



Washington State
Department of Transportation

SR 99 Tunnel Project

Preparing the Alaskan Way Viaduct for SR 99 tunnel construction

Crews are reinforcing the Alaskan Way Viaduct between South Washington and Columbia streets, in Pioneer Square, in preparation for SR 99 tunnel construction. The tunnel boring machine will be about 80 feet underground when it passes beneath this section of the viaduct, expected in late 2013.



The reinforcement work is a multi-step process:

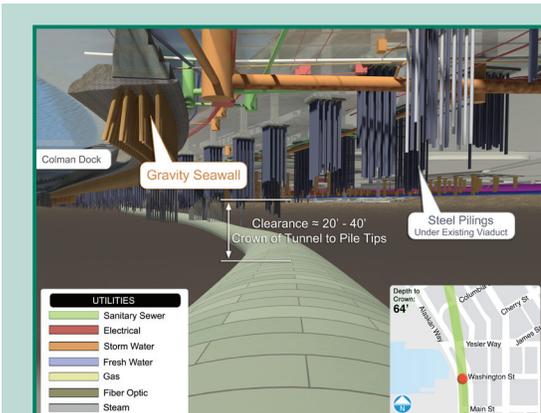
- 1. Sandblast a half-century of dirt and grime from damaged areas in this two-block section and fill any cracks.**
Timeline: March 2012
- 2. Wrap damaged sections of the viaduct's concrete in a protective reinforcing fiber.**
WSDOT applied a similar protective fiber wrap (the white strips in the photo below) to sections of the viaduct after the 2001 Nisqually earthquake.
Timeline: March to April 2012
- 3. Build underground walls beneath the viaduct's foundations to further protect it during tunneling.**

The micropile "wall" consists of a row of steel pipes installed at an angle between the structure and the tunnel. This creates a barrier to limit ground movement.

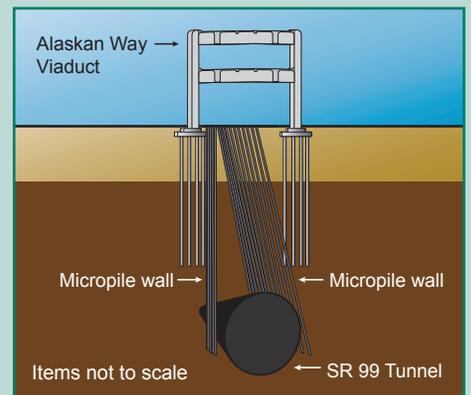
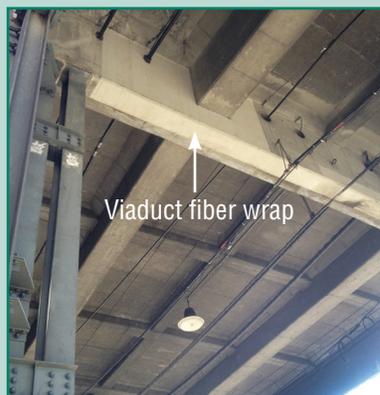
Timeline: February to June 2012

Monitoring during tunneling

In addition to reinforcement work, we will monitor the viaduct from the Railroad Way ramps to Columbia Street while we tunnel beside and underneath it. Tiltmeters and monitoring points will tell us if settlement is occurring, and crack gauges will detect any added stress on critical structural pieces.



Simulation of SR 99 tunnel in relation to the viaduct's foundation. Protective wrap



Underground micropile walls