

# CITY OF JOHN DAY SW 4<sup>TH</sup> AVENUE FLOOD REPAIR

SEPTEMBER 27, 2022

Buckner Creek



# 2019 Flood Damage

- Undermined SW 4<sup>th</sup> Avenue road base
- Resulted in 3-foot crack in pavement from road base
- Total loss of native vegetation in the creek
- Approx. \$1.5M in damage to John Day infrastructure





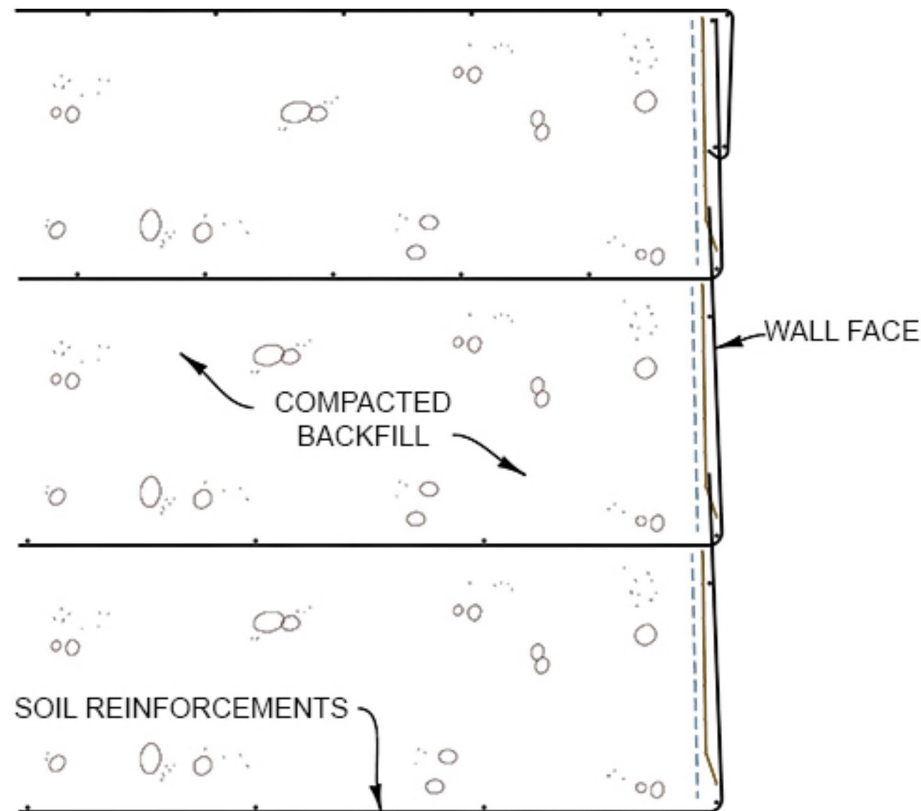
# Flood Damage to SW 4<sup>th</sup> Avenue

Exposed 23-foot vertical cut to the creek bed, single-lane closure from April 2019 through October 2022 (3.5 years)



# MSE welded-wire wall solution

- Welded Wire Wall is an inextensible, all-steel Mechanically Stabilized Earth (MSE) retaining wall system made up of ready-to-install L-shaped welded wire mesh mats placed within layers of compacted soil.
- The welded wire mats reinforce the soil, providing the tensile strength to make the compacted soil into a stable structure.





# September 1, 2022

Excavation begins on 4<sup>th</sup> Avenue to remove damaged road base





# Excavation process

- Sandbags are placed along creek to prevent erosion, sediment, and debris from entering Canyon Creek
- Construction staking for placement of Hilfliker MSE retaining wall





# Excavation

Bank removed to begin wall placement with compacted backfill





# First row placement

Sept. 23, 2022 – Toe excavated to allow placement of rip rap, root wads and native soil





# Second row placement

Sep 25, 2022 - Begins lifting road base above ordinary high water mark





# Third row placement

Sept. 26, 2022 – Third row begins





# Fourth row placement

Sept. 27, 2022 – Compaction begins for the fourth row





# Next steps

Remove sandbags NLT Sep 30<sup>th</sup> and complete bio-restoration, continue MSE retaining wall and final paving – Goal is restoration to pre-disaster condition with stabilized road base

