



STATE OF NEW JERSEY
DEPARTMENT OF TRANSPORTATION

Composite Pavement Rehabilitation Techniques

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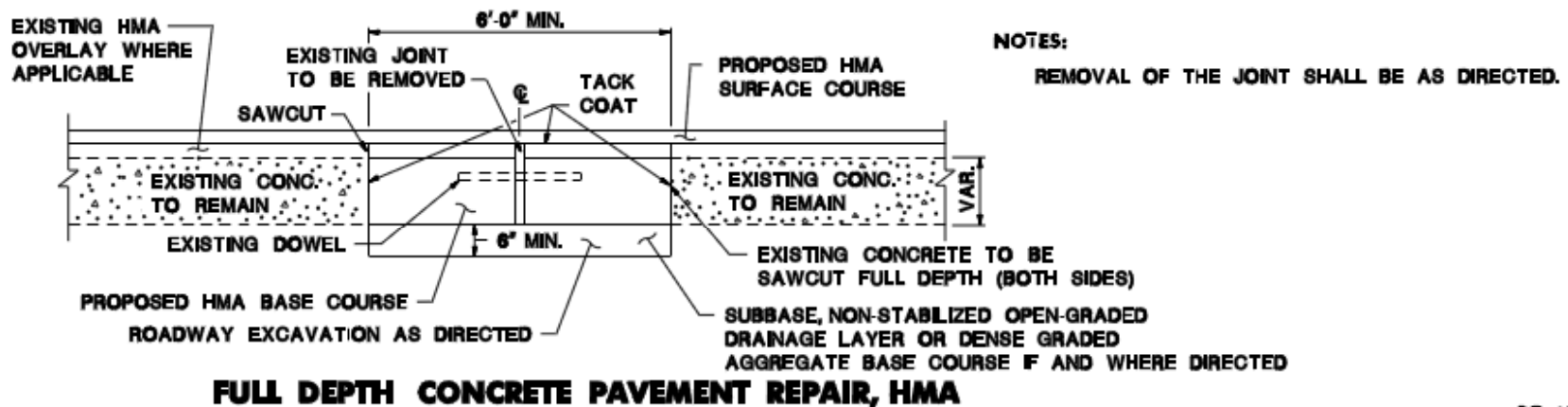
Composite Pavement Rehab Goals

- Improve Pavement Condition
- Improve Ride Quality
- Improve Safety
- Extend Life
- Typically Functional Overlay – Minor Rehab
- Sometimes A Structural Overlay – Major Rehab
- Reduce Life Cycle Costs
- Increase Customer Satisfaction
 - Noise Reducing Surface(s)

Composite Pavement Rehab Strategies

- Slab Stabilization
- Full Depth Repairs
 - HMA
 - Precast Concrete
 - Class V
 - Rapid Set Latex Modified Concrete
- Mill and Overlay with Better Mixes
 - AROGFC
 - HPTO
 - SMA
 - XFB
 - Reflective Crack Relief Interlayer (RCRI) or Strata
 - Rich Bottom Layer (RBL)

Full Depth Repair with HMA (typically before milling)



CD-453-2.2

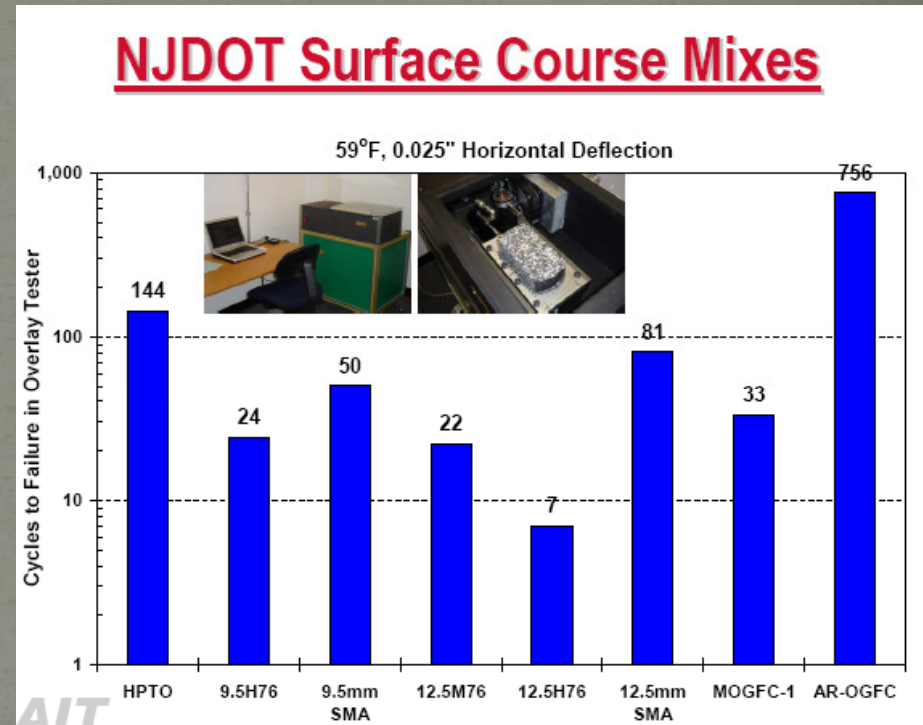
Mill & Overlay with HMA

Surface Milling



Why premium mixes?

- Better fatigue life
- Better durability
- Increased skid/safety
- Reduced noise
- Preservation of pavement structure
- Increased customer satisfaction
- Better reflective crack resistance



Asphalt Rubber Open Graded Friction Course



High Performance Thin Overlay



SMA 9.5mm Surface Course



Composite Projects

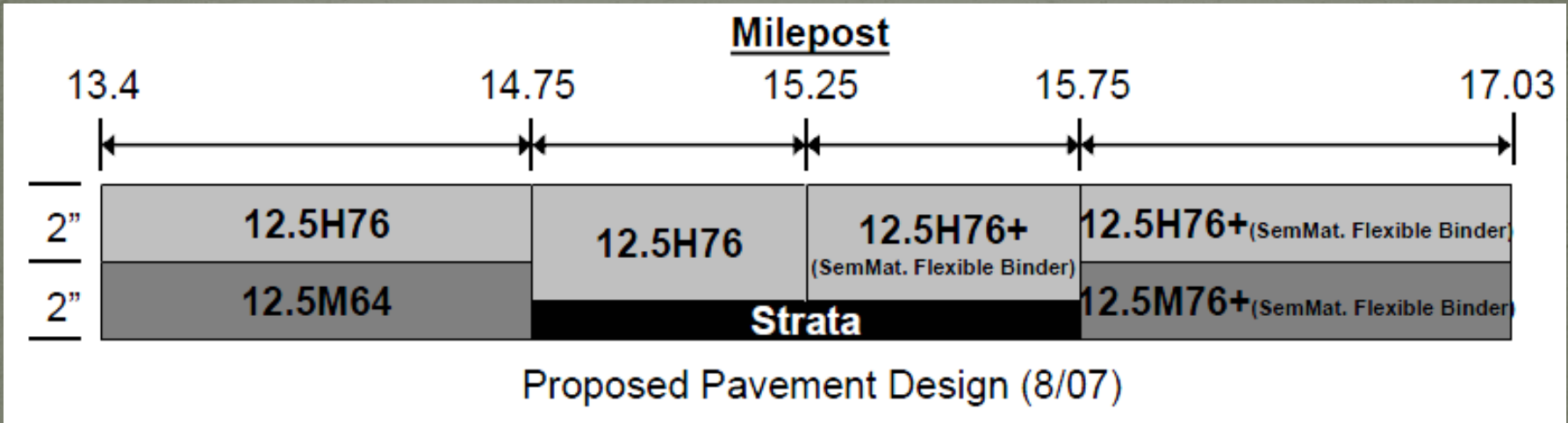
Rt.202 SB (MP 13.4-17.03) – Maintenance Resurfacing Contract No. 268 (2007)



Rt.202 SB – Maintenance Resurfacing Contract No. 268 (2007)

- Visual Survey of JRC Pavement
- Rehab. Design of Asphalt Outside Shoulder
 - Roadway Excavation
 - Pave with 3" min. & var. 25M64 Base Course
 - Pave with 4" (2 lifts) of high quality HMA
- Full Depth Concrete Repairs with Very Early Strength Concrete
- Overlay Design with 4" (2 lifts) of high quality HMA
- 3 test sections and 1 control section

Rt.202 SB – Maintenance Resurfacing Contract No. 268 (2007)



Rt.202 SB – Maintenance Resurfacing Contract No. 268 (2007)

Before Rehab

- SDI = 2.07
- Ride Quality
 - MP 13.4-14.75, IRI=197.2
 - MP 14.75-15.25, IRI=154.7
 - MP 15.25-15.75, IRI=143.8
 - MP 15.75-17.03, IRI=151.5
 - Ride Quality for the project, IRI=168.6

After Rehab

- SDI = 5.0
- Ride Quality
 - MP 13.4-14.75, IRI=88.3
 - MP 14.75-15.25, IRI=78.0
 - MP 15.25-15.75, IRI=77.7
 - MP 15.75-17.03, IRI=75.0
 - Ride Quality for the project, IRI=80.4

Rt.202 SB – Maintenance Resurfacing Contract No. 268 (2007)

Before Rehab



After Rehab



Rt.70 (MP8.61-12.06)- Maintenance Roadway Repair Contract No. 327 (2007)



Rt.70 (MP8.61-12.06)- Maintenance Roadway Repair Contract No. 327 (2007)

- Visual Survey of Composite Pavement
- Cores performed to establish proper milling depth
- Full Depth Repair areas identified by visual survey
- Calculated approximately 5 million ESAL's
- Quantity for Slab Stabilization estimated from FWD testing
- Overlay Design consisted of milling 2" depth and resurfacing with:
 - 1.5" Superpave HMA 9.5H76 Surface Course
 - 2.5" Superpave HMA 12.5M76 Intermediate Course

Rt.70 (MP8.61-12.06)- Maintenance Roadway Repair Contract No. 327 (2007)

- Located high deflection joints (> 15 mils deflection) with FWD during construction
- Failed joints were successfully (reduced deflection < 10 mils) grouted with HDP by Uretek
- Full Depth Repairs with HMA were performed on high severity joints/areas

Rt.70 (MP8.61-12.06)- Maintenance Roadway Repair Contract No. 327 (2007)

Before Rehab

- SDI = 1.56
- Ride Quality IRI = 157

After Rehab

- SDI = 4.9
- Ride Quality IRI = 94

Rt.70 (MP8.61-12.06)- Maintenance Roadway Repair Contract No. 327 (2007)

Before Rehab



After Rehab



Risk of Removing HMA Overlay



Thank you. Questions?

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