NEW YORK STATE | Department of Transportation

Concrete Pavement Preservation

Midwest Pavement Preservation Partnership Skill Share Webinar

August 19, 2025

Candidate Selection

- Pavements that can economically be brought back into a good or better condition are candidates for rehabilitation.
- Factors precluding grinding on CPR Projects
  - Shallow wire mesh embedment
  - Excessive utilities/ projections in the pavement

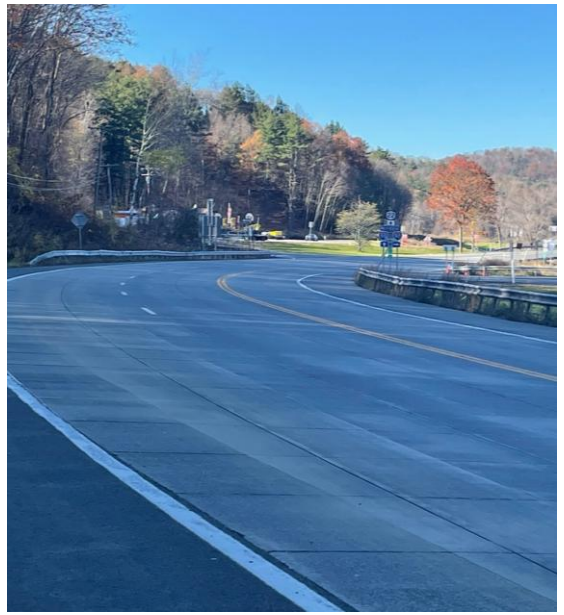
Expectations

- Important to understand limits of grinding:
  - Not going to solve major surface distortions or major faulting

Example of a short section of deep grinding at bridge pressure relief joint

Candidate Selection

Grinding is also included on new construction projects when a lot of handwork is anticipated.



Repairs Prior to Diamond Grinding

- Repairs should be performed prior to diamond grinding
  - Most projects have isolated repair areas including
    - Full Depth Repairs
    - Partial Depth Repairs
    - Load Transfer Restoration (Dowel Bar Retrofitting and Cross Stitching)

Full-Depth Repair

- Replace any areas with:
  - Shattered slabs
  - Poor support
  - Moderate to major spalling
  - Moderate to major mid panel cracking

Full-Depth Repair

Undercutting unsound material

- Occasionally shattered slabs will be related to areas of poor support.
- Remove and replace these areas prior to replacing the concrete to minimize recurring failures.

Full-Depth Repair

- Dowels are drilled and anchored into repair faces to restore load transfer.
- Longitudinal ties are added in newer pavements, typically omitted in older pavements.

Partial Depth Repairs

- Partial Depth Repairs
  - Appropriate for smaller spalls
  - Mastic works great at joints, limit size to prevent grinding heads from catching

Partial Depth Repairs

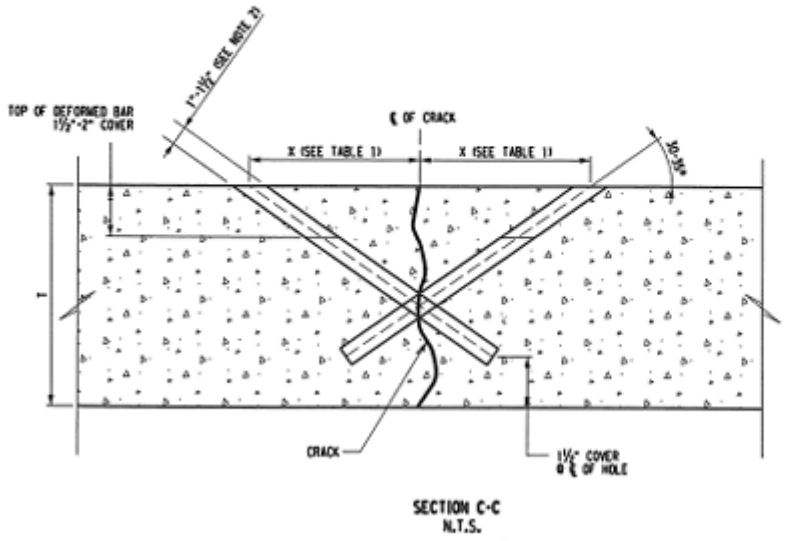
- Partial Depth Repairs
  - Avoid irregular shapes
  - Avoid repairs directly on joint hardware
  - If cementitious material is used at joints or cracks, form joint to prevent material entering joint.

Dowel Bar Retrofitting

- Used prior to grinding on narrow cracks that still have good aggregate interlock

Cross Stitching

- Used on narrow longitudinal cracks with aggregate interlock to reinforce across the crack.



SECTION C-C
N.T.S.

TABLE 1		
PCC THICKNESS (T) INCHES	TIE LENGTH (INCHES)	OFFSET DISTANCE (X) INCHES
8.0"	8.5"	5.75"
9.0"	10.5"	6.5"
10.0"	12.0"	7.25"
11.0"	14.0"	7.75"
12.0"	15.5"	8.5"
13.0"	17.5"	9.0"

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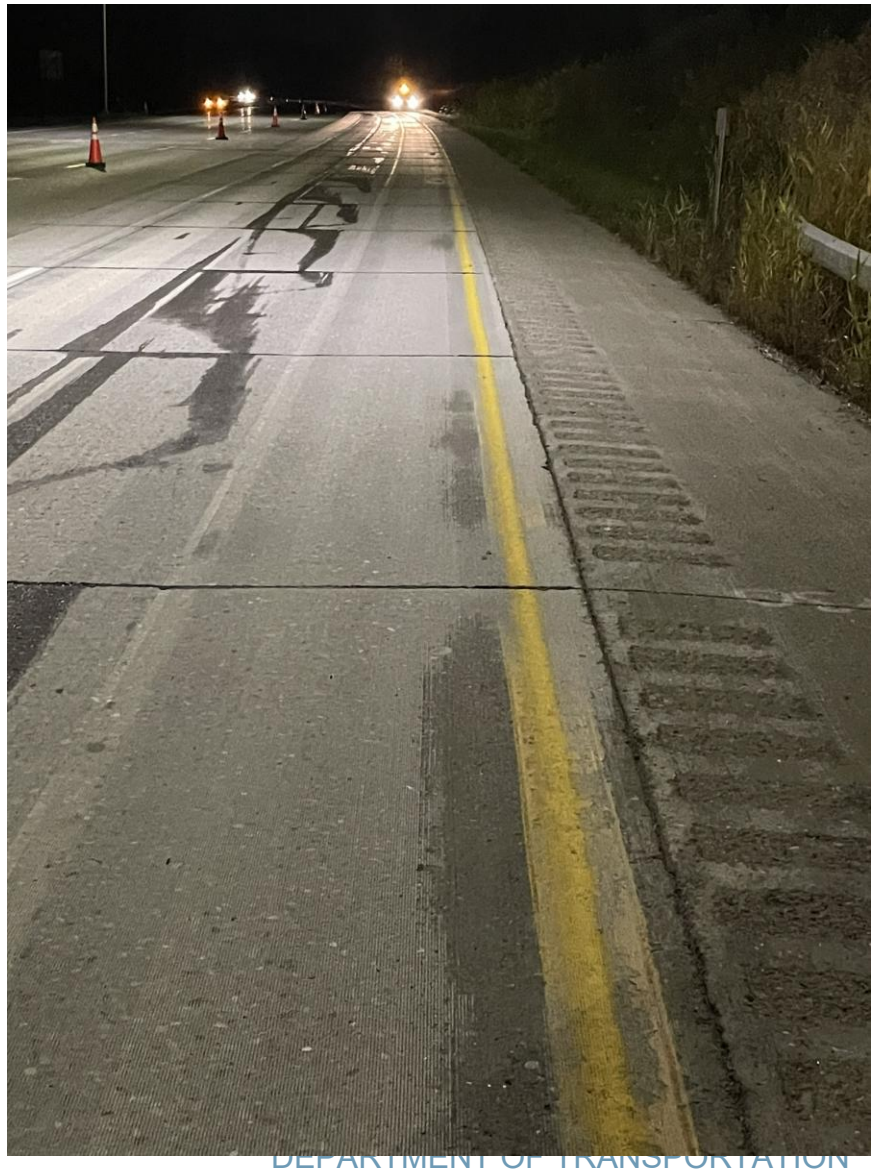
U.S. CUSTOMARY STANDARD SHEET

CROSS STITCHING
PORTLAND CEMENT CONCRETE PAVEMENT

Grinding and Resealing Joints

- Adjust grinding depth if needed
  - NYSDOT requires 95% lane area to be ground
- Reseal joints *AFTER* grinding



Quality Assurance

Ride quality data is taken prior to the start of work and again after the project.

An adjustment factor is calculated based on the % improvement compared to the beginning conditions.

TABLE 505-3, SMOOTHNESS ADJUSTMENT FACTORS	
IRI Improvement (%)	**Smoothness Adjustment Factor (SAF)**
≥ 65	1.10
60 – 64	1.07
55 – 59	1.05
50 – 54	1.00

Questions?

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