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# Sewer System Rehabilitation Engineering Services 2014

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ENVIRONMENTAL SERVICES  
CITY OF PORTLAND

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NICK FISH, COMMISSIONER | DEAN MARRIOTT, DIRECTOR

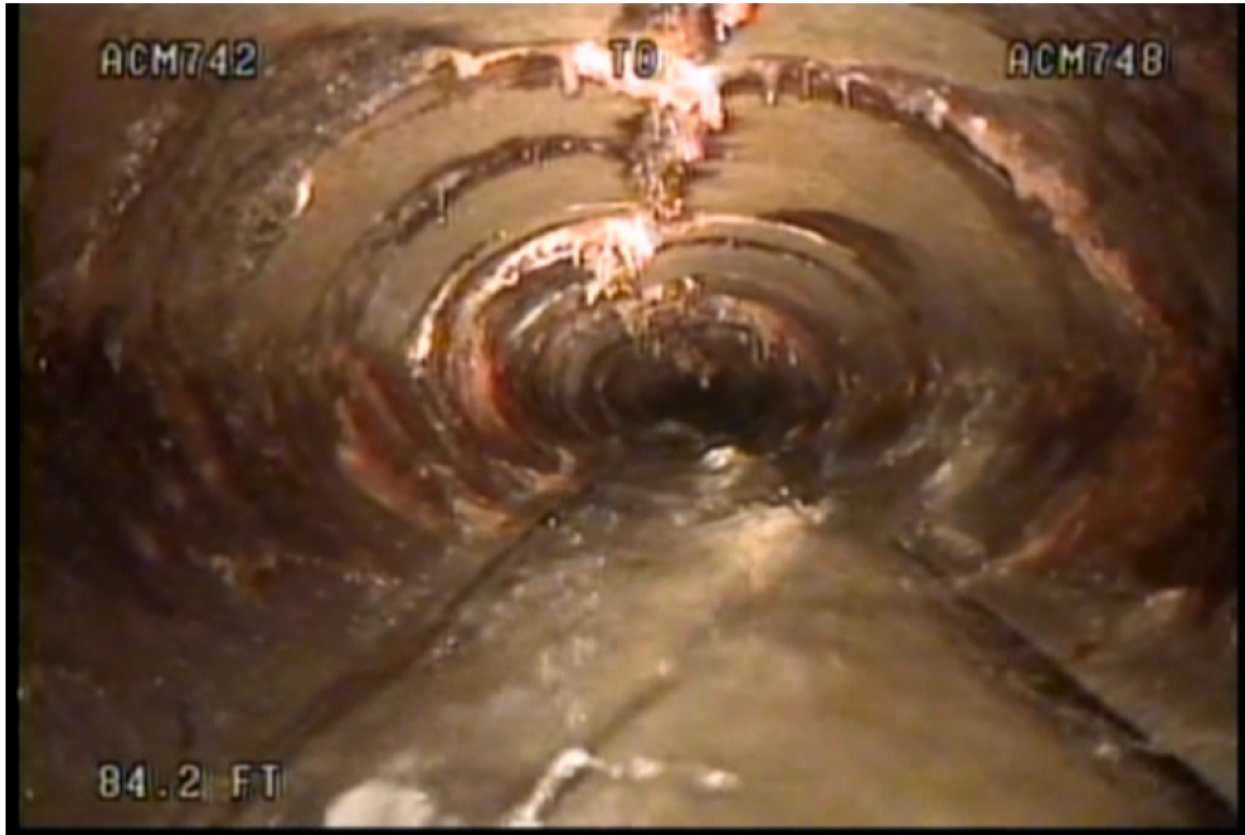
# System Needs



- The City owns, operates, and maintains over 2,500 miles of sanitary and combined sewer pipe
- More than one-third of those pipes are 80 years old or older
- The replacement value of these sewers is estimated at \$6.5 billion
- Pipe failure results in permit violations, property damage, and risks to human health



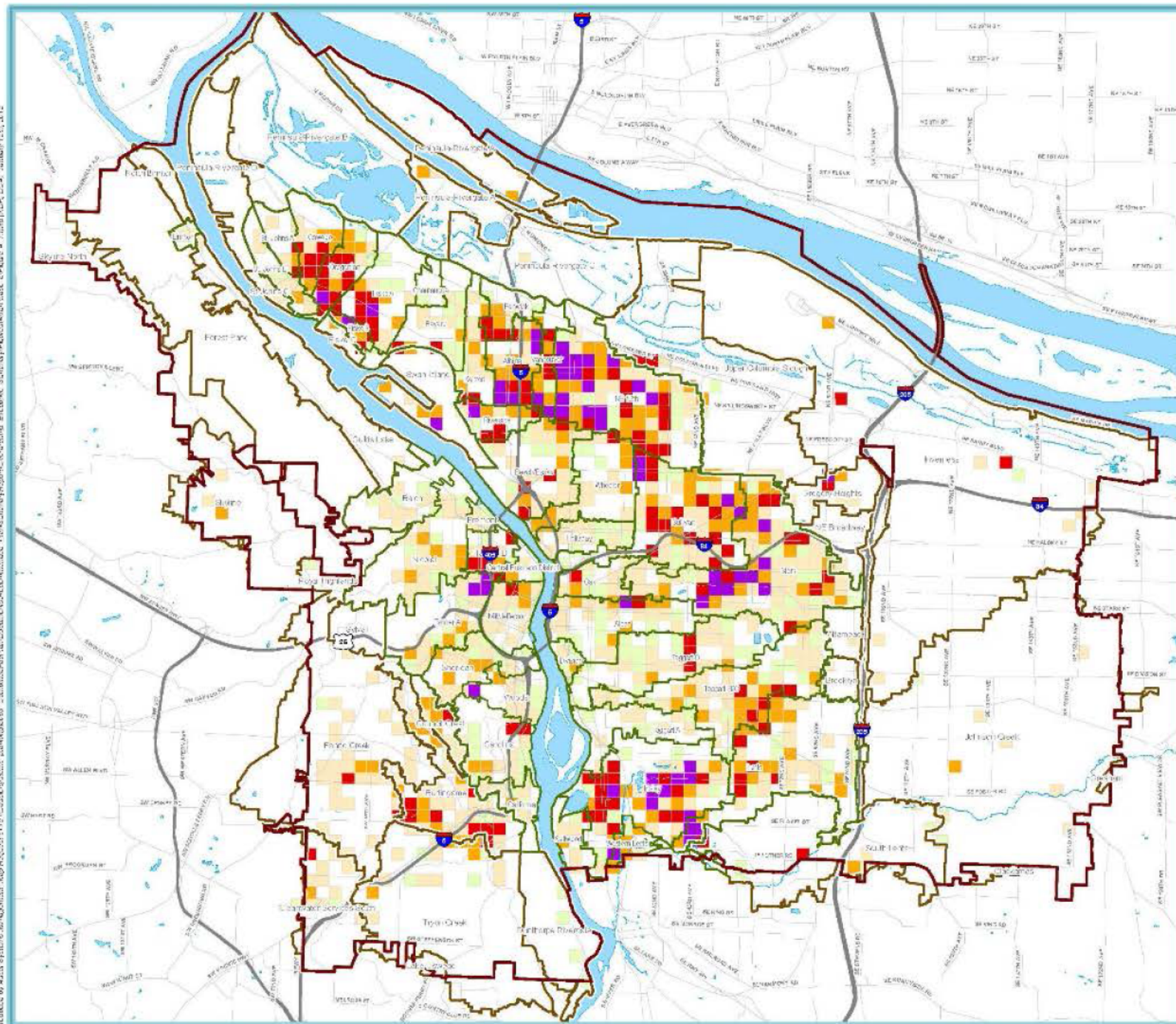
# Risk-Based Approach



- Sewers inspected by robotic cameras
- This data is coded into defects
- Algorithms estimate the failure risk and cost to repair
- Pipes are selected based on the cost benefit analysis
- Projects are then prioritized using this same system



Reviewed by: April 8, 2012; Approved by: April 10, 2012; Date: 4/10/2012; Title: Environmental Services - City of Portland - Present Worth of Structural Deficiency Risk - March 2012 - System Plan



**Map Elements**

- Urban Services Boundary
- Combined Sewer Basin Boundary
- Sanitary Sewer Basin Boundary

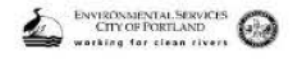
**Risk in Dollars per Acre**

- \$1,000 to \$5,000
- \$5,000 to \$25,000
- \$25,000 to \$50,000
- \$50,000 to \$100,000
- \$100,000 and Greater

1 in = 1.5 miles

**Figure 4-7**  
**Present Worth of**  
**Structural Deficiency Risk**

March 2012 - System Plan



# Challenges



- Minimize construction disturbances
- Communicate with community groups and individual property owners
- Construct high quality long lived infrastructure
- Optimize cost of construction
- Coordinate with other bureaus



# Example Project

## Kenton Sewer Repair Project

Estimated project cost: \$2.6 million



Replace 7,000 feet of public sewer pipes to help protect the public and environment by reducing the possibility of sewage releases to homes, businesses and streets.



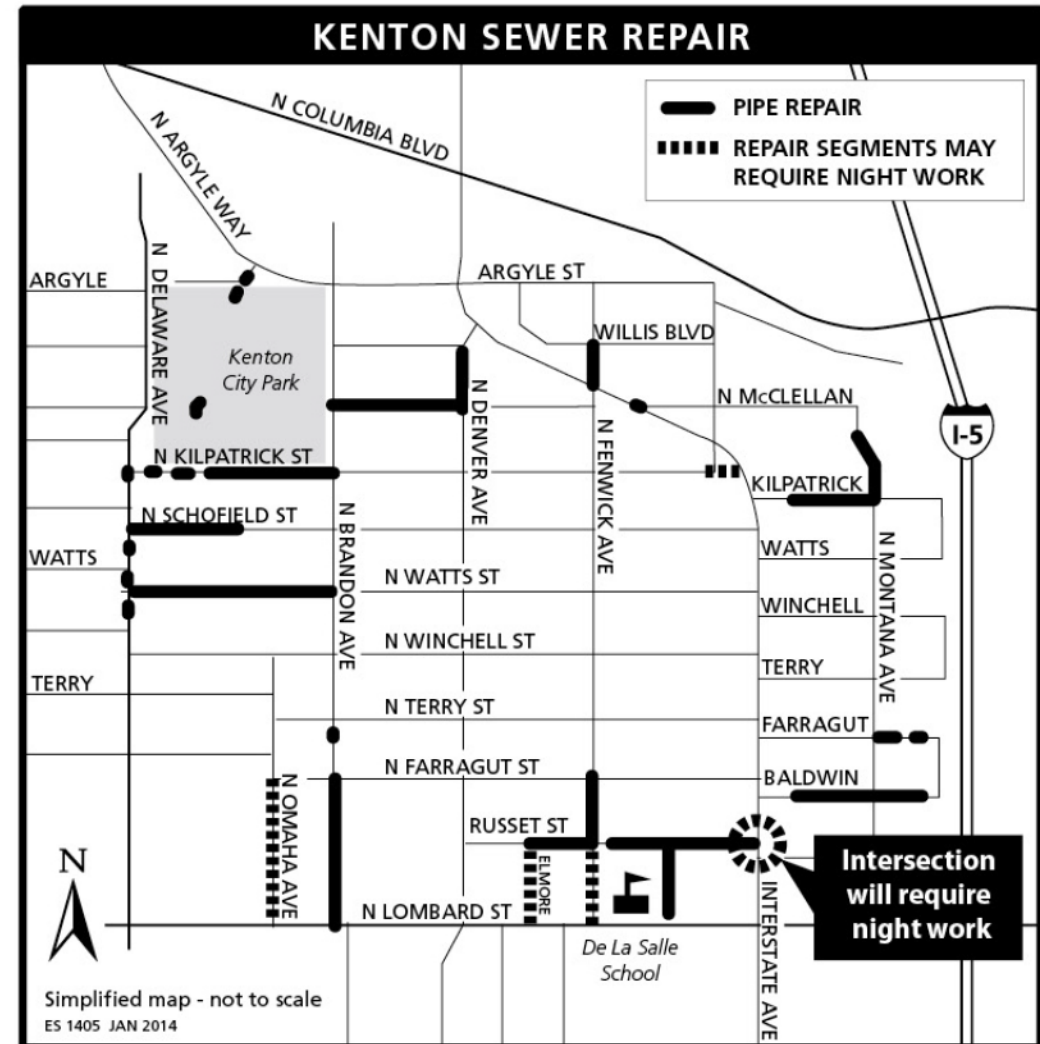
Existing pipes are 80-90 years old and failing due to age.



Add 1,450 feet and repair 2,200 feet of service laterals connecting houses and businesses to the new public sewer



Repair/Replace 30 manholes to improve maintenance access.



# Selection Process

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- Qualifications based process
- Three firms selected
  - Brown and Caldwell
  - Kennedy/Jenks Consultants
  - Murray, Smith & Associates
- Associated subconsultants provide related services



# Consultant Scope is for Design and Related Services

- Project management
- Surveying
- Civil engineering
- Geotechnical engineering
- Constructability planning
- Pipe rehabilitation methods and costs
- Permitting
- Traffic management
- Utility coordination





# MWESB Participation

- Aspirational goal: At least 20% utilization of certified MWESB firms
- 35% anticipated participation
- Potentially \$3 million in fees
- 24 M/W/ESB subconsultants included as team resources
- M/W/ESB Services typically include:
  - Public involvement
  - Contaminated media management
  - Geotechnical engineering
  - Surveying
  - Drafting



## Rose City Park Sewer Repair Project

MARCH 2013

*Next year, Environmental Services will replace deteriorating sewer pipes in the Rose City Park and Madison South neighborhoods. Many of these sewer lines are more than 80 years old. Construction is anticipated to begin in spring 2014 and take about one year.*

**What's Happening Now?**

Environmental Services is inspecting pipes and designing the repair project. Survey crews will start work in late March to collect information, walk through the area with early plans, and identify issues that might affect construction, such as the locations of overhead or underground utilities. In early April, survey work will gather information about soil conditions. Crews with one or two trucks will work on some streets in the neighborhood collecting soil samples. The sample collection takes about half a day at each location and will cause little disruption to neighbors. Check the detailed project map inside to see if there will be construction on streets near your home next year. In the meantime, you can get the latest project information at [www.portlandoregon.gov/bes/rosecitypark](http://www.portlandoregon.gov/bes/rosecitypark) or sign up to receive project updates by email.

**FOR MORE INFORMATION**

Contact Kelly Skelton,  
Public Outreach Coordinator  
from JLA Public Involvement  
on behalf of Environmental Services

**503-235-5881**  
[kelly@jla.us.com](mailto:kelly@jla.us.com)

To receive project updates by email,  
put "Rose City Park" in the subject line  
of your email message.

Get project background and  
schedule information at  
[www.portlandoregon.gov/  
bes/rosecitypark](http://www.portlandoregon.gov/bes/rosecitypark)

**Keeping You Informed**

Environmental Services works to keep businesses and residents informed before and during construction. Watch your mail for project updates or contact us to be added to our email notices list. We will also reach out directly to businesses and neighbors who may have unique construction impacts.

Over one-third of Portland's 2,500 miles of sewer pipes are more than 80 years old. Projects to replace or repair aging sewers are important for protecting water quality, public health, and the environment.

ROSE CITY PARK SEWER PROJECT

PROJECT BOUNDARY

NE EISENHOUT ST  
NE GUNN ST  
NE GURAN ST  
NE HALSEY ST  
NE SANDY BLVD  
NE SUND ST  
NE GORTWICK ST  
NE BOND AVE  
NE GUNN ST  
NE GURAN ST

Map of Rose City Park area showing streets and project boundary. Streets include NE Eisenhout St, NE Gunn St, NE Gurán St, NE Halsey St, NE Sandy Blvd, NE Sund St, NE Gortwick St, NE Bond Ave, and NE Gunn St. The project boundary is outlined in black.

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# Next Steps

- Work authorized to start in October
- Construction packages prepared
- Construction contracts approved in subsequent ordinances, Fall 2016
- Purchasing agents report on those procurements



# Questions?

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