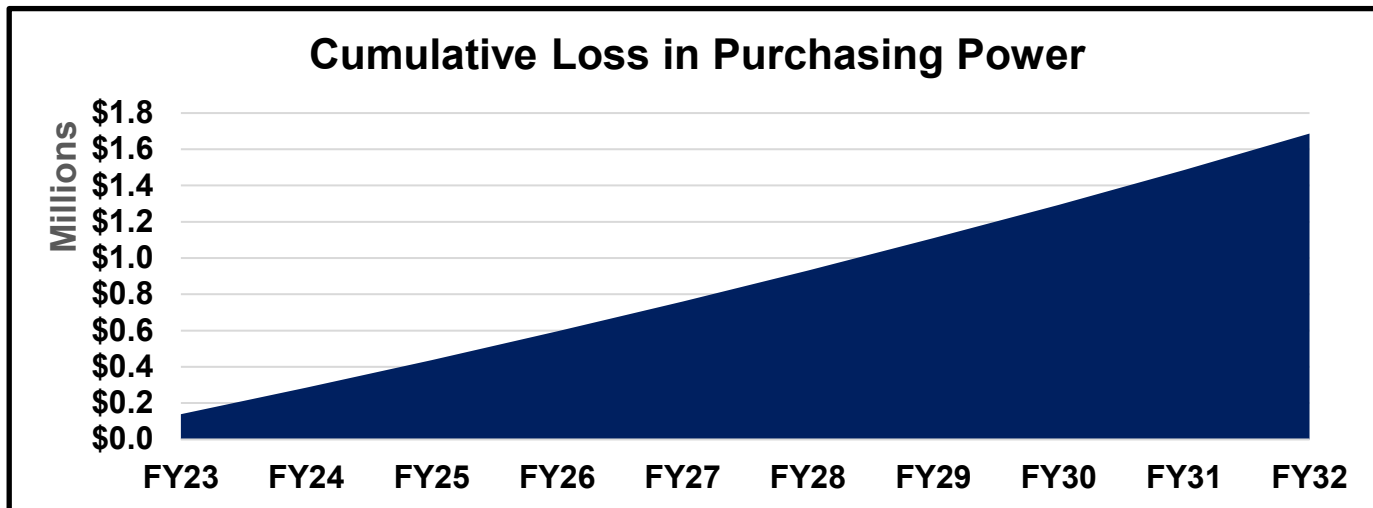


# PROPOSED FY23 FEES

## STORMWATER

- Currently generate \$4.8M in revenue
- Rate increases typically tied to Construction Cost Index (CCI) = 8.9%
- Proposed increase is 6%
- Generates additional \$288,000

|  | FY22           | FY23           | \$ Increase   |
|--|----------------|----------------|---------------|
| <b>Impact to Annual Average Residential Rate</b> | <b>\$53.20</b> | <b>\$56.40</b> | <b>\$3.20</b> |



# PROPOSED FY23 FEES STREET MAINTENANCE DISTRICTS (SMDs)



- Recommending eliminating arterial fee and combining with SMD 2

|   | SMDs  | Arterial  |
|---|---|---|
| <b>Current Revenues</b>                 | \$9,420,000<br>• SMD 1 = \$320,000<br>• SMD 2 = \$9,100,000 | \$4,650,000   |
| <b>Typical Basis for Rate Increases</b> | Construction Cost Index (CCI = 8.9%)                        | Amount required to maintain current service levels (blend of CCI, CPI-U, MCI and previous year's budget to actual variance) |
| <b>Recommended Rate Increase</b>        | SMD 1 = 4.7%<br>SMD 2 = 5.9%                                | 6%  |

| SMD 2         | FY22         | Increase    | Residential Snow Adj. | Move Arterial to SMD | FY23         |
|---------------|--------------|-------------|-----------------------|----------------------|--------------|
| Arterial Fees | \$4,650,000  | \$279,000   |                       | \$(4,929,000)        | \$0          |
| SMD 2         | \$9,100,000  | \$837,000   | \$(300,000)           | \$4,929,000          | \$14,566,000 |
| Total SMD 2   | \$13,750,000 | \$1,116,000 | \$(300,000)           | \$0                  | \$14,566,000 |

# PROPOSED FY23 FEES

## STREET MAINTENANCE DISTRICTS

Assessment Options

Assessable Area

Street Frontage

Equal

Taxable Value

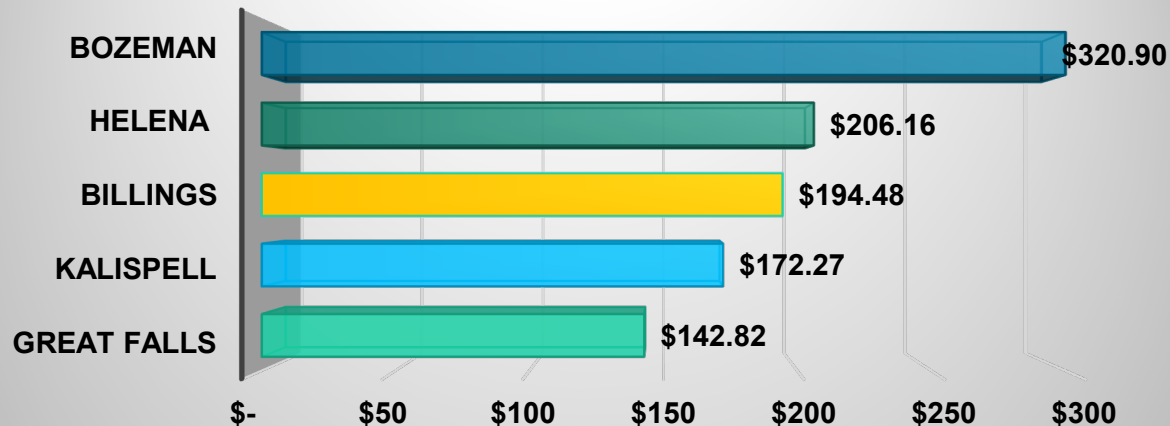
Vehicle Trips

Any Combination of Assessment Options

Estimated residential fee impacts

|                      | FY22     | FY23     | \$ Change |
|----------------------|----------|----------|-----------|
| <b>Arterial Fees</b> | \$53.76  | \$0      | \$(53.76) |
| <b>SMDs</b>          | \$129.83 | \$194.48 | \$64.65   |
| <b>Total</b>         | \$183.59 | \$194.48 | \$10.89   |

Annual SMD Fee Comparison  
(Based on 9,691 SF Residential Lot)

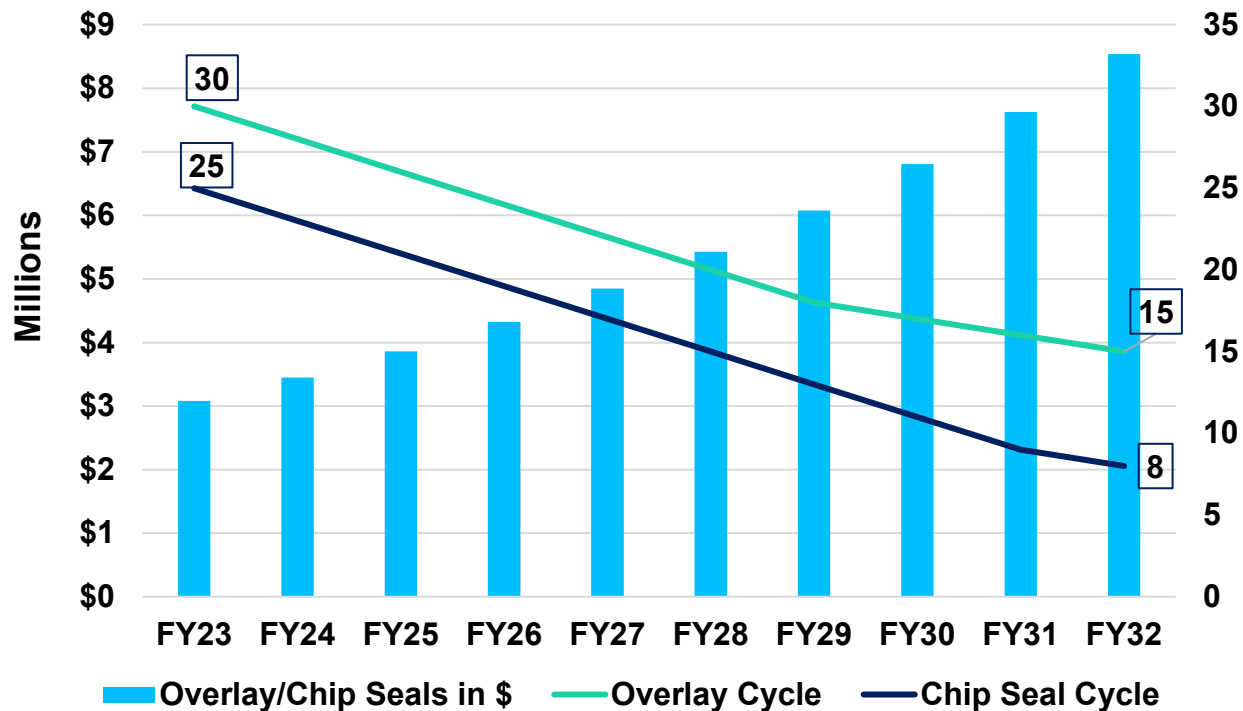


|                         | Arterial Fees             | SMDs           |
|-------------------------|---------------------------|----------------|
| Assessment Methodology  | Zoning and square footage | Square footage |
| Residential SF Cap      | 9,600 SF                  | None           |
| Vacant Cap              | \$1,260.00                | \$1,545.00     |
| Residential Rate        | \$.00560/sf               | \$.013397/sf   |
| Mixed Residential Rate  | \$.01087/sf               | \$.013397/sf   |
| Corridor Mixed Use Rate | \$.01331/sf               | \$.013397/sf   |

# PROPOSED FY23 FEES STREET MAINTENANCE DISTRICTS



**PAVER Program 10-Year Spending Plan to Reach Recommended Funding Cycles**



**An additional \$330,000 would be needed for FY23.**

**This would be an estimated \$4.40 more per year for the average residential property owner in FY23.**

# PROPOSED FY23 FEES

## SOLID WASTE

| Waste Collection           | FY22     | FY23     |
|----------------------------|----------|----------|
| Monthly residential        | \$11.82  | \$12.45  |
| Commercial 8 yard, 2x/week | \$141.82 | \$149.34 |
| Roll-off                   | \$174.00 | \$185.00 |

| Landfill   | FY22    | FY23    |
|--|---------|---------|
| Landfill fee per ton – Billings                  | \$22.00 | \$23.50 |
| Landfill fee per ton – outside Billings          | \$33.00 | \$35.25 |
| Landfill fee per ton – out of state w/ surcharge | \$44.07 | \$47.00 |

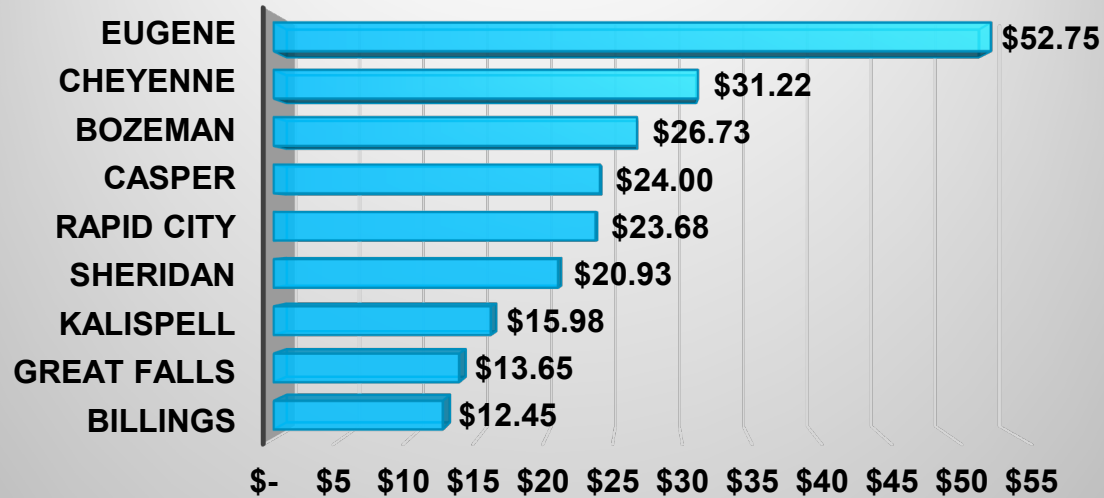


# PROPOSED FY23 FEES

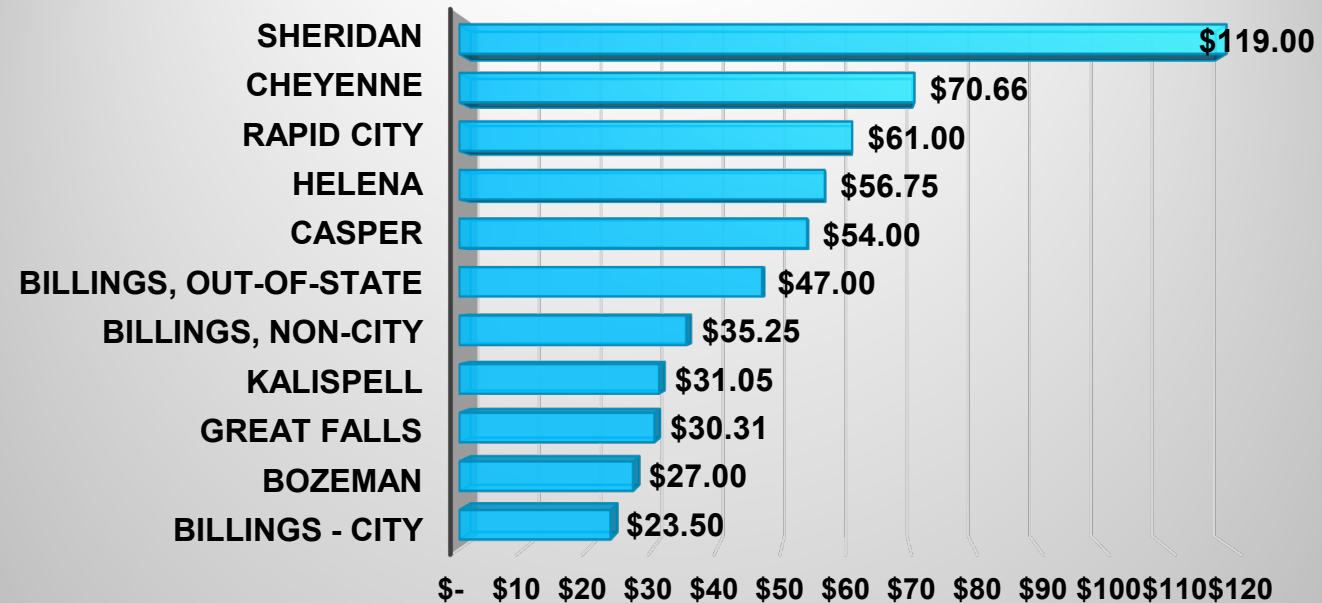
## SOLID WASTE



### Monthly Residential Collection Fees



### Landfill Fee Per Ton



# PROPOSED FY23 FEES

## WATER AND WASTEWATER

- Rates for FY22 and FY23 approved in May 2021
- Recalculated Heights Water District rates due to deferring west end project

|                        | FY22   | FY23<br>Previous | FY23<br>Revised |
|------------------------|--------|------------------|-----------------|
| Heights Water District | \$2.81 | \$3.68           | \$2.97          |

### Average Residential Monthly Bill

|                   | FY22    | FY23    | \$ Change |
|-------------------|---------|---------|-----------|
| <b>Water</b>      | \$38.06 | \$39.49 | \$1.43    |
| <b>Wastewater</b> | \$26.75 | \$27.37 | \$0.62    |
| <b>Total</b>      | \$64.81 | \$66.86 | \$2.05    |



# PROPOSED FY23 FEES

## TOTAL AVERAGE

## RESIDENTIAL IMPACT

| Property Tax Statement (Annually) | FY22            | FY23            | Change         |
|-----------------------------------|-----------------|-----------------|----------------|
| Storm                             | \$53.20         | \$56.40         | \$3.20         |
| Arterial Fee                      | \$53.76         | \$0             | \$(53.76)      |
| SMD                               | \$129.83        | \$194.48        | \$64.65        |
| <b>Total Assessments</b>          | <b>\$236.79</b> | <b>\$250.88</b> | <b>\$14.09</b> |

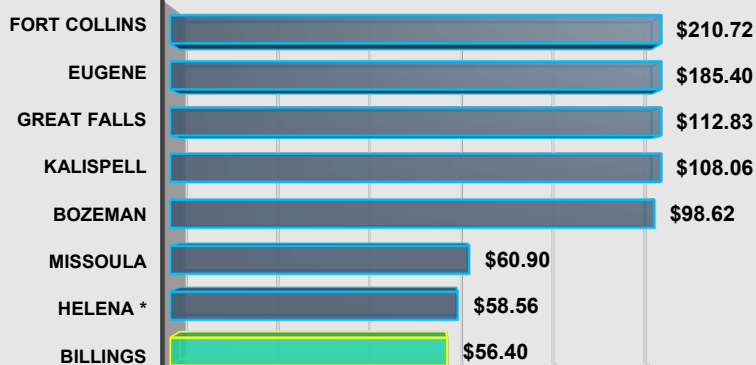
| Utility Bill (Monthly)    | FY22           | FY23           | Change        |
|---------------------------|----------------|----------------|---------------|
| Solid Waste               | \$11.82        | \$12.45        | \$.63         |
| Water                     | \$38.06        | \$39.49        | \$1.43        |
| Wastewater                | \$26.75        | \$27.37        | \$0.62        |
| <b>Total Utility Bill</b> | <b>\$76.63</b> | <b>\$79.31</b> | <b>\$2.68</b> |

**Total Public Works Fee Increases = \$46.25/Year or \$3.85/Month**



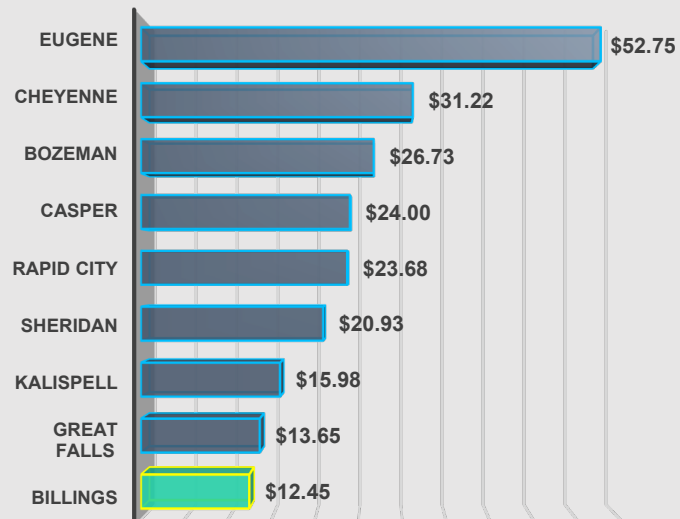
# PROPOSED FY23 RATE COMPARISONS

## Annual Storm Fee Comparison (Based on Average 9,691 SF Residential Lot)

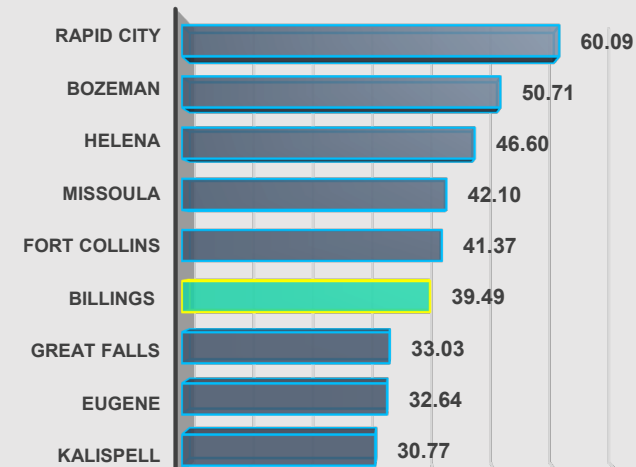


\*assumes 50% of lot is impervious

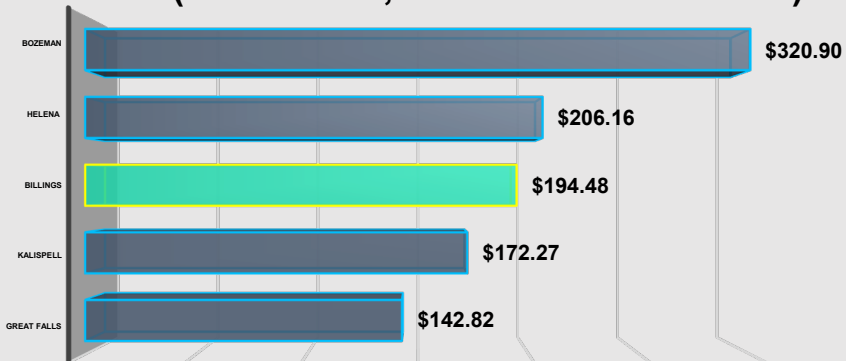
## Monthly Residential Collection Fees



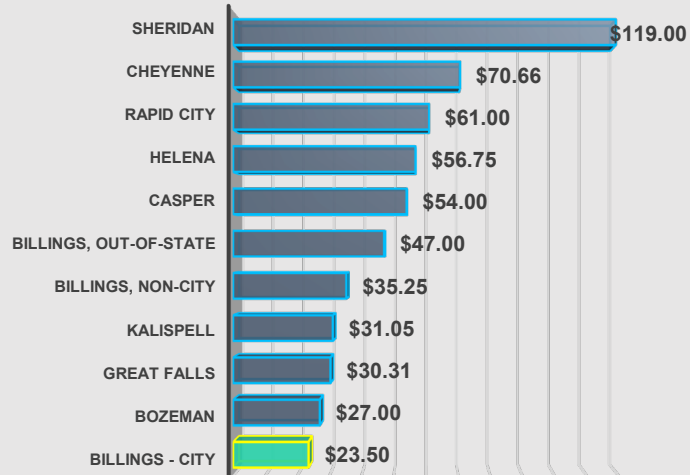
## Average Water Fees



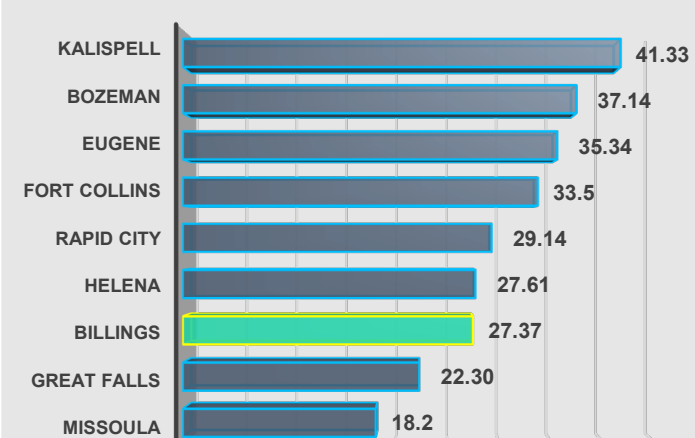
## Annual SMD Fee Comparison (Based on 9,691 SF Residential Lot)



## Landfill Fee Per Ton



## Average Wastewater Fees



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Integrity

# Thank You Q & A

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