Ranger Construction - Full Depth Reclamation (FDR)

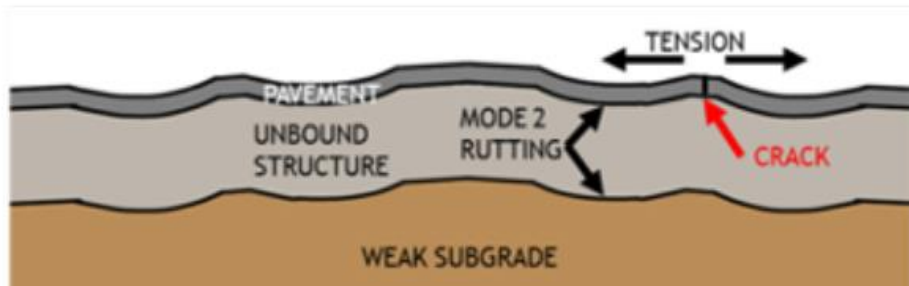# What is Full Depth Reclamation (FDR)

- FDR is the Process of pulverizing existing asphalt and mixing it with the road base underneath while injecting a combination of additives such as cement, emulsion and water as specified by a geotechnical engineer.

- FDR needs aggregates such as the existing asphalt to yield a strong finished product

- FDR is a faster, less disruptive solution to fixing base failure when compared to excavating and replacing the roadway

- FDR is **NOT** a replacement for mill and fill

When to use FDR

- FDR is best suited for roads with signs of base failure such as wheel path rutting, potholes, reflective cracking, etc.

- FDR is most commonly used in parking lots, subdivisions or residential areas and on city/ county roads

FDR Process Overview

- Once a project is identified as a candidate for FDR, Cores are pulled from the roadway to develop a mix design.

- The mix design will specify the depth of pulverization and much additive such as cement, emulsion or both are required to be added to achieve the desired structural number for the FDR base.

- Factors in determining additive type and quantity are; moisture content, thickness of asphalt, base material and traffic load

FDR Process Overview Cont'd

FDR in Unit 31

- The FDR process begins with Reclaiming the existing asphalt and mixing in the additives such as cement and/or emulsion. The material is then compacted and graded to the specified elevation and cross-slope and primed. At this point, it can be opened back to traffic, if needed.

- Following a specified curing period (Typically 3-5 days), the pills taken after reclamation are tested to see if they meet minimum strength. Once minimum strength of the pills is confirmed, the road can be paved and striped per the plans.

Questions?

- If you are unsure if a project is a fit for FDR, feel free to reach out to Will and myself
- will.nash@rangerconstruction.com
- theodore.dewitt@rangerconstruction.com