

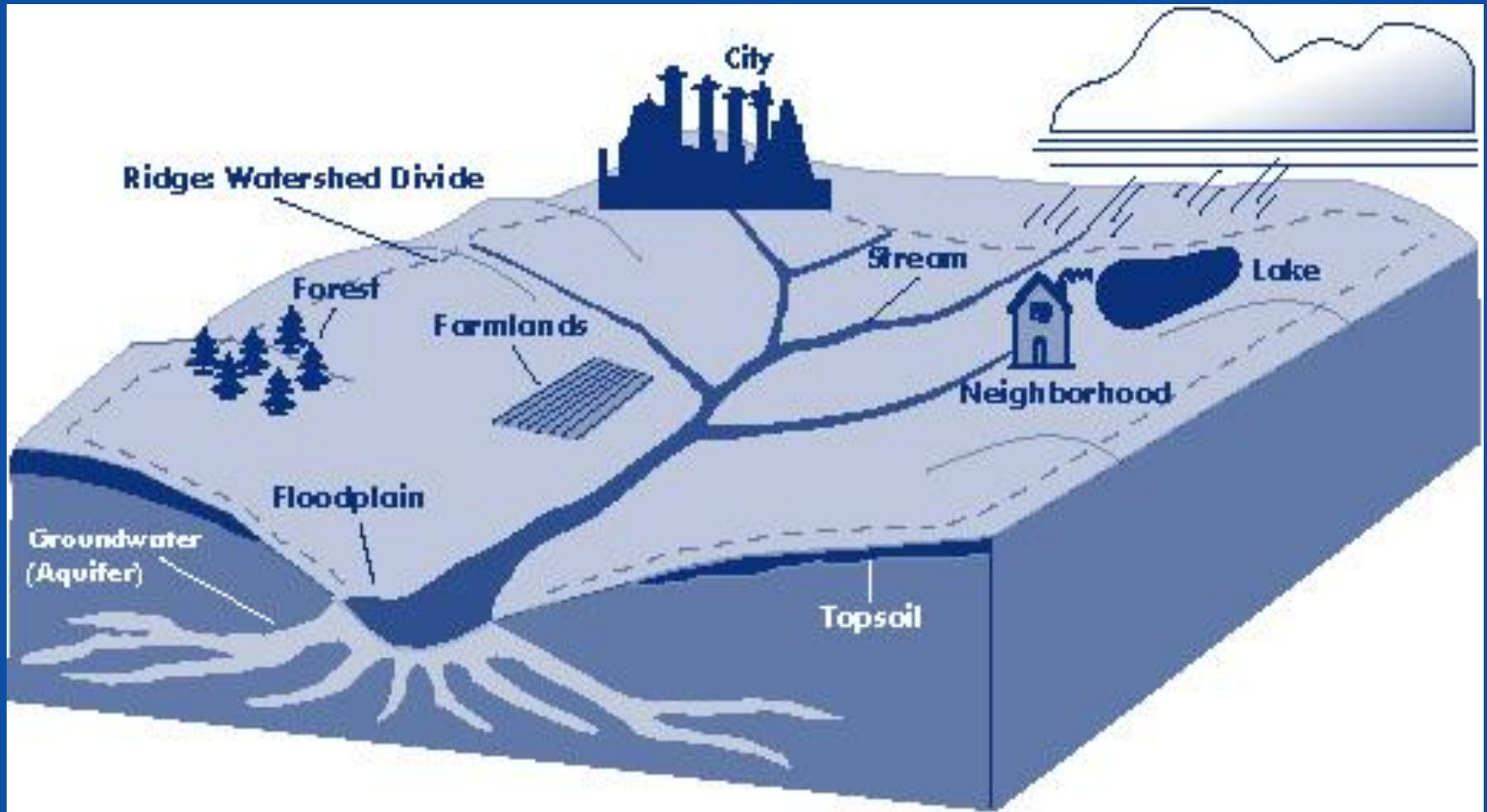


# WET WEATHER 101 BASICS



Our Water...Our Future

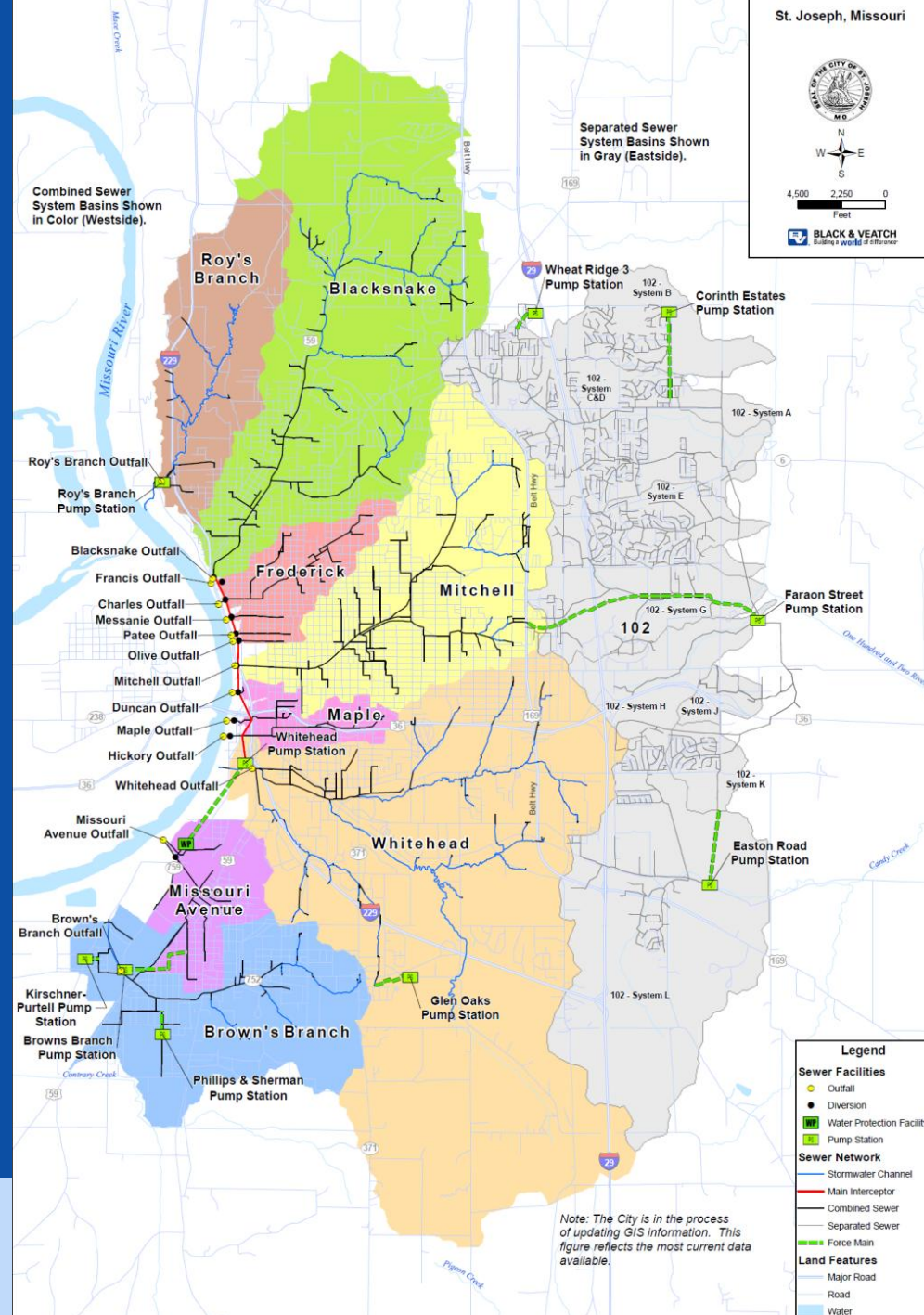
# What is a watershed?



# St. Joseph Sewer System

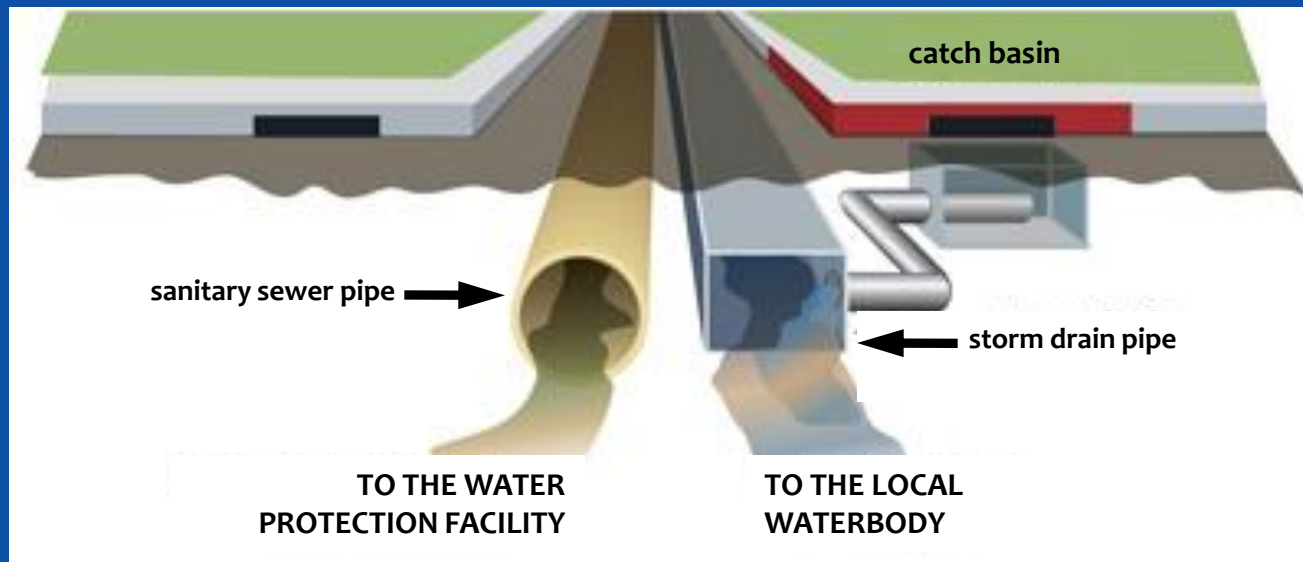
## 2 Types of Sewer Systems

- Separate Sewer System (Eastside)
- Combined Sewer System (Westside)



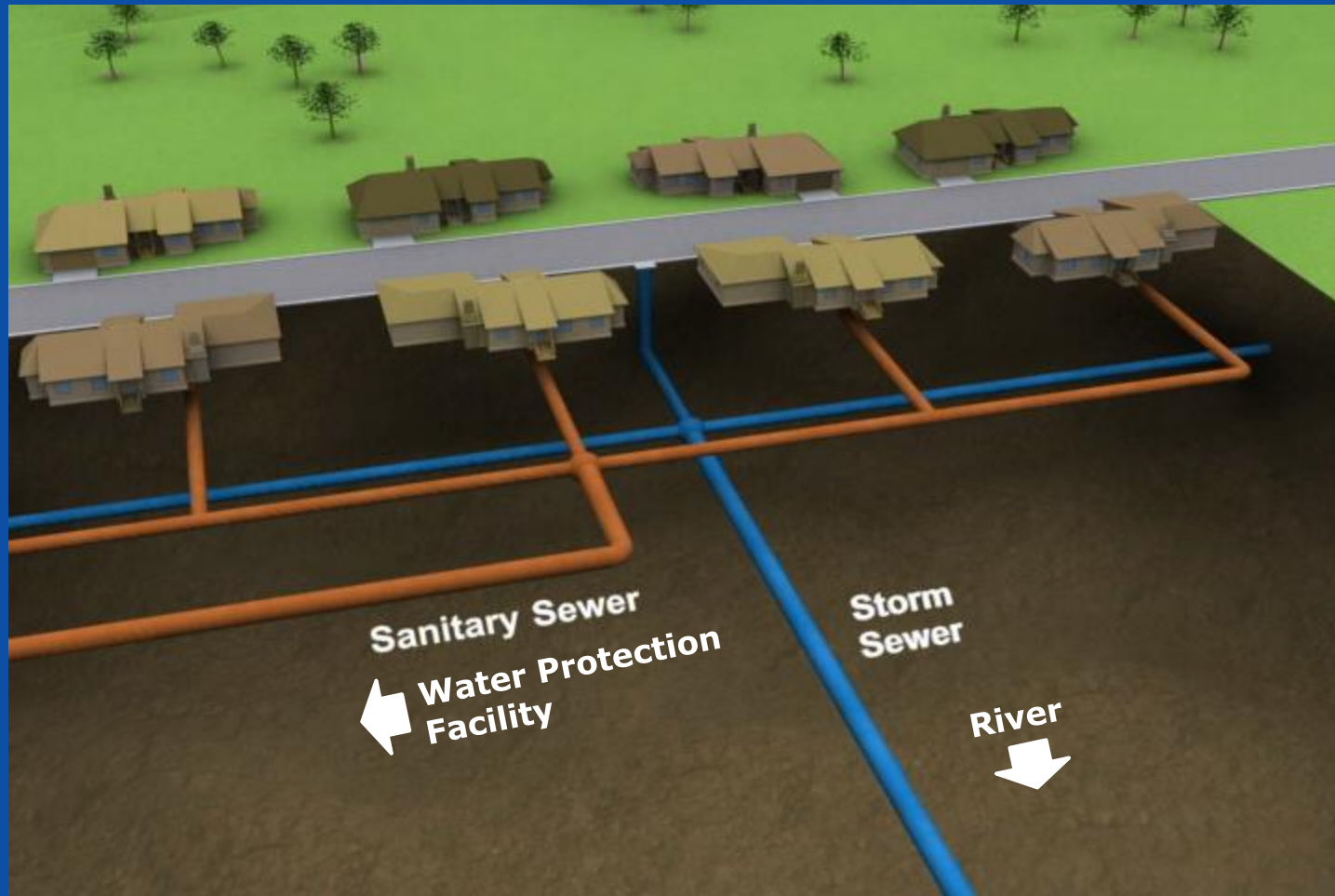
# Separate Sewer System

- One pipe system carries wastewater and another separate pipe system carries stormwater
- In St. Joseph- east of the Belt Highway



*Graphic courtesy of Colorado Department of Transportation*

# Separate Sewer System



*Graphic  
obtained from  
Kansas  
City, Missouri*

# Sanitary Sewers

- Carries wastewater away from homes and businesses
  - ▣ *Located in streets and easements*
- Collection of pipes for wastewater (used water from sinks, drains, and toilets)
- Conveyed to Water Protection Facility for treatment



# Sanitary Sewers

- Sewer system consists of:
  - ▣ *Sanitary sewer pipes- gravity pipes*
  - ▣ *Water Protection Facility (treatment)*
  - ▣ *Pumping Stations and Force Mains*

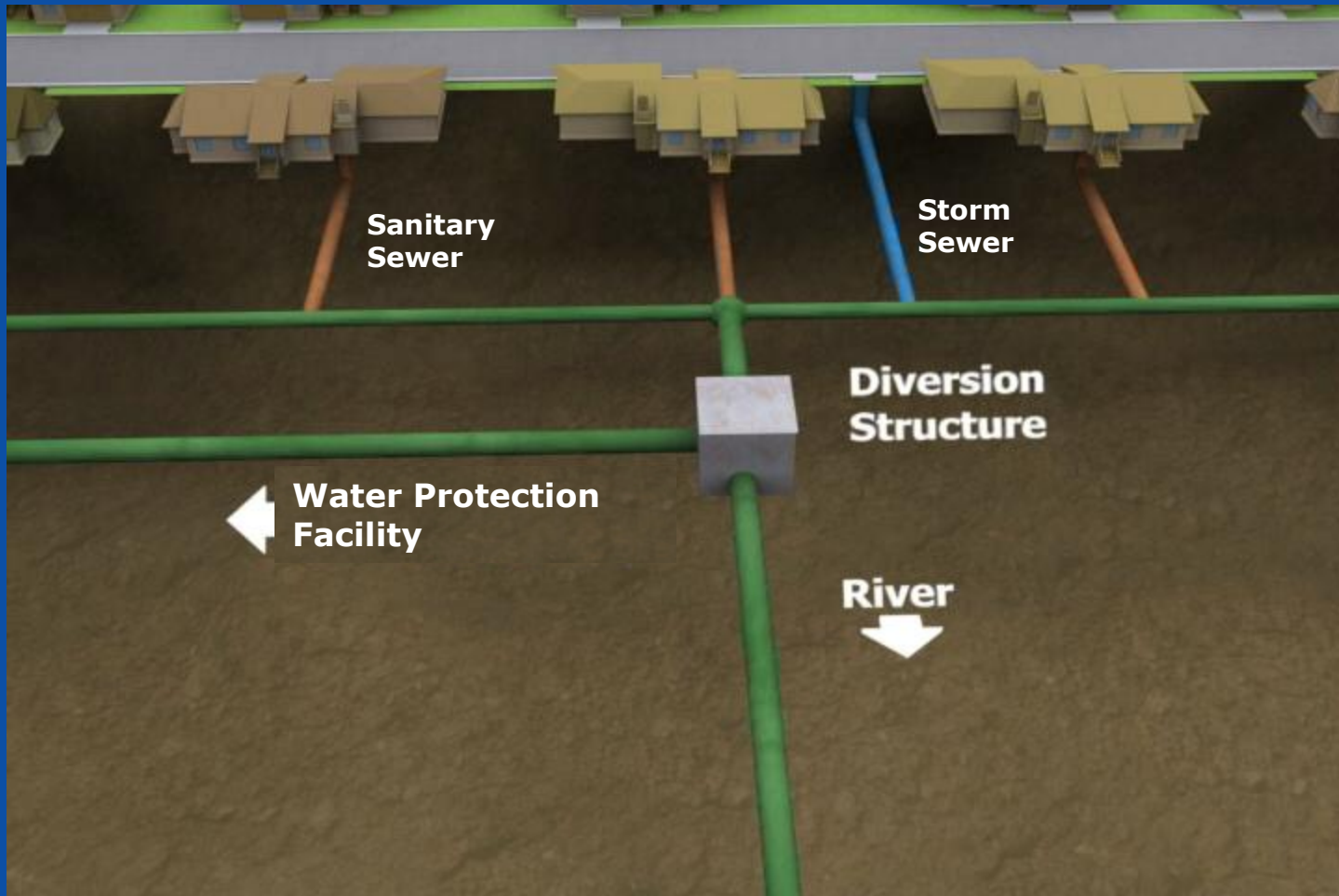


# Storm Sewers

- Collection of inlets and pipes
  - ▣ *Located in streets and easements*
- Carries stormwater and snowmelt away from streets, homes, and businesses
- Stormwater sent to various bodies of water (stream, lake, river)



# Combined Sewer System

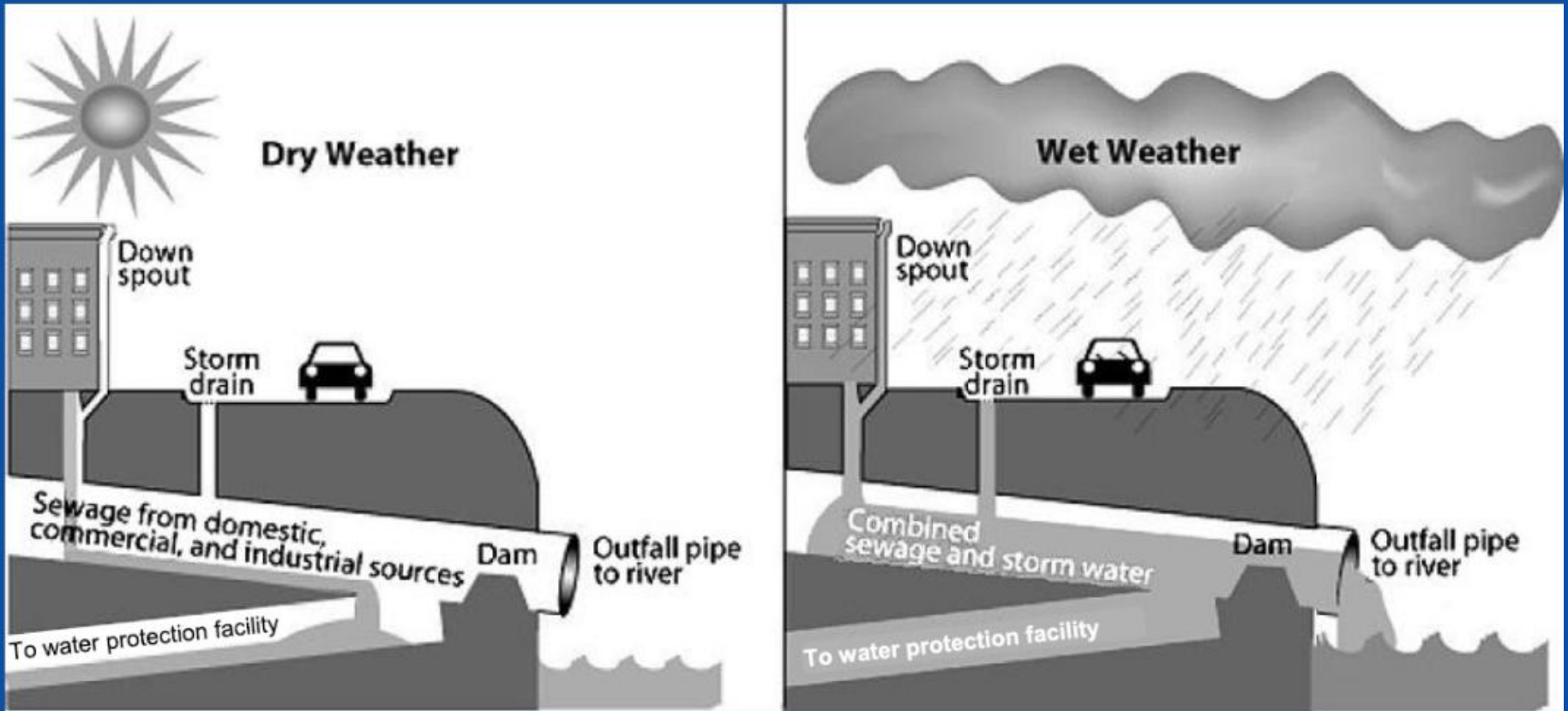


*Graphic obtained from Kansas City, Missouri*

# Combined Sewer System

- Designed to convey both stormwater and wastewater in the same pipe.
- During a heavy rain, the pipes may get too full and start to overflow into the Missouri River.
  - ▣ *Combined sewer overflow (CSO)*

# Combined Sewer System



# St. Joseph's Combined Sewer System

- 8 drainage basins covering 30 square miles are served by combined sewers
- 14 combined sewer overflow discharge locations (all along Missouri River)
- Sizes range from 18-inch sewer pipes to 20-foot box sewers, some over 100 years old

# What are the Combined Sewer System problems?

- Aging infrastructure
- Sewers undersized for peak flows when it rains
- Water quality impacts for receiving streams
  - ▣ *Stormwater Runoff*
  - ▣ *Sewer Overflows*



# Why is it a problem?

- Combined sewage flow rates are too high to be effectively treated at water protection facility, but overflows are too dirty to go directly to the river
- Combined sewer overflows may pose risks to human health from bacteria and threaten aquatic life and its habitat

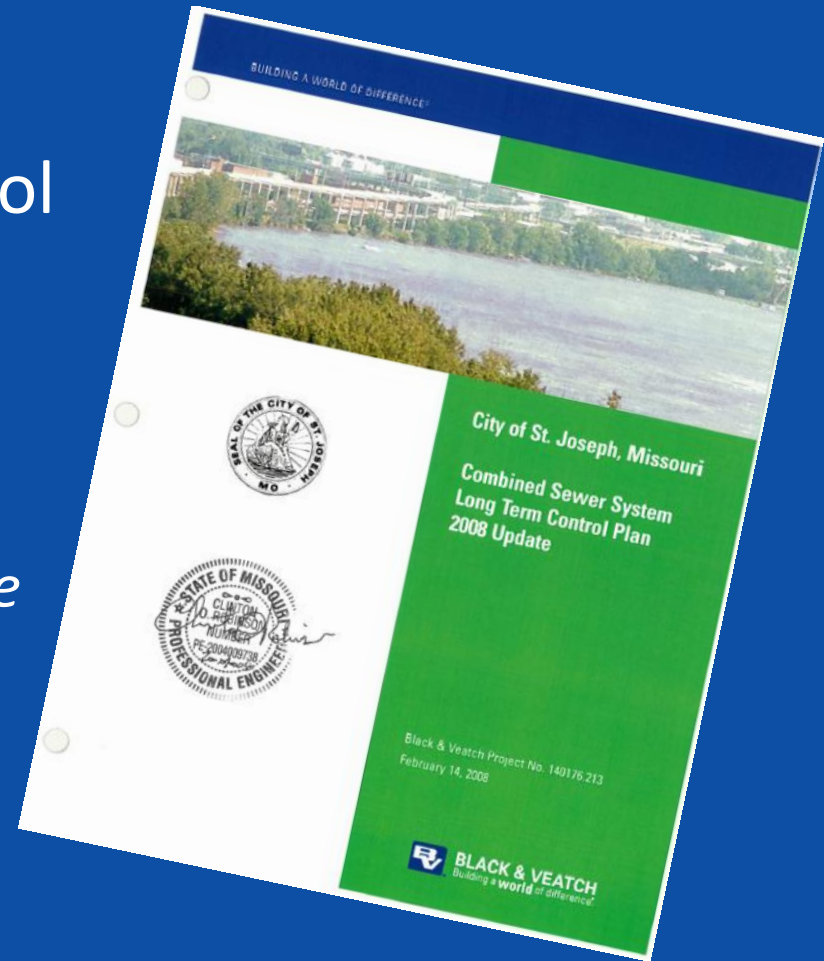


# Why is it a problem?

- St. Joseph is required to control the frequency and quantity of sewer overflows as regulated by:
  - ▣ *Clean Water Act*
  - ▣ *Missouri Department of Natural Resources (MDNR) and the U.S. Environmental Protection Agency (EPA)*

# What has been done?

- In February 2008, St. Joseph submitted a long term control plan to MDNR & EPA.
  - ▣ *Details the City's plans to address the combined sewer overflow issues and to continue meeting regulatory requirements.*



# What are we going to do?

- Prepare Facilities Plan- three different, but related, assessment studies are being conducted:
  - ▣ *Combined Sewer Overflow Control Facilities Assessment*
  - ▣ *Water Protection Facilities Assessment*
  - ▣ *Stormwater Detention Basin Facilities Assessment*





# QUESTIONS?



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# SEWER USER FEES & CUSTOMER INFORMATION



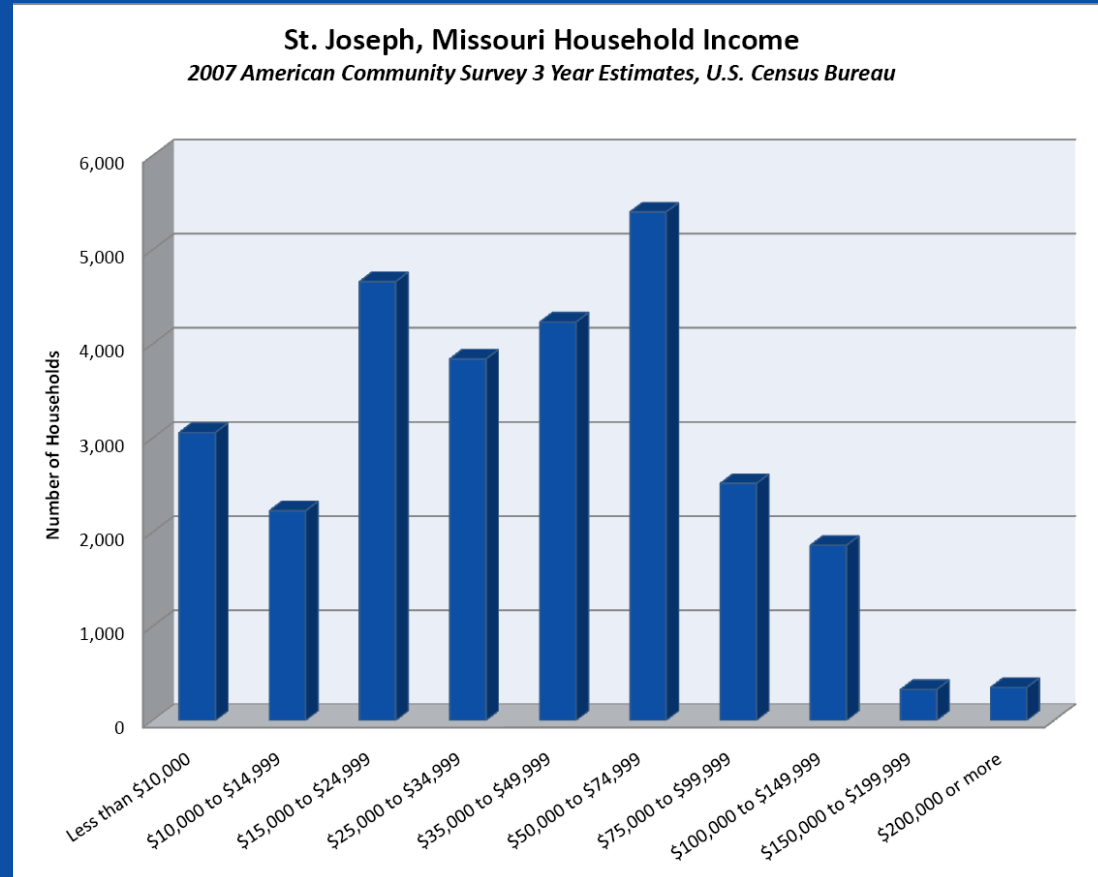
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# Background

- City maintains & operates stormwater & wastewater systems
  - ▣ *Residential & business customers*
- Operations funded entirely by fees, not taxes

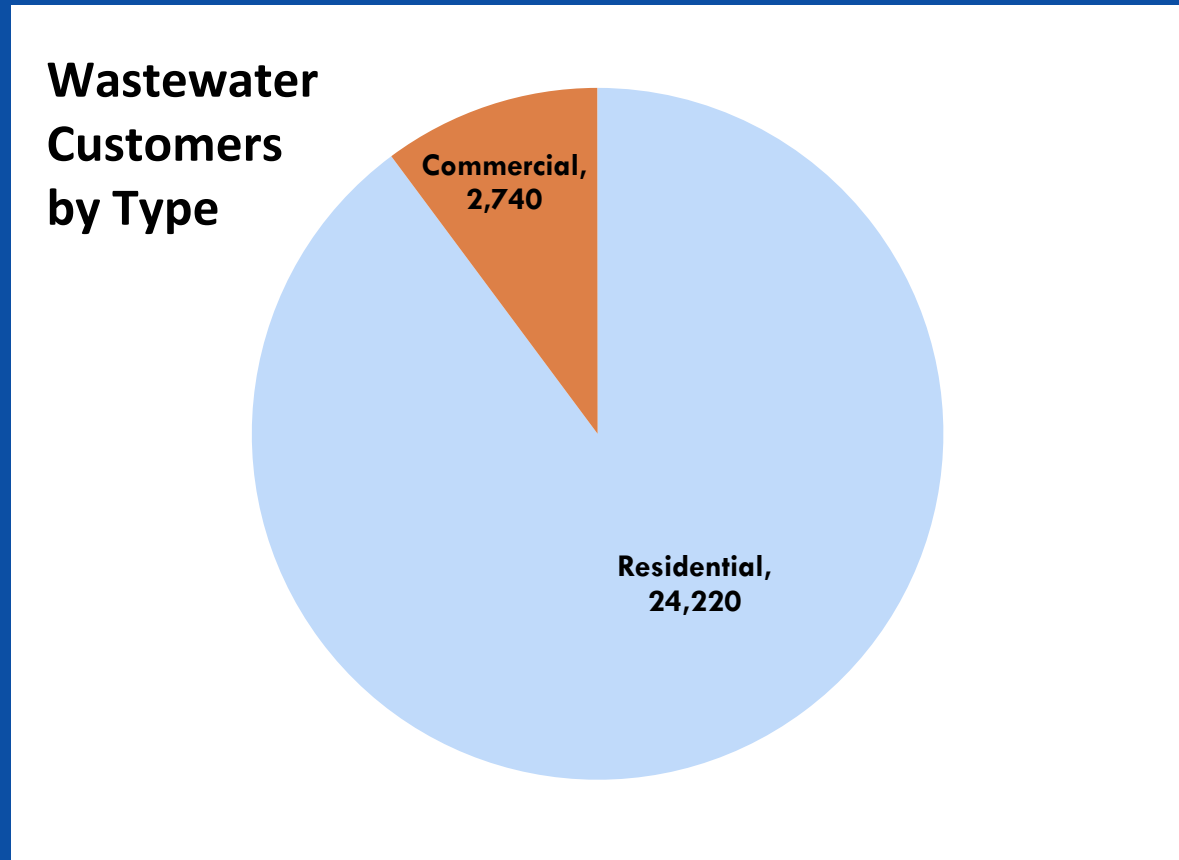
# St. Joseph Profile

- Median household income (2007) = \$36,101
- *Missouri* = \$44,545
- *National* = \$50,007



# Wastewater Customer Types

- Two types of wastewater customers
  - *Retail*  
(Commercial, Residential)
  - *Wholesale*

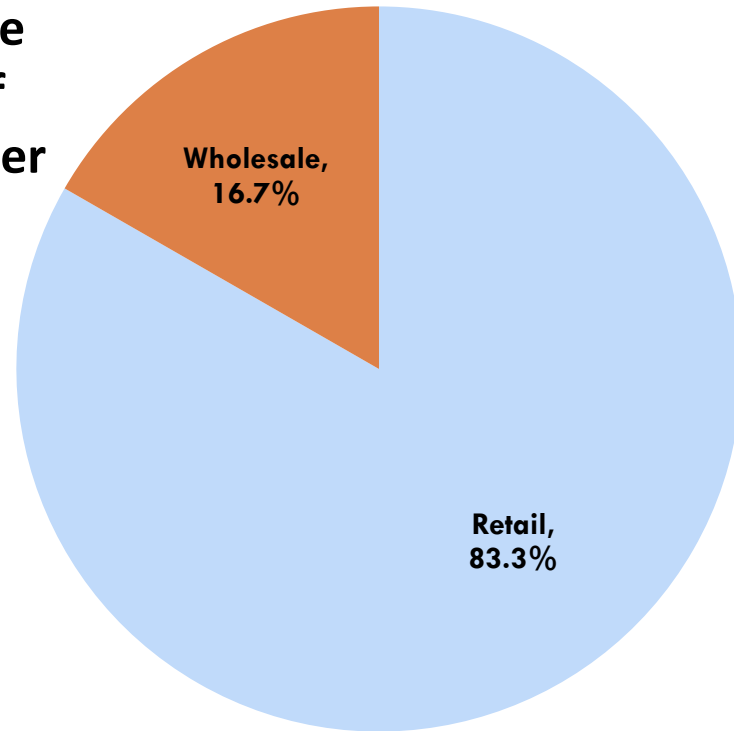


Wholesale customers are small in number (3), so they do not show up in this pie chart.

# Revenue by Type

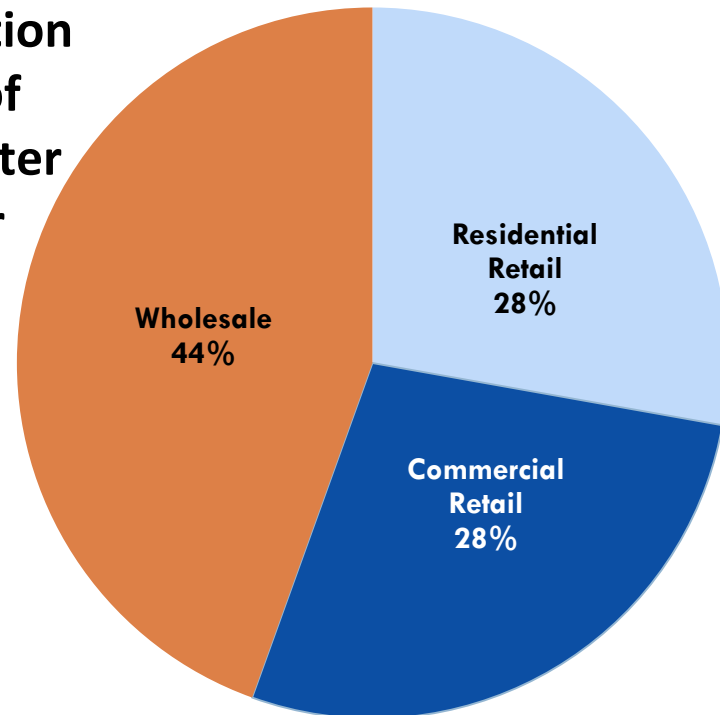
- Based on existing rates (effective October 1, 2008)

Percentage of Revenue by Type of Wastewater Customer



# Wastewater Volume Contribution

**Volume  
Contribution  
by Type of  
Wastewater  
Customer**



# Sewer User Fees

- Charges are the sum of:
  - ▣ *Costs for service,*
  - ▣ *Volume, and*
  - ▣ *Processing extra strength surcharges*

<i>Inside City Rates (rates effective October 1, 2008)</i>	
Monthly Service Charge	\$10.96
Volume Charge	\$1.89 per hundred cubic feet (ccf)
Excess Strength Surcharges	
<i>Biochemical Oxygen Demand Over 300 mg/l</i>	\$0.266 per pound
<i>Suspended Solids Over 350 mg/l</i>	\$0.210 per pound
<i>Fats, Oils, &amp; Grease Over 100 mg/l</i>	\$0.089 per pound
<i>Sulphides Over 15 mg/l</i>	\$0.272 per pound
<i>Outside City Rates (rates effective October 1, 2008)</i>	
Monthly Service Charge	\$25.72
Volume Charge	\$4.32 per hundred cubic feet (ccf)
Excess Strength Surcharges	
<i>Biochemical Oxygen Demand Over 300 mg/l</i>	\$0.396 per pound
<i>Suspended Solids Over 350 mg/l</i>	\$0.498 per pound
<i>Fats, Oils, &amp; Grease Over 100 mg/l</i>	\$0.204 per pound
<i>Sulphides Over 15 mg/l</i>	\$0.628 per pound

# Sewer User Fees, continued

- Current rates became effective October 1, 2008
  - ▣ *Average household rate \$22.30*
- Rates will be adjusted July 1, 2009
  - ▣ *New Average household rate \$26.54*
- Rate adjustments must be approved by City Council



# QUESTIONS?



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# POTENTIAL REVENUE SOURCES



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# Funding Overview

- ❑ Philosophy adopted should be consistent with the utility management program and state law.
- ❑ Adequate, stable, and equitable funding are some of the keys to success.
- ❑ A mix of methods may be best suited for some components of the program.

# Potential Revenue Sources

- Utility Fees
  - ▣ *Wastewater Fees*
  - ▣ *Stormwater Fees*
- Sales Tax
- Property Tax
- Special Assessments
- In-lieu of construction fees
- System development charges
- Plan review, development inspection, & special inspection fees
- Developer extension/latecomer fees
- Federal and state funding opportunities

# Utility Fees (Current Approach)

- Directly relate to the purpose of the utility program.
- Costs apportioned in a fair and reasonable manner.
- Current wastewater fees are based on water usage, with summer adjustment.

# Sales Tax (Possible Approach)

- Ask voters to approve sales tax authorized by the State but not in use.
- Seek statutory authority for a new sales tax (requires state authorization, then voter approval).

# Sales Tax — other possibilities

- Include general statutes, available for a variety of expenses.
- Require voter approval.
- ½ cent capital improvements sales tax.
- ½ cent stormwater/parks sales tax.

# Property Tax (Possible Approach)

- Stable revenue source.
- Requires reallocation of current resources or tax increase.
- Many properties that use the system are exempt from property tax.

# Special Assessments

- Work well for certain applications, not as a primary funding source.
- Distributed costs must be proportional to the benefit to each property.
- Have been used with property owners on septic systems to connect with public sewer.

# In-Lieu of Construction Fees

- ❑ Substitute for required fees.
- ❑ Reduce the ratepayer's burden of funding regional systems.
- ❑ Do not typically provide sufficient funding for regional facilities.

# System Development Charges

- Recover a fair share of prior public infrastructure investments when a developer makes use of the infrastructure.
- Mechanism for developers to pay for capacity built into the public system in anticipation of their needs.

# Plan Review, Development

## Inspection, and Special Inspection Fees

- Required during construction or an on-going basis to ensure systems are properly maintained & not altered.
- Costs are apportioned only among those who require a specific service.

# Developer Extension/Latecomer Fees

- Distribute capital costs over several properties when facility is built by one developer.
- Latecomers pay the original developer to use the facility.

# Federal & State Funding Opportunities

- Federal involvement typically limited to advisory assistance, cooperative program, and emergencies.
- State revolving loan program.
- Several bills currently in Congress.

# Financing Strategies

- Pay-As-You-Go.
- Pay-As-You-Use.

# Financing Strategies: Pay-As-You-Go

- ❑ Spend funds only when they are in hand.
- ❑ Do not require public vote.
- ❑ May not provide revenue needed for capital projects.
- ❑ Revenue stream less stable.

# Financing Strategies: Pay-As-You-Use

- Long-term debt.
- Most common method of funding capital projects.
- Generally restricted to large capital projects.
- Increased total cost because of interest expense.

# Types of Bonds

- General Obligation (GO) Bonds.
- Revenue Bonds.
- Double Barrel Bonds.



# QUESTIONS?



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