# Technical Update to the Wastewater Master Plan - CAC #1

December 2, 2020

KELLER ASSOCIATES

City of Newberg

# Master Plan Updates

- Drivers
  - Riverfront Master Plan
  - Additional developments, improvements, planning information relevant to each utility included in the individual updates.
- Goals/Objectives
  - Reflect accepted Riverfront Master Plan data and recommendations in City master plans.
  - Incorporate additional developments, information into updates and recommended Capital Improvement Plans (CIP).
  - Infrastructure-Based Time Extension Request (IBTER)

# Project Overview

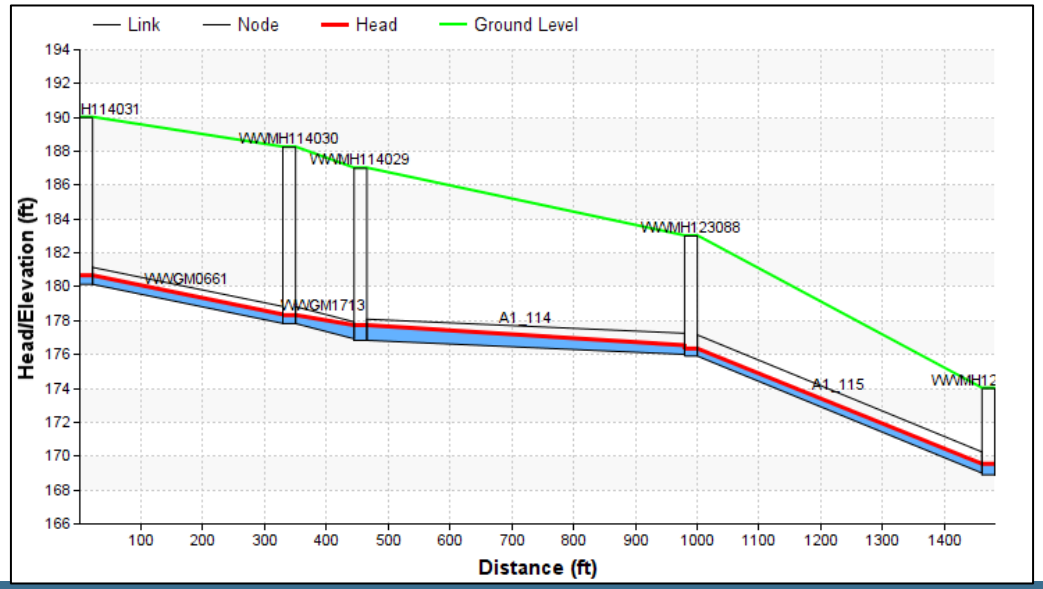
- Scope

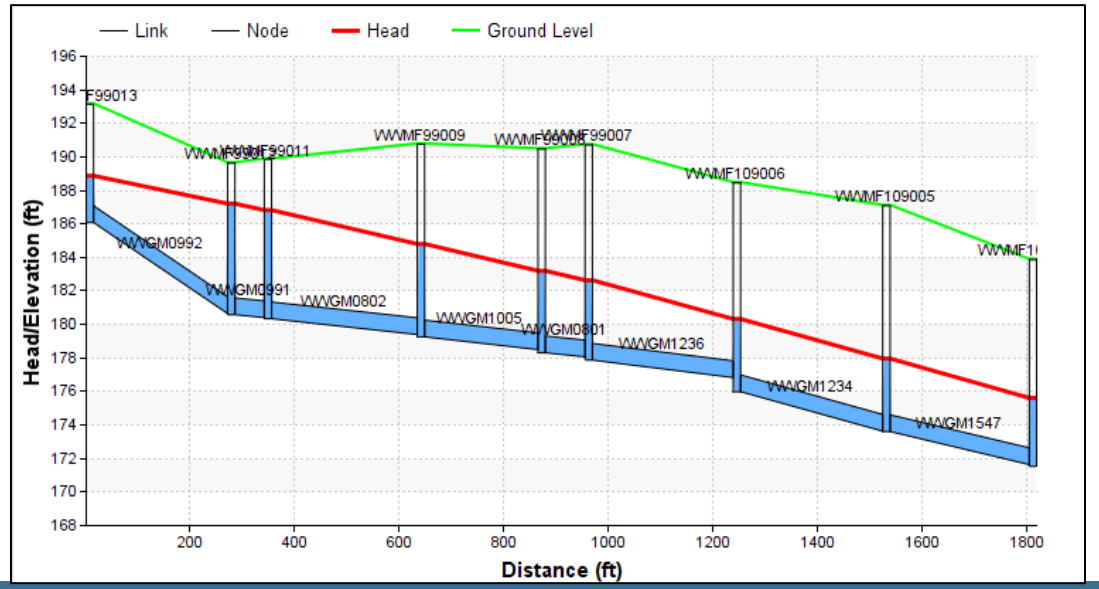
  - IBTER
  - Riverfront Master Plan
  - Additional Items
    - Evaluation Threshold Review
    - Riverrun Subdivision Addition
    - Springbrook Basin (Crestview Crossing/Drive)
  - Update Evaluation, Alternatives, and Capital Improvement Plan (CIP)
  - Public Review and Council Presentation
    - Citizen Advisory Committee (CAC)
      - Three (3) meetings
    - Planning Commission
    - City Council Work Session and Adoption

- Schedule
  - CAC #1 – today, 12/2/2020
  - CAC #2 – 1/7/2021
  - CAC #3 – 2/10/2021
  - Planning Commission – 3/11/2021
  - City Council Work Session – 4/5/2021
  - City Council Adoption – 4/19/2021

# Hydraulic Grade Line (HGL) and Surcharge

- The hydraulic grade line (HGL) is the surface or profile of water flowing in an open channel or a pipe flowing partially full. If a pipe is under pressure, the hydraulic grade line is the level water would rise to in a manhole connected to the pipe. Shown as red line in figures below.
- Surcharge occurs when the HGL exceeds the top (crown) of pipe. Seen in figure on the right below.

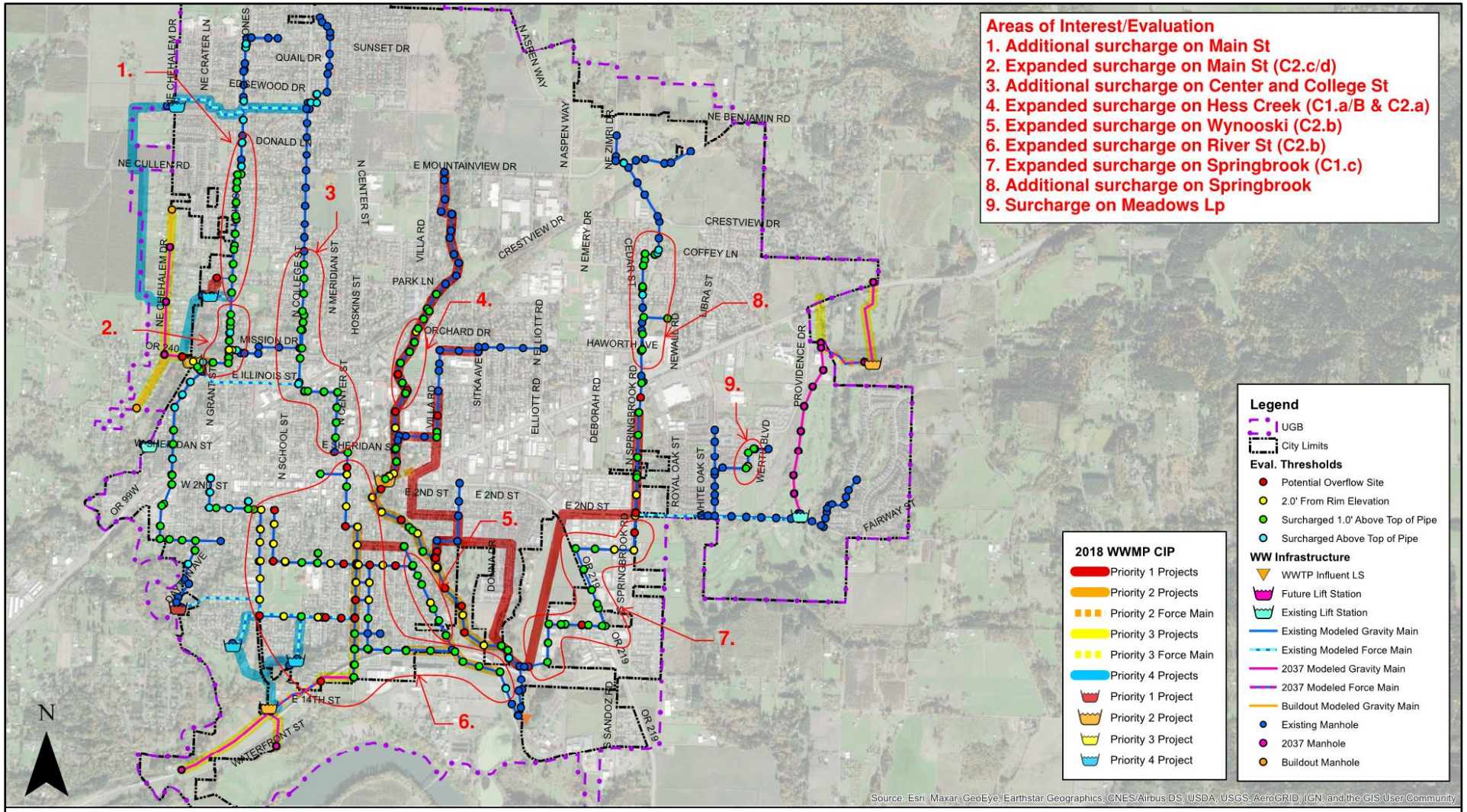


# Evaluation Threshold vs. Design Criteria

- Evaluation Threshold
  - Threshold that is used in study to identify deficiencies in infrastructure and trigger improvement projects.
  - Different thresholds can be used to help prioritize deficiencies in system.
  - Can progressively lower as make progress with improvements and in subsequent studies.
  - Options: 85% full pipe, top of pipe, 1-foot above top of pipe, **2-feet below rim**, at the rim
- Design Criteria
  - Standards that govern the design of improvements. Often included as part of the City Public Works Design Standards (PWDS).
    - Pipeline in the CIP would be sized to meet the design criteria.
  - Options: 60% full pipe, **85% full pipe and upsize**, 85% full pipe, top of pipe.

# Impacts of Evaluation Threshold Adjustment

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**Evaluation Threshold Comparison**

Wastewater Master Plan Update

City of Newberg OREGON

**Figure 1**

City of Newberg, OR
December 2020

City of Newberg

# Planning Criteria

- Collection system hydraulic evaluation
  - 5-year, 24-hour storm event peak flows
  - Evaluation threshold
    - CAC input today
  - Design Criteria (Recommended)
    - 85% full depth at peak flows
    - Major trunk lines may be upsized one additional, nominal pipe size
  - Pump stations evaluated at firm capacity
    - Largest pump offline (Oregon DEQ standard)

# Questions or Comments?

- Next Meeting (CAC #2) – Thursday, 1/7/2021 (proposed)
  - Subject: Updated System Capacity and Deficiencies Evaluation