



To: Newport MUD  
From: Brent Fleischer, E.I.T.  
Re: Sanitary Sewer Phase 1 Rehabilitation

Over the past few weeks, construction crews have been working on South Diamondhead Boulevard near Spinnaker Drive (Manhole #1) and on Handspike Way near Golf Club Drive (Manhole #2). The work being done by the crews has been for the Newport MUD's Sanitary Sewer Phase 1 Rehabilitation project to rehabilitate the sanitary lines and manholes.

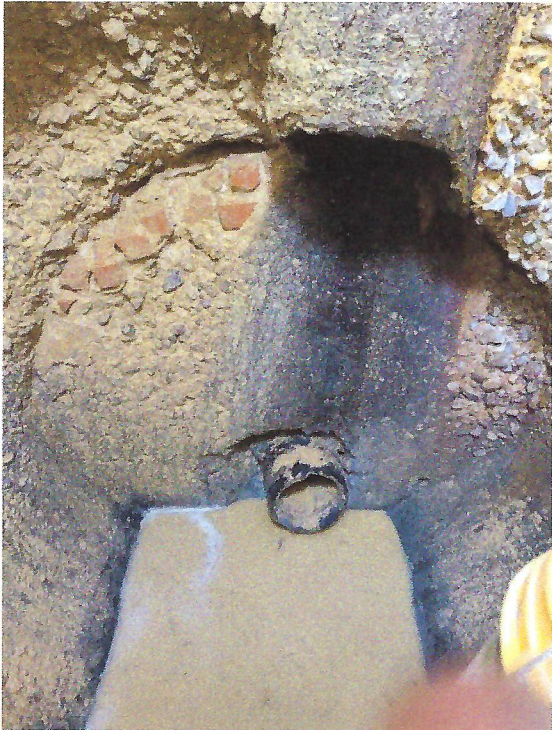
The two manholes that were included in this rehabilitation project were severely deteriorated from sewer gases and high sewer flows from the force mains. Parts of both manholes were in critical condition with some of the concrete walls being completely eroded away. Where the portions of the concrete wall were missing, dirt and sand were the only things preventing the manholes and roadways from collapsing, causing concern.



*Manhole #1: Existing Deteriorated Condition*



*Manhole #1: Existing Hole in Back Wall*



*Manhole #2: Fully Eroded Back Wall with Only Dirt and Rocks Supporting the Manhole*



*Manhole #2: Fully Eroded Side Wall with Exposed Dirt. Remaining Concrete has Exposed Rebar.*

If one or both of the manholes had collapsed, it would have created a large sinkhole in the middle of a road creating an extremely dangerous situation for the drivers and nearby residents. Making emergency repairs for a collapsed manhole on a busy road such as South Diamondhead or Handspike could cost well over \$200,000 per repair. Because of the rehabilitation work completed, the District was able to spend about \$50,000 to completely repair both manholes. The manhole repairs have restored the structural integrity of the manholes and added a protective liner to prevent future degradation of the manhole; thus, returning the manholes to their original design life.



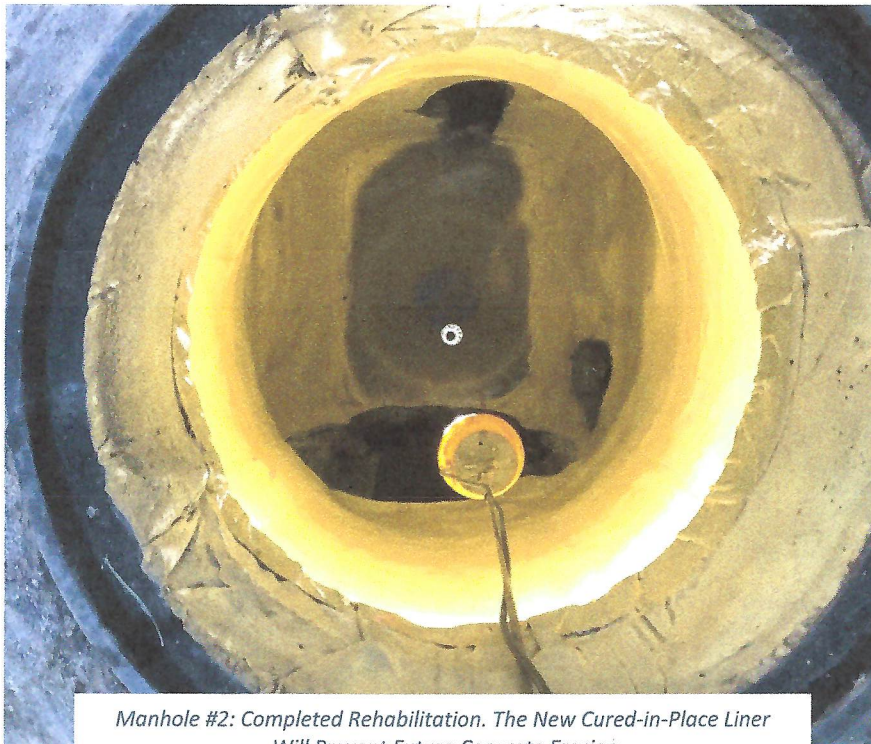
*Manhole #1: Completed Rehabilitation. The New Cured-in-Place Liner will Prevent Future Concrete Erosion*



*Manhole #2: Rebuilt Back Wall with Concrete Blocks to Fill in Voids and Restore Structural Integrity*



*Manhole #2: Rebuilt Side Wall with Concrete Blocks to Fill in Voids and Restore Structural Integrity*



*Manhole #2: Completed Rehabilitation. The New Cured-in-Place Liner Will Prevent Future Concrete Erosion*

By proactively rehabilitating old and aging infrastructure, Newport MUD is able to save hundreds of thousands of dollars on emergency repairs and can use that money to fund future projects to repair and/or upgrade other vital pieces of infrastructure in the community.