

BUILD HSR

CONSTRUCTION UPDATE

SPRING 2023



Flooding at Deer Creek Viaduct



Flooding at Avenue 56

HELPING KINGS AND TULARE COUNTIES

The rains have calmed, spring has sprung, and progress continues on the California High-Speed Rail project. Over the last few months, the Authority has hit some significant milestones. In February, we celebrated the creation of more than 10,000 jobs since the start of high-speed rail construction, a majority of which going back to residents living in the Central Valley. Throughout the winter and spring, crews have made strides on a number of structures, including putting the final

touches on the Cedar Viaduct in Fresno. And with the rains that have hit the Central Valley, the Authority continues to work with local entities and help the residents in Kings and Tulare counties by helping alleviate the impacts of flooding that have occurred in these areas.

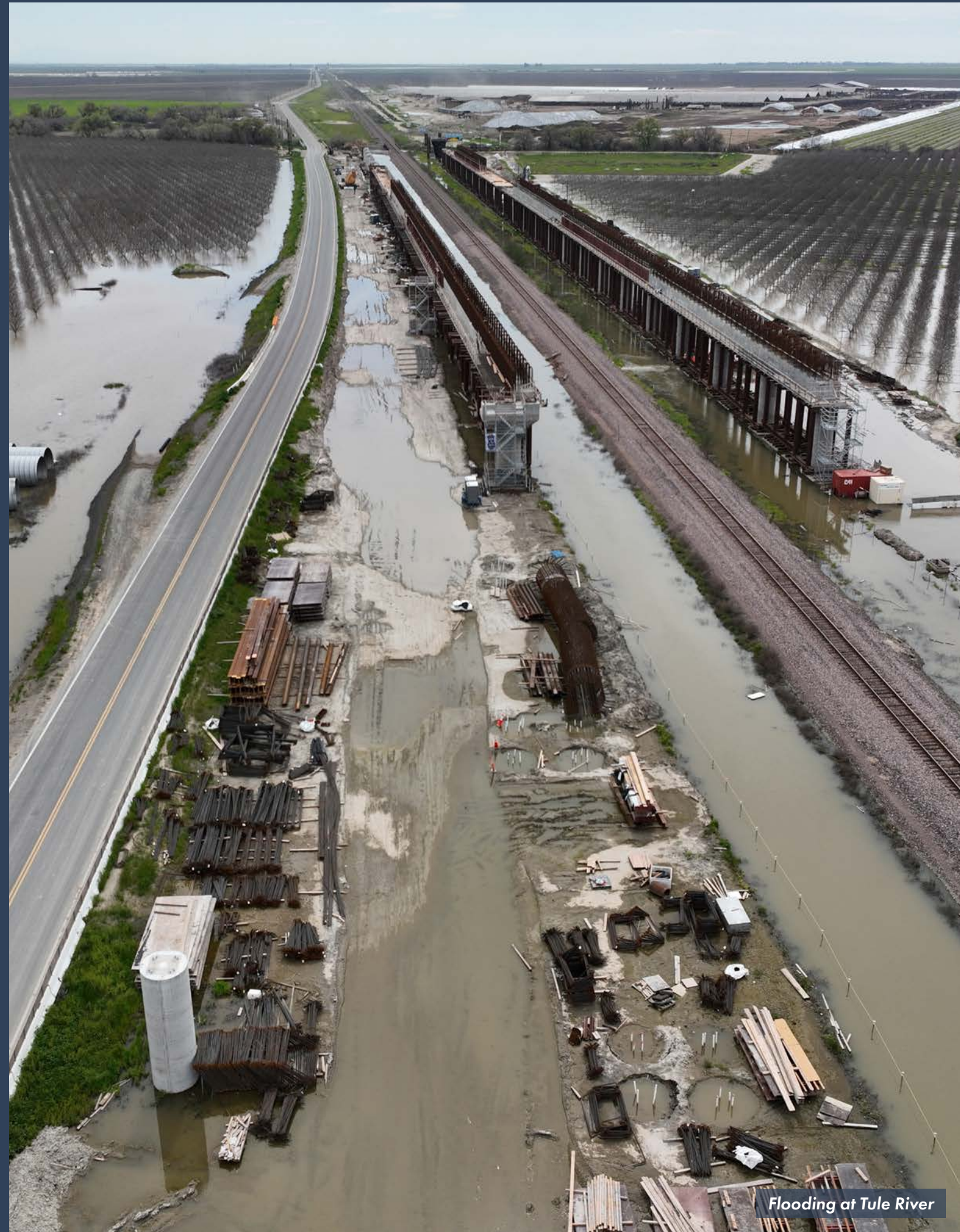
Unprecedented storms have had a significant impact on the surrounding communities of Kings and Tulare counties and on high-speed rail construction. While delivering the nation's

first high-speed rail system is the top priority for the Authority, the safety of the surrounding communities comes first. The Authority and contractor Dragados-Flatiron Joint Venture continues to work with local agencies to provide assistance and help mitigate the impacts on the nearby communities. The Authority has provided k-rail, embankment and equipment to help with road closures and to build levees to prevent flooding in certain areas. The Authority has also coordinated with local

dairy farmers to use high-speed rail property to transport and relocate livestock. Crews also reopened Whitley Avenue, which was recently closed for high-speed rail construction, to serve as an additional evacuation route for City of Corcoran residents. The Authority continues to coordinate with these local agencies and are working to assess the short- and long-term challenges the flooding will have on the project and devise a strategy to move forward with construction in these areas.



Flooding at Alpaugh Bridge



Flooding at Tule River



CONSTRUCTION PACKAGE 1

CEDAR VIADUCT

FRESNO

The Cedar Viaduct, the southern gateway into the Central Valley is now complete. Stretching over State Route 99 and taking future high-speed trains over the highway along with Cedar and North Avenues, the signature double span of arches can be seen from both sides of the highway. Construction on the Cedar Viaduct began in 2016. More than 3.6 million pounds of steel rebar and more than 14,000 cubic-yards of concrete was used to complete this signature structure. The Cedar Viaduct spans more than 3,700-feet long and more than 40-feet wide.



TULARE STREET UNDERPASS | FRESNO

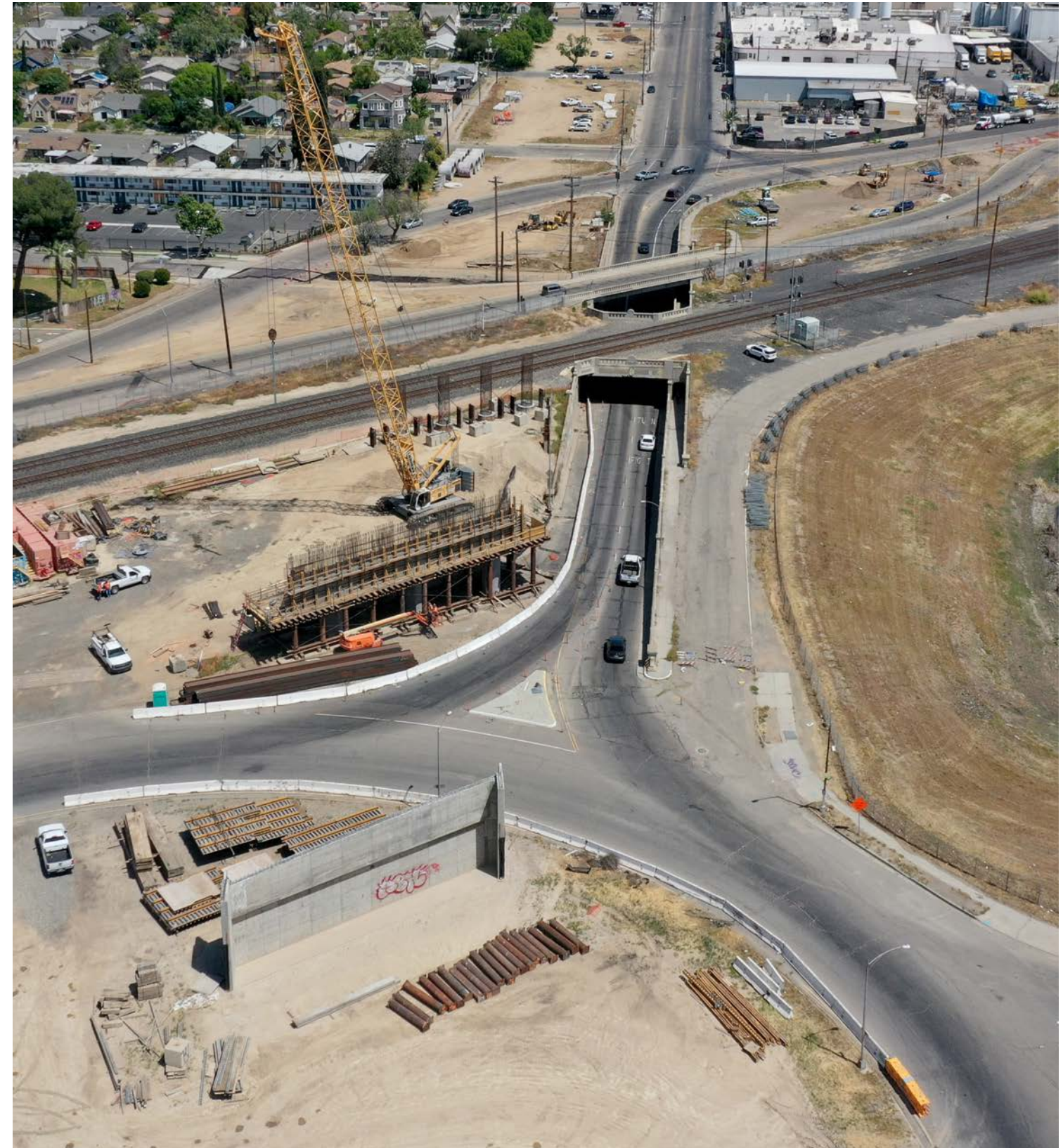
Two underpasses continue to take shape in downtown Fresno. Crews are now working on the east side of the Tulare Street Underpass. Crews have removed utilities in the area and continue to excavate dirt and install shoring - supports that help prevent the movement of soil - for construction of the future underpass and new bridge for the Union Pacific railroad. Bridgework will begin in the coming months. In addition, and just slightly south, a new cul-de-sac was completed on Kern Street near Chuckchansi Park stadium parking, just in time for the Fresno Grizzlies baseball season.



VENTURA STREET UNDERPASS | FRESNO

On Ventura Street, more utilities are being moved and shoring is being stalled to make way for the underpass. Crews are continuing to work on the retaining walls west of the Union Pacific tracks. Earlier this year, crews hit a milestone by completing the G Street Bridge that spans over the Ventura Street Underpass which is now open to traffic.

Both underpasses will serve as grade separations, improving safety in downtown Fresno and taking traffic under the Union Pacific and future high-speed rail tracks.



BELMONT AVENUE GRADE SEPARATION | FRESNO

At the Belmont Avenue Grade Separation, crews recently completed the abutment wall on the west side of the overpass. Abutment walls are part of the substructure of a bridge, including overpasses, and provide vertical and lateral support from the superstructure to the foundation. These walls also act as retaining walls by retaining embankment that will be placed in the future. Crews have also completed a few columns and are now working on the bent cap. A bent cap is an intermediate support that sits on top of a group of piles to help disperse lateral and vertical loads. The bent cap supports the girders and transfers loads to the bent columns. To the east, crews are working on several utility relocations including relocating PG&E, water and storm drains.



CONSTRUCTION PACKAGE 2-3

HANFORD VIADUCT

KINGS COUNTY

To date, 284 of the 978 pre-cast concrete girders have been placed on the Hanford Viaduct. Ironworkers are working each day to tie rebar for the deck and parapet walls of the structure. Over the last few months, workers have placed concrete for the diaphragms of the structure, which bring the girders set between each span of columns together.



DOVER AVENUE GRADE SEPARATION | KINGS COUNTY

Progress on Grade Separations in Fresno and Kings Counties

Construction crews are making headway at a number of high-speed rail grade separations in Fresno and Kings Counties – some of which are nearly completed. Both Dover Avenue and Idaho Avenue grade separations in Kings County are paved and ready to be striped and opened to traffic.



IDAHO AVENUE GRADE SEPARATION | KINGS COUNTY



DAVIS AVENUE GRADE SEPARATION | TULARE COUNTY

At Davis Avenue, crews recently post-tensioned the bridge and are now working on the backwalls. Ironworkers have tied rebar and crews have recently placed concrete to form the barrier rails on top of the structure. The roadway will be paved in the coming weeks.



CONEJO VIADUCT | KINGS COUNTY

Earlier this year, the last two of the 248 pre-cast concrete girders were placed for the pergola section of the Conejo Viaduct. Ironworkers and carpenters are now working on the upper edge beams of the structure, the portion of the structure that provides support and ties the pre-cast concrete girders together. To date, more than 9,000 cubic-yards of concrete have been placed to form the edge beams for the structure, with another 1,400 cubic-yards still needing to be placed.



TIED ARCH BRIDGE | KINGS COUNTY

Driving along State Route (SR) 43, you can see more than 150,000 cubic yards of embankment fill that has been placed to form the guideway on both sides of the Tied Arch Bridge. The guideway is where future high-speed trains will travel before it crosses over the highway and traffic, between Fresno and Kings counties. The Tied Arch Bridge spans 249-feet long and 52-feet wide.



CONSTRUCTION PACKAGE 4

MCCOMBS ROAD GRADE SEPARATION

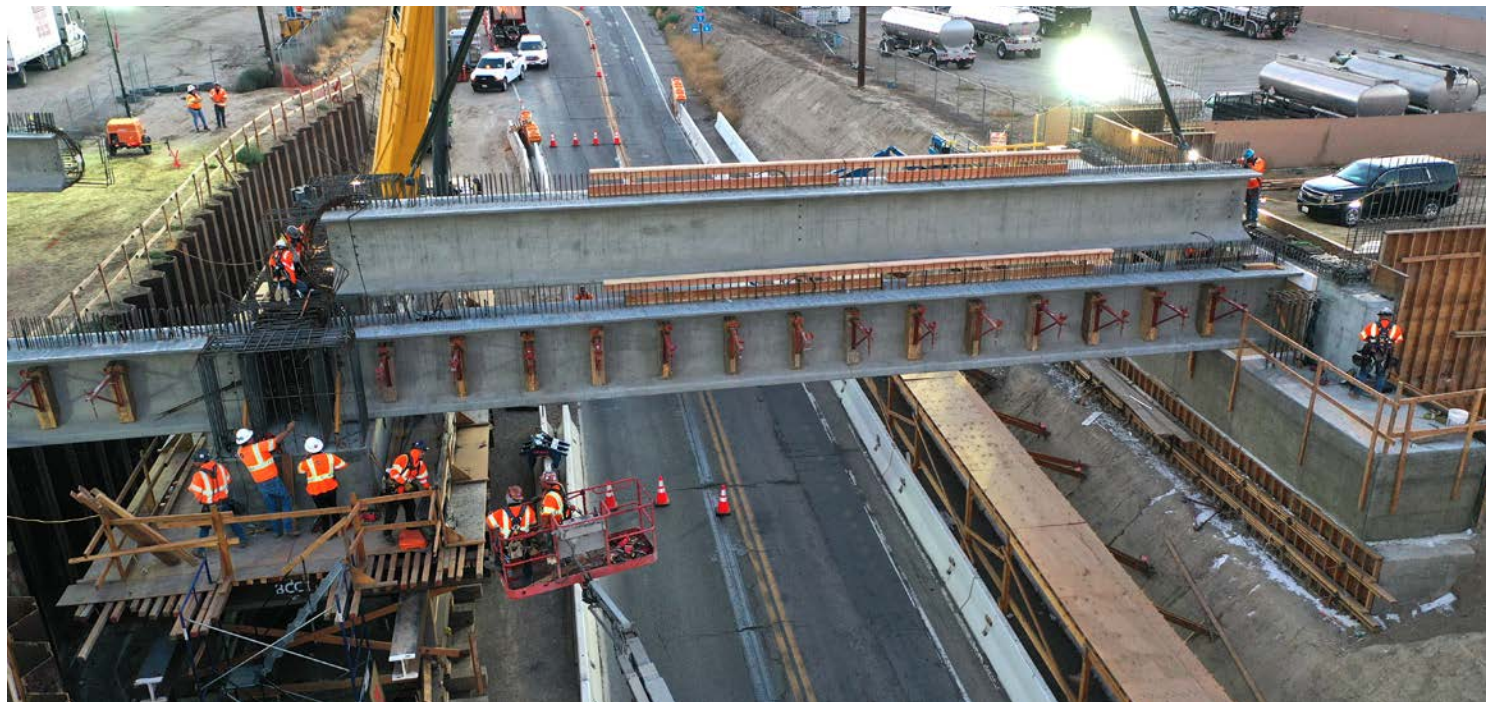
KINGS COUNTY

At the McCombs Road Grade Separation, crews are working to realign and tie in the existing McCombs Road slightly north onto the future overpass. Crews have removed portions of the old road and are hauling aggregate to connect the roadway to the completed structure. The roadway will then be paved, striped and opened to traffic later this spring.



PETERSON ROAD AND POND ROAD | KERN COUNTY

There are two newly completed high-speed rail structures in Construction Package 4. The Peterson Road and Pond Road structures are now complete. These elevated structures will take high-speed trains over the existing roadways in Kern County. With the civil work complete on both structures, crews will now be tasked to haul embankment and connect the structures to the high-speed rail alignment. The Peterson Road Bridge is 153-feet long and the Pond Road Bridge is 121-feet long. Both structures are 52-feet wide built to accommodate two sets of high-speed rail tracks.



STATE ROUTE 46 UNDERPASS | KERN COUNTY

The deck of the State Route (SR) 46 Underpass in Kern County is taking shape. In February, crews placed nearly 300 cubic-yards of concrete for the deck and bents of the structure. Work continued in March and April, forming and placing concrete for the parapets and trackside cable troughs. A cable trough is laid to help protect all kinds of cables including power distribution lines. The SR 46 Underpass is an at-grade structure that runs parallel to the BNSF freight line and takes the high-speed rail system over SR 46.



WASCO VIADUCT | KERN COUNTY

Currently, crews are placing the final touches of the Wasco Viaduct. Along the pergola section, crews have worked to complete the parapets - or derailment walls - of the structure. More than 240,000-pounds of steel and 800 cubic-yards of concrete were installed in the last few months. Crews also completed the installation of the expansion joints of the structure. Expansion joints are separations between two sections that allows for temperature-induced expansion or contraction without cracking or damaging the structure. The Wasco Viaduct is more than 2,000 feet long and carries trains through Kern County and over the BNSF freight tracks.



CONSTRUCTION JOBS CREATED

10,418 JOBS

INCREASED

CP 1:

3,618

CP 2-3:

4,119

CP 4:

2,681

Numbers as of January 31, 2023

For up-to-date information visit: [Buildhsr.com](https://www.buildhsr.com)



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