

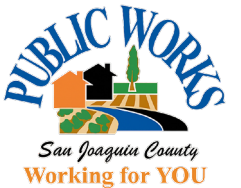
2026 APWA PROJECT OF THE YEAR AWARD – July 6, 2026



THORNTON **WATER** MAIN **LOOPING** PROJECT

Design Engineering and Construction Management:
San Joaquin County Public Works

Contractor:
United Pavement Maintenance, Inc.



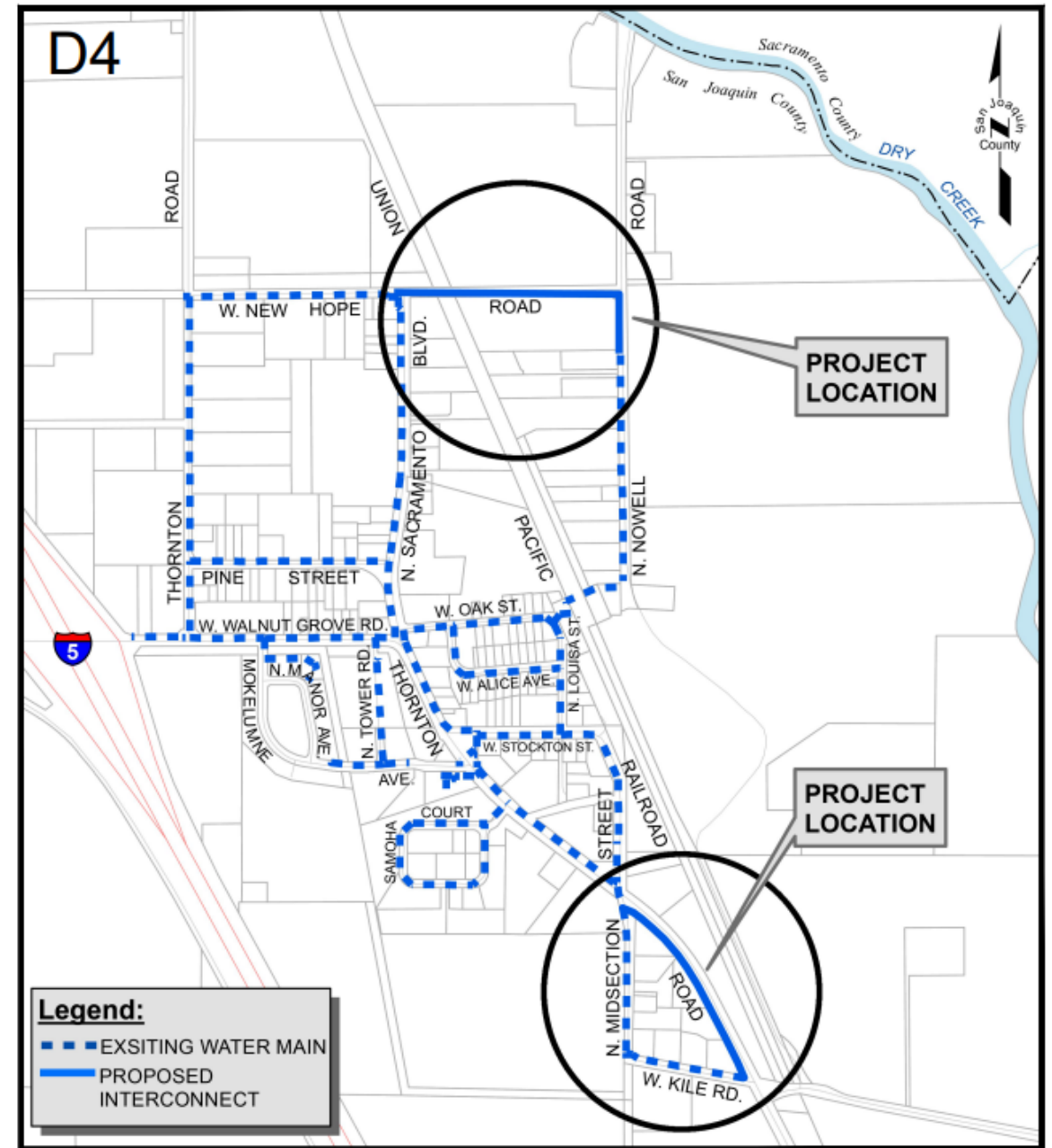
PROJECT OVERVIEW

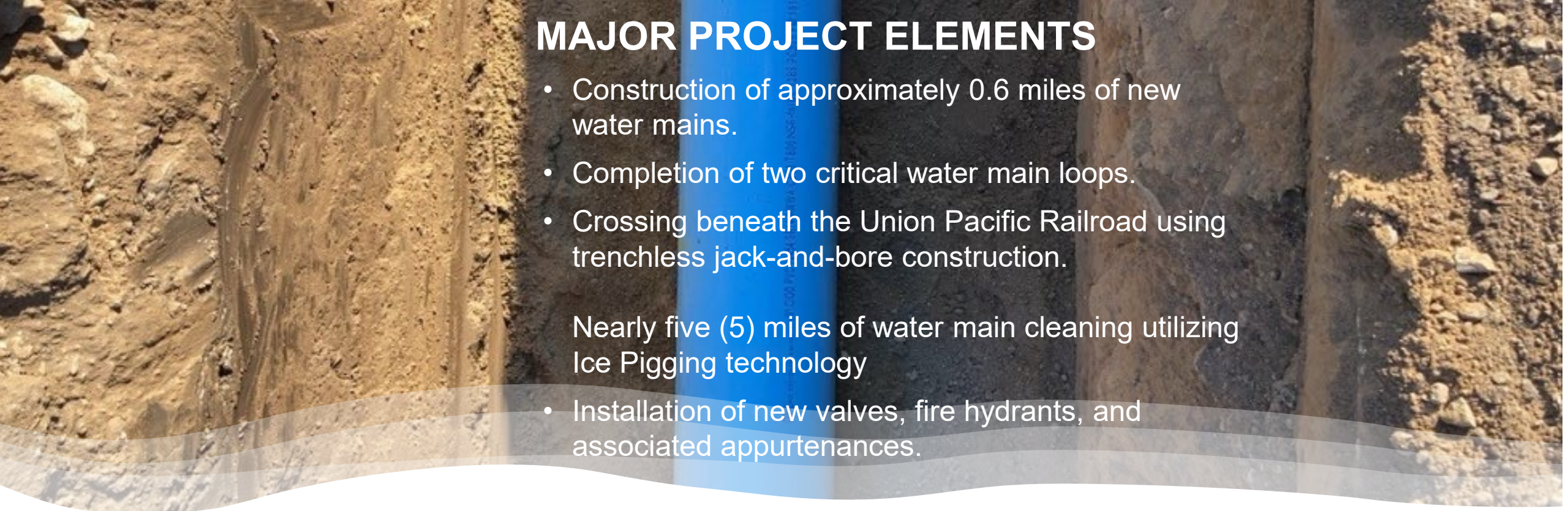
Completed at the end of May 2025, the Thornton Water Main Looping Project improved the reliability, resiliency, and performance of the Thornton water distribution system by eliminating critical dead-end water mains that limited water circulation, which in turn had contributed to increased aging and discoloration of the water.

The project constructed approximately **0.6 miles of new water mains** to complete two critical loops within the distribution system and included cleaning nearly **5 miles of existing water mains using the innovative Ice Pigging process**, which removed accumulated sediment and mineral deposits from the existing pipelines. The project also included the installation of additional fire hydrants.

Together, these improvements enhanced drinking water quality, increased available fire flows, improved system reliability, and strengthened the long-term resiliency of the Thornton water system for the community it serves.

Equally significant, **the approximately \$1.1 million construction project** was funded entirely through a California Department of Water Resources grant, allowing these critical infrastructure improvements to be completed at no cost to Thornton residents.





MAJOR PROJECT ELEMENTS

- Construction of approximately 0.6 miles of new water mains.
- Completion of two critical water main loops.
- Crossing beneath the Union Pacific Railroad using trenchless jack-and-bore construction.

Nearly five (5) miles of water main cleaning utilizing Ice Pigging technology

- Installation of new valves, fire hydrants, and associated appurtenances.

CONSTRUCTION MANAGEMENT

The Thornton Water Main Looping Project required careful planning and coordination to improve an active public water distribution system while minimizing water service disruptions to residents and businesses throughout construction. It included weekend work to avoid service interruptions to the local school.

Nearly five (5) miles of water main cleaning utilizing Ice Pigging technology, and the work included pressure testing, disinfection, and integration of the new facilities into the existing distribution system.

Maintaining reliable water service throughout construction required careful sequencing of water main connections, temporary shutdown coordination, contractor oversight, and continuous communication with affected residents and businesses. This approach resulted in an efficiently managed project with minimal disruption to the community.

SAFETY PERFORMANCE

The project substantially improved public safety by strengthening the reliability and performance of Thornton's water distribution system.

Looping previously dead-end water mains increased system circulation and improved the availability of water throughout the distribution network. The project also increased available fire flows, improving emergency response capabilities and enhancing fire protection for residents, businesses, and community facilities.

By replacing isolated dead-end sections with a looped system and cleaning nearly five miles of existing pipelines, the project improved overall system performance while reducing sediment accumulation and improving drinking water quality.

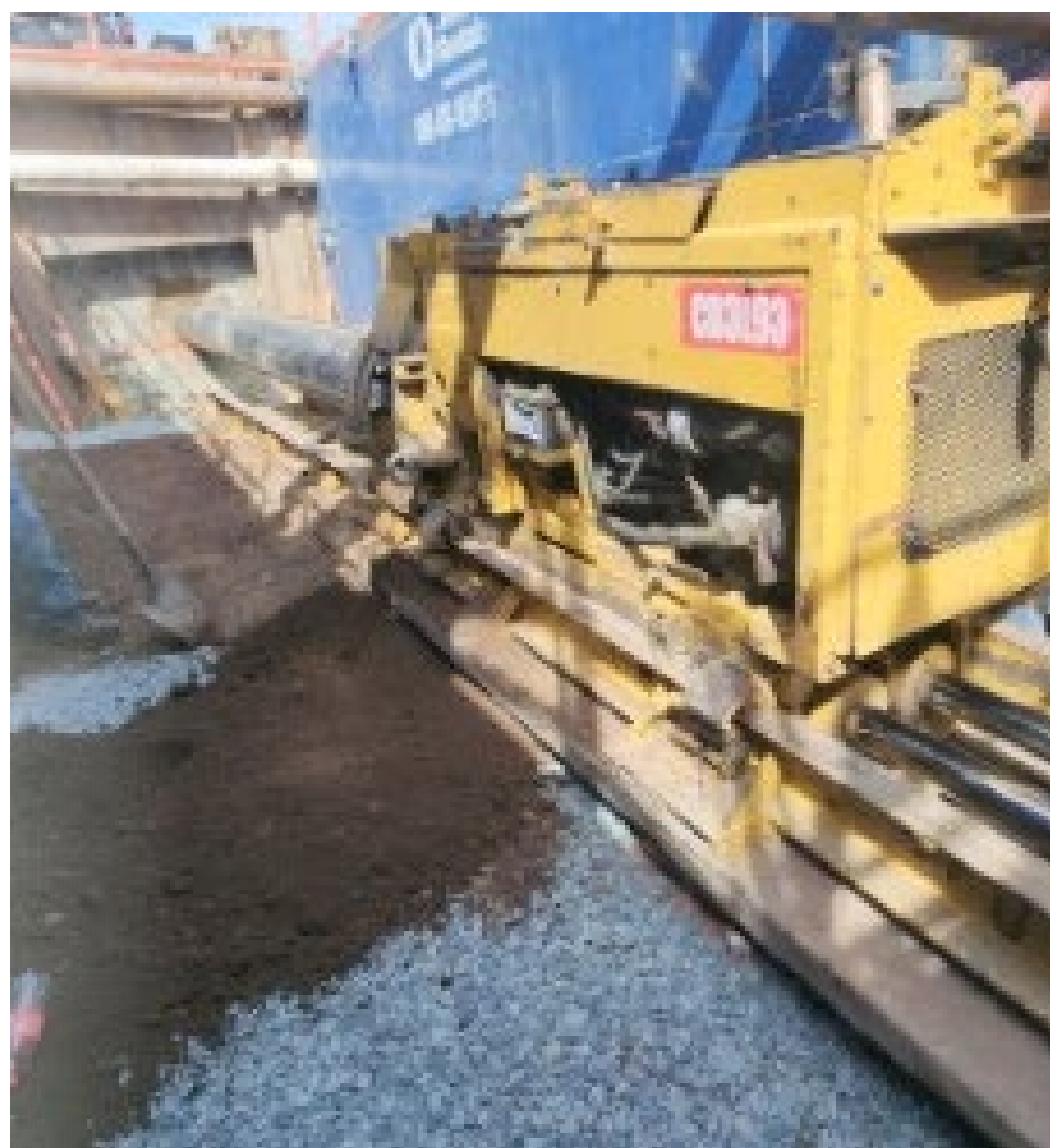
These improvements provide lasting public health and safety benefits while increasing the reliability of essential infrastructure serving the Thornton community.

COMMUNITY RELATIONS AND PUBLIC OUTREACH

Providing reliable drinking water is one of the most essential services delivered by local government. Throughout the project, Public Works remained committed to minimizing disruptions while maintaining transparent communication with the community.

Because the work involved improvements to the active water distribution system, our staff coordinated closely with residents regarding planned water service interruptions and construction activities. Water shutdowns were carefully scheduled and limited in duration to reduce inconvenience while maintaining safe construction practices.

Because project design and construction management were performed in-house, residents were able to communicate directly with our project team throughout construction. Questions and concerns were addressed promptly, allowing the project to progress efficiently while maintaining the community's confidence and trust.



BEFORE

AFTER



ENVIRONMENTAL STEWARDSHIP

The Thornton Water Main Looping Project demonstrates that environmental stewardship extends beyond regulatory compliance by improving the long-term sustainability of essential public infrastructure. Looping the water distribution system reduced water age by improving circulation throughout the network, helping maintain higher water quality while reducing stagnation within previously dead-end water mains.

The project also incorporated Ice Pigging, an innovative pipeline cleaning technology that uses a slurry of ice and water to scour the interior of existing pipelines. This process efficiently removed accumulated sediment and mineral deposits while using significantly less water than conventional flushing methods, improving system performance and conserving valuable water resources.

As can be seen in the adjacent photo, water samples were taken before and after the ice pigging operation, and the improvement (brownish to clear) was significant.

Together, these improvements strengthened the long-term sustainability and resiliency of Thornton's drinking water system while maximizing the value of the existing infrastructure.

INNOVATION, SUSTAINABILITY, AND LONG-TERM COMMUNITY BENEFITS

The Thornton Water Main Looping Project demonstrates how strategic infrastructure investments can deliver lasting benefits for an entire community.

The project:

- Eliminated critical dead-end water mains.
- Improved drinking water quality.
- Increased available fire flows.
- Restored nearly five (5) miles of existing water mains using innovative Ice Pigging technology.
- Delivered approximately \$1.1 million in infrastructure improvements at no cost to Thornton residents through State grant funding.

Additionally, the San Joaquin County Public Works staff managed every stage of project delivery; that is from identifying system needs and securing grant funding to engineering design, stakeholder coordination, construction management/inspection, and project closeout. This integrated approach strengthened collaboration, expedited decision-making, and ensured the completed improvements reflected the needs of the Thornton community.

