

# PCC Preservation and Grinding Challenges at SDDOT

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# Agenda

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- PCC stats for SDDOT
- PCC Preservation Treatments
- PCC warping and curling
- Research on PCC grinding
- Conclusion

# PCC Stats

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- Statewide, PCC surfacing 1880 of 8845 miles (two-way) or 21%.
- Interstate, PCC surfacing 869 of 1358 miles (two-way) or 64%

# PCC Preservation Treatments

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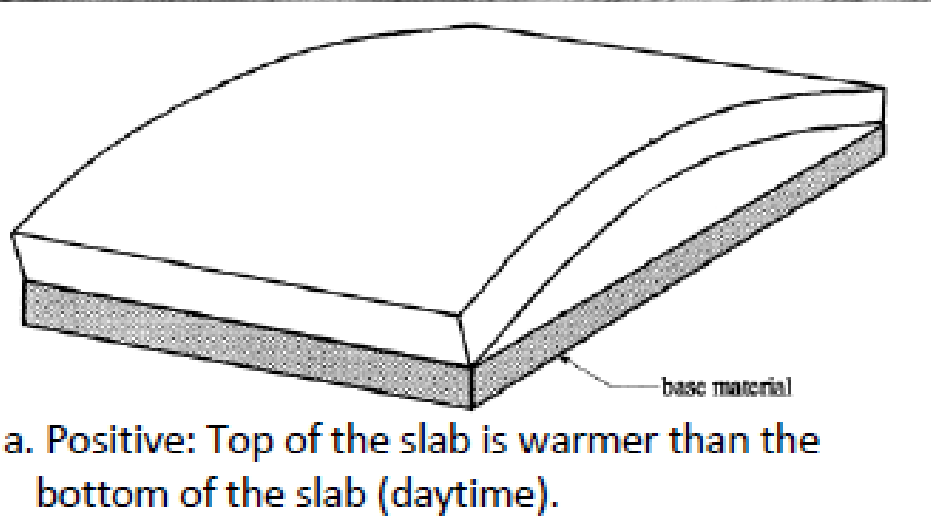
- Joint and Spall repair
- Saw and Seal Joints
- PCC Diamond Grinding
- Stand alone or various combinations



# Warping and Curling

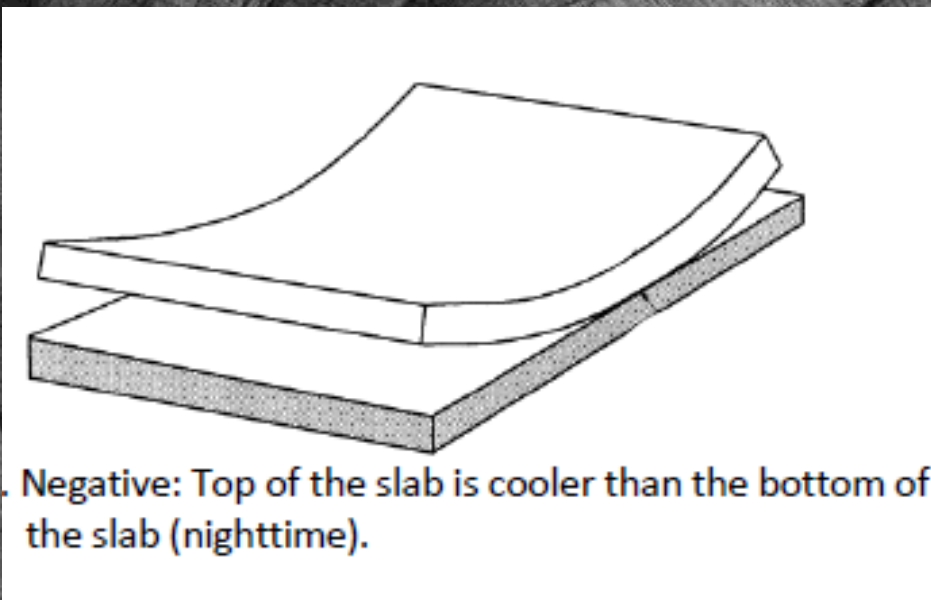
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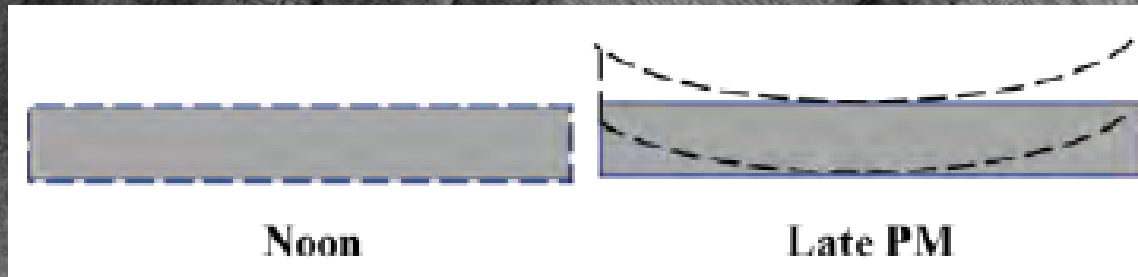
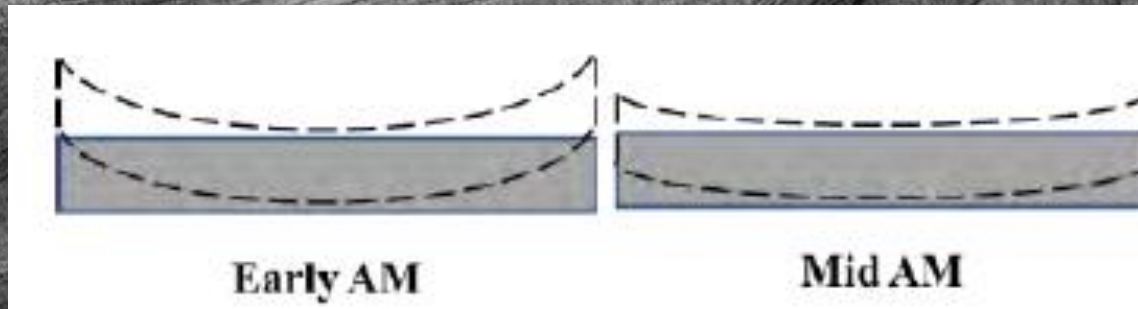
# Warping and Curling



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Positive and negative warping or curling. (Tayabji et al. 2010)



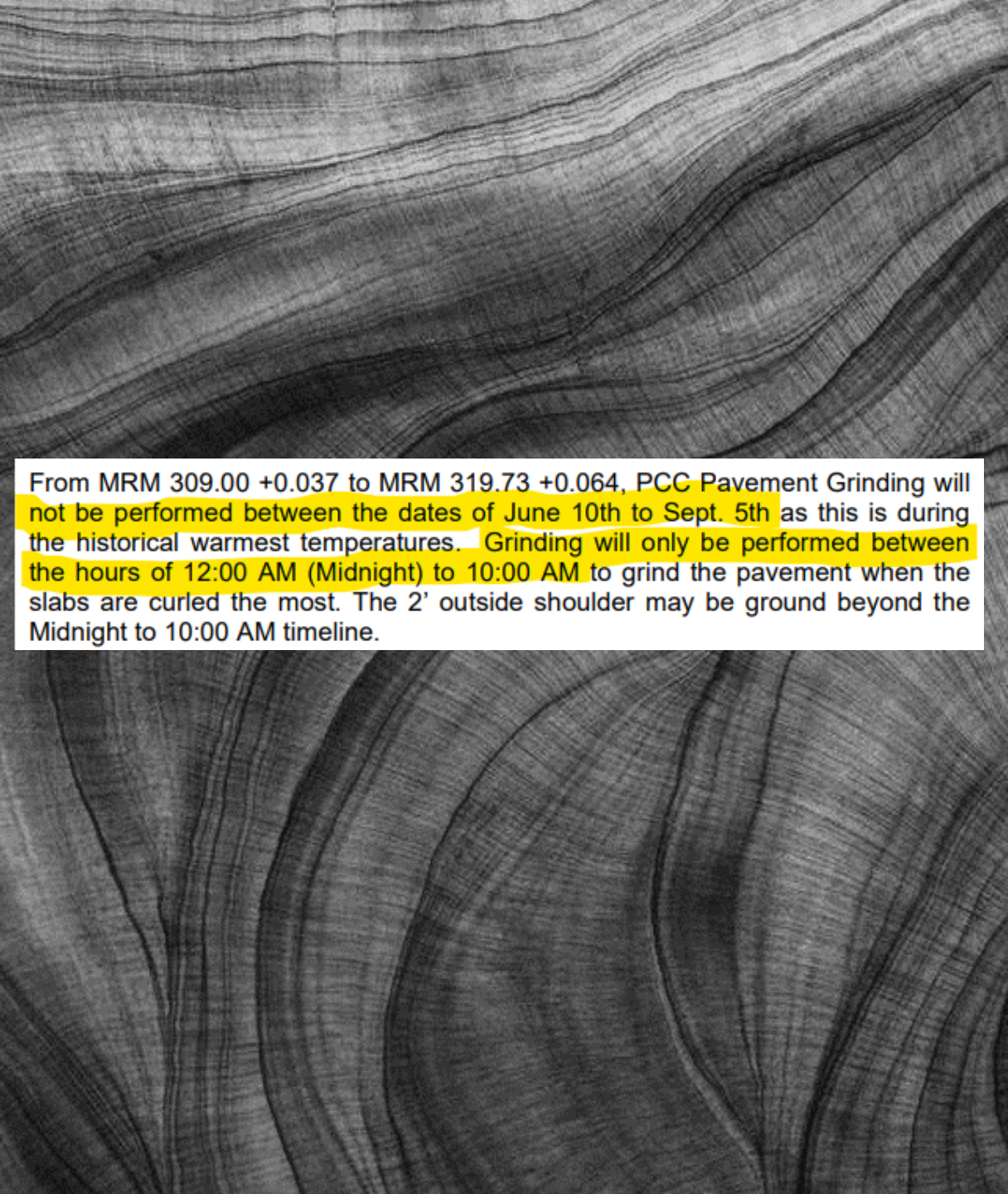


# Diurnal Slab Curvature

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Changes with temperature. Becomes worse over time.  
(Tayabji et al. 2010)





From MRM 309.00 +0.037 to MRM 319.73 +0.064, PCC Pavement Grinding will not be performed between the dates of June 10th to Sept. 5th as this is during the historical warmest temperatures. Grinding will only be performed between the hours of 12:00 AM (Midnight) to 10:00 AM to grind the pavement when the slabs are curled the most. The 2' outside shoulder may be ground beyond the Midnight to 10:00 AM timeline.

# Grinding Specs for Warping/Curling v1

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Attempted on one research project and two formal projects to alleviate issues.



# Grinding Specs for warping curling v2

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- Research Project SD2022-07
  - Detection of Warping and Curling
  - New spec for warping and curling
  - Other treatments
  - Test project 2026
  - Design specs for future PCC pavements

# Thank You

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