

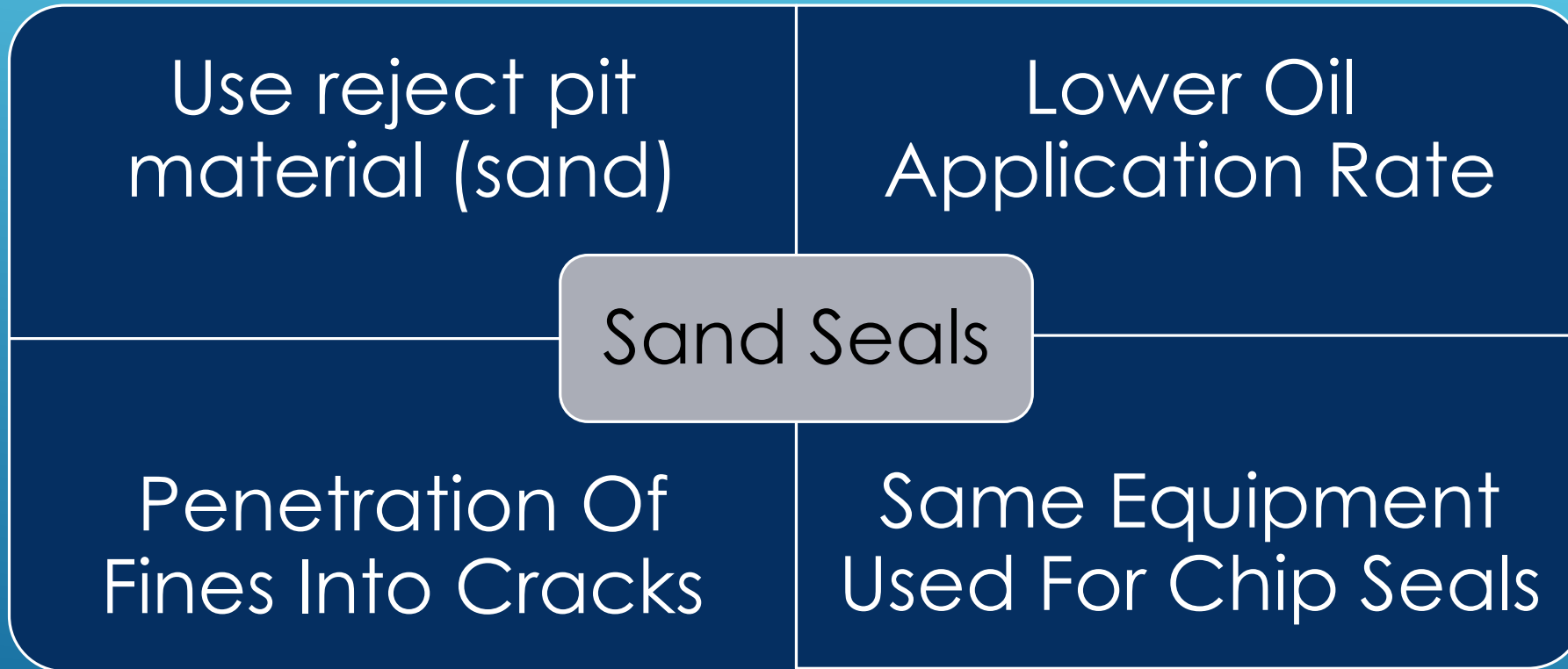
OLD CONCEPTS, NEW MOMENTUM

LAMOURE COUNTY

SAND SEALS AND OTTA SEALS



SAND SEALS - OVERVIEW



2019 LAMOURE COUNTY SAND SEAL – 9.5 MILES PROJECT MATERIALS

Oil

- CRS2P (Sand Seal)
- .17 GAL/SY

- CSS1H (Fog Seal)
- .105 GAL/SY

Sand

- 3/8" Minus
- 25 lbs/SY

Equipment

- Chip Spreader (Gates as closed as possible)
- 2 Pneumatic Rollers
- 5 Tandem Trucks (No Tailgates)
- Oil Distributor (every other nozzle shut off)



PROJECT PROCESS

Broom

Spray
Oil

Apply
Sand

Roll

Broom 2x
(Final Broom
after 2 Weeks)

Fog Seal

Striping



PROJECT ISSUES

Wet Sand

- Too Much Sand Applied
- Clumping

Dust

- Brooming
- Traffic
 - Lower Speed (35 MPH)

Rough Ride

- Truck Hook Up Locations
 - Clean Up
- Washboards
 - Lower Speed (35 MPH)



AFTER FINAL BROOMING



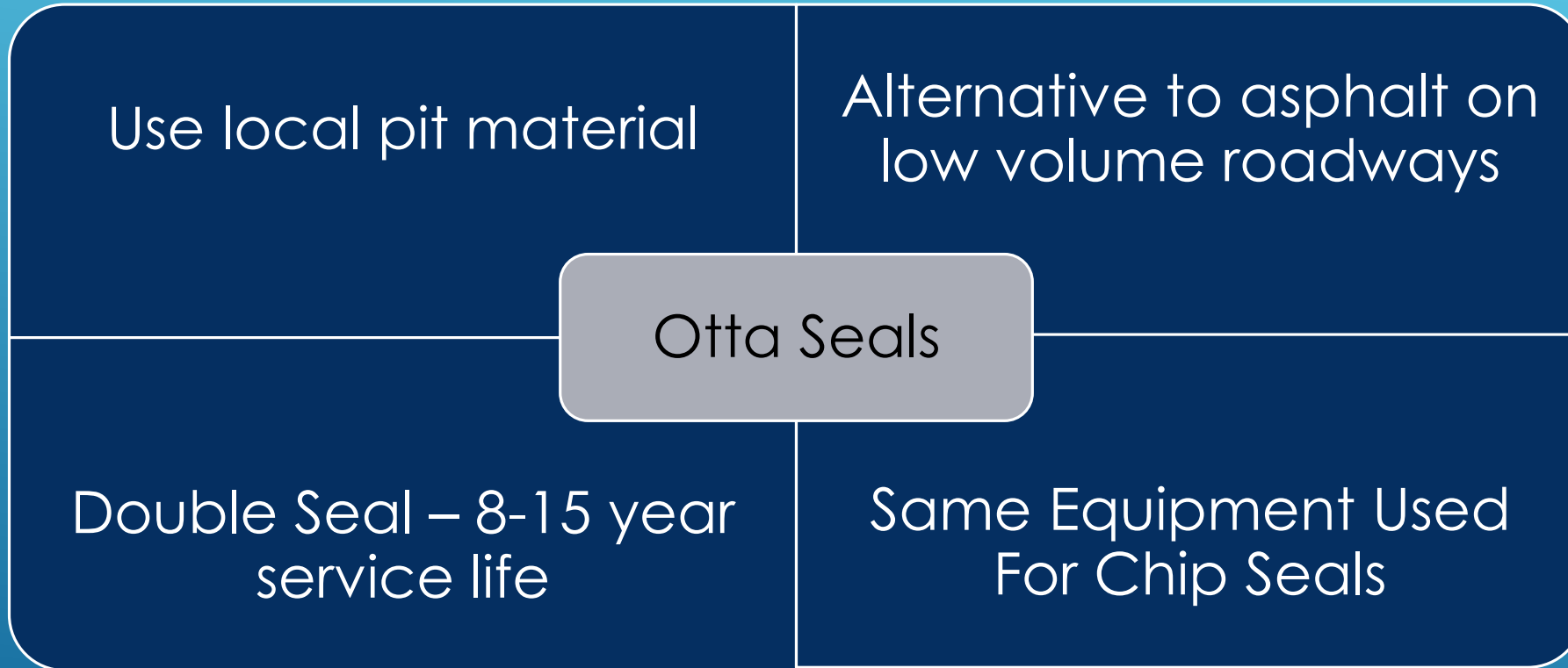
AFTER FOG SEAL



AFTER 1 YEAR



OTTA SEALS - OVERVIEW



OTTA SEAL - PROJECT MATERIALS

Oil

- Emulsion (HFMS-2s, CRS-2P, etc.)
- .45 - .56 GAL/SY

Aggregate

- 0.5" – 1" Max aggregate size
- Crushed or Uncrushed
- Up to 10% fines
- 50 lb/SY



CASS County, MN
2008



PROJECT PREP

Subgrade

- Fix any subgrade issues

Surface

- Blade and compact



PROJECT PROCESS

Spray Oil

Apply
Aggregate

Roll for 2-3
days

Broom after 3 weeks

Recommended
wait 2-3 months
after first application
however, can be
done the next day

Apply second layer
of double seal



Otta Seal Const. 2007, Olmsted County CR58



LAMOURE COUNTY - OTTA SEAL 2021 PLANNED PROJECTS

Recurring Washboard Areas

- Bridges
- Intersections
- Railroad Crossings
- Hills
- Curves

HMA to Otta Seal

- 4 mile stretch of asphalt that was converted to "temporary gravel"
- No funding to re-pave
- 100-200 vehicles per day

