

Success with Alternatives to Paving

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Two Methods

- Recycle old blotters or pavements, add virgin base aggregate, and place Otta Seal surfacing. Sometimes a geotextile (fabric) is used for base improvement.
- Recycle old blotters or pavements, add virgin gravel, reshape and compact the surface, establish 4% crown, and treat it as an unpaved road – we call the “RAP Roads”.

Three Examples

- Day County Rd 12 – Rural Major Collector Classification with ADT at 150 – recycled and rehabilitated with an Otta Seal/Cutback Seal.
- Day County Rd 4 – Rural Major Collector Classification with ADT ranging from 500 to 600 – same as above, but 1.75 inch overlay placed over past two years.
- Day County Rd 12-A – Rural Road Classification with ADT at 50 – recycled, reshaped, one inch of virgin gravel added, is now a “RAP Road”.

Base repair is critical where needed:







Day County Rds 12 and 12-A – Recycle Process



Virgin base course
added on roadway prior
to recycling.



Recycle Process (Con't)



Finishing base –
extremely
important for
surface seals





Surfacing: Initial surface on an Otta Seal is a very heavy coat of high float emulsion covered by clean, crushed, coarse 5/8 minus aggregate.

There is no prime coat.





Initial surface is very coarse, but durable. A second shot of cut-back asphalt and 3/8 minus pea stone provides a good driving surface.



Final surface – thickness approx one inch



Oil and Aggregate Rates

- Co Rd 12 (first seven miles) –
 - 2.5 inches of virgin base aggregate added.
 - First shot of oil: HFMS-2S shot at .48 gal per sq yd
 - Second shot was MC 3000 shot at .30 gal per sq yd
- Co Rd 12 (next five miles) –
 - 2.5 inches of virgin base aggregate added.
 - First shot of oil: MC-800 shot at .35 gal per sq yd
 - Second shot will be MC-3000 shot at .3 gal per sq yd

Oil and Aggregate Rates (con't)

- Co Rd 4 (entire 12 mile section)
 - Built on 10 inches of virgin base on new grade
 - First shot of oil: HFMS-2S shot at .48 gal per sq yd
 - Second shot: MC-3000 shot at .30 per sq yd
 - Initial construction in 2008, entire 12 miles was overlayed with 1.75 in of hot-mixed asphalt (five miles in 2011, seven in 2012)

Co Rd 12-A

Condition prior to rehabilitation



Virgin gravel added prior
to recycling



Reclaiming process and reshape



Finished section in bottom of slide – work
continues at top



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Recently
performed for
three weeks in
harvest with 200
trucks per day!

No blade
maintenance
done to date.

Finished surface – very
tightly bound “RAP Road”



Before and After



Aggregate added and process

- Co Rd 12- A five mile section
 - One inch of virgin gravel added
 - Reshape to unpaved road crown at 4%
 - Aggressive use of water and compaction
 - No further work done

We have previous experience with this: turn-back from asphalt to gravel in 2007 here. It has performed well.



Cost Data

- **Co Rd #12 (2012)**
 - Add 2.5 inch base course - 25 mile haul
 - Mill, shape, compact
 - \$18,414/mile
- **(2009) Otta seal**
 - 5/8" Clean crushed aggregate
 - HFMS-2S
 - \$19,174/mile
- **Chip seal**
 - 3/8" pearock
 - MC-800
 - \$20,215/mile

Cost Data (con't)

- **Co Rd #04**
 - (2008) Otta seal
 - \$18,609/mile
 - (2012) 1.75 inch Asphalt Overlay
 - \$122,000/mile
 - MC 3000 Chip Seal 2012 Avg Cost
 - \$15,000/mile

Cost Data (con't)

- **Co Rd #12A (2012)**
 - Add 1.5 inch base course - 40 mile haul
 - Mill, shape, compact
 - \$19,524/mile

Thank You