Phase 2 "Land Bridge" Accommodates Possible Future Divided Highway Beneath the Silver Line

Looking years ahead, designers of Phase 2 of the Silver Line are preparing for a possible new road to allow vehicle traffic to get from one side of the Dulles Airport Highway/Dulles Toll Road corridor to the other near Reston Town Center.

Crews have started construction of a so-called “land bridge structure” which would not preclude future construction of a four-lane divided highway that would connect Town Center Parkway to Sunrise Valley Drive by running under the Dulles Toll Road, the Airport road and the Silver Line.

This structure is being built in the median of the Dulles International Airport Access Highway (DIAAH) near mile marker 4.8, approximately 500 feet west of the future Reston Town Center Station.

Requested by Fairfax County as an element of the Board of Supervisors' Six Year Transportation Priorities for FY2015 to FY2020, this Town Center Parkway Underpass Rail Support Structure could be built beneath the Silver Line’s at-grade track alignment. Building the bridge-like structure in advance would minimize any impact to Silver Line Phase 2 service during future construction of the planned roadway.

Powering the Silver Line – Giant Duct Bank to Provide Consistent Flow of Electricity

By: Lisa Sheffer

Construction is underway on a 110,000 linear foot electrical duct bank that will provide a consistent flow of power to Phase 2 of the Silver Line. This will connect the Dulles Corridor from east Reston to Dulles Airport and west to Ashburn, linking the region to downtown D.C and beyond.

“The duct bank is a vital component to the overall operation and function of the rail system. The 34.5kV duct bank system provides the pathway for power to be distributed throughout the project,” said construction project manager Adam Rosmarin, of Capital Rail Constructors.

Continued on Page 2 ...
Overseeing the duct bank’s construction systems, including the train control rooms and traction power substations, is construction manager Nick Perrota of Capital Rail Constructors.

"The 34.5kV power is high voltage and will be pulled down from three areas on the Project; the south end of Route 28, Phase 1 stations and the Shell Station substation located at the west end of the Project. These three points will provide the primary and secondary power used to power the job," said Perrota.

There are certain requirements for building the underground duct bank.

“For starters, a duct bank must be dug at least 36 inches below final asphalt,” said Perrota.

However, a portion of the geographical layout for the Phase 2 calls for even deeper duct banks. This requires trench boxes designed to span the width of a trench during excavation and pipe laying, said Perrota. Trench boxes help prevent the walls of a duct bank from caving in while being constructed, he said.

Excavation for the duct bank requires a customized plan that accounts for various depths and pathway maneuvers around each utility. Utilities often in the pathway may include a cable line, storm drain or sprinkler head. Exact locations must be tested prior to continuing with excavation of the duct bank.

Utilities have not been the only concern, said Perrota. Large portions of the duct bank excavation revealed Diabase; a type of granite rock that is unlike the native red soil in this area, and it cannot be easily removed or redistributed elsewhere.

Construction workers are using drills to honeycomb the rock, making it easier to break with the use of a hammer in human hands. Instead, it requires the use of a honeycomb technique.

“The honeycomb technique looks exactly as it sounds,” said Perrota. A construction worker will drill several connected holes in the shape of a honey comb. This method helps weaken the strength of the hard rock so it can then be struck and shattered into removable pieces.

John Kearney, project construction manager overseeing Phase 2, is passionate about the Silver Line.

“This project is a landmark. It is not every day that you can point to something and say I had a small part in building that," said Kearney.

Construction is set to be complete in about four years and the project will then be handed off to Washington Metropolitan Airport Transit Authority (WMATA) for testing. WMATA will set the opening date, likely in 2020.

Want to know more or set up a briefing? Visit www.dullesmetro.com, or call (703) 572-0506. To set up a briefing for your HOA, civic group or business, email outreach@dullesmetro.com. To report construction concerns, call our hotline: 1-844-385-7245