DESIGNERS MEETING

Minutes for   March 19, 2025   1:00 PM – 2:00 PM

Erin Brewer, Secretary

TOPICS
- **Topic 1: APJ Analysis**
- **Topic 2: Load Rating & Hydraulic Courses**

Topic 1: APJ Analysis

- Isabelle, our summer intern, worked on analyzing how our APJs were performing last summer
- We started doing APJs in 2010s typically
- We had 99 bridges with APJs, Isabelle & Garrett visited 12 of these bridges
- Skews ranged from 0°-45°
- Good condition
  - Farmington, Hamlin
  - New Sharon, Sandy River (leaking underneath)
  - Westbrook, Cumberland Mills (2012)
  - Fairfield, which has been redone
- High Skew
  - Phillips (good condition)
  - Waterville, Gilman St (good condition)
- Bad condition
  - Areas with breaking, high curvature, stopping condition, at traffic signals, heavy trucks
  - Kingfield, Centennial Bridge
  - Skowhegan, Margaret Chase Smith (2018)
    - Note: Contractor paved the approach incorrectly which contributed
- Key takeaways
  - APJ is not considered an open joint, we prefer non-open joints for maintenance
  - APJs are most likely not watertight
  - Best used on integral abutment bridges
  - Needs to solve a solve a problem and be able to be maintained (typically don't want it on a lower priority road)
  - With APJs we are aiming for pavement distress prevention instead of preventing leakage (which is unlikely)
  - There is no temperature spec for APJs, should there be a spec to place APJs at at more neutral temperature (30°F-50°F)
    - APJ in neutral condition is expected 1" movement from neutral (1" expansion, 1" contraction)
  - Warranty of a 5 year design life

Topic 2: Load Rating & Hydraulic Courses

<u>Hydraulic Course</u>
- 2D analysis was heavily pushed
- We have SMS 2D available to us
- General consensus is we prefer instructor led training instead of virtual training
- Quality of remote learning presentations needs to be a lot better than it would be for in-person training
- We suggested doing a virtual training on one computer while practicing the software on the other screen as the best use of virtual learning
- We need to figure out the output from the 2D analysis we need to report in the future

<u>Load Rating Course</u>
- More effective if load rating training was in the context of our MaineDOT Load Rating Guide
- For EV loads, we can mix the live load distribution factor
- We now need to consider RPVs, EVs, & SHVs
- Manual for Bridge Evaluation & Maine's Load Rating Guide can be found on the R drive
- Gusset plate load rating analysis was included

End of Minutes