

Look Under the Pavement



MN/DOT RETIREE

NARROWLY ESCAPES BIG HURT

AS ROAD CAVES IN

Some may call it luck, others divine intervention, but whatever you call it Mn/DOT retiree Dick Olsen, Owatonna Permits, is glad he was in the right place at the right time on Monday, March 29.

Olsen was driving into [REDACTED] County Road 45 at about 7:45 that morning when two lanes of the four-lane roadway disappeared out from under a tandem dump truck and a Jeep Cherokee directly in front of him. Fortunately Olsen was able to stop and then quickly flagged traffic around the 15-foot deep hole until police arrived. Olsen said no one was injured but the truck and Jeep blew a couple of tires. Olsen was grateful he wasn't following either vehicle too closely or he would have ended up in the bottom of the crevice.

The hole developed because the roadway's foundation sifted through a crack in the top of a culvert creating a void. County Road 45 will be closed until late April to give [REDACTED] County crews time to replace the existing culvert and fix the road.



Concrete pavement spanned the void above the 6 foot box culvert until it didn't.



Cracks in pavement may have foreshadowed the collapse



The 6 foot wide by 6 foot high box culvert had holes through the concrete along the bottom corners. Road fill was washed away through the holes, over time, and caused road collapse.

MN 95

MP 80



11/7/2001

2 successive patches on the bituminous pavement point to a problem below the road's surface.

Holes in the metal culvert allowed water to wash out soil from around the pipe and create a void under the pavement. The pavement patches masked the underlying problem.



11/7/2001

The hole in the pavement
may also show up
somewhere upstream of
the hole in the pipe.



*Construction
saw a surface erosion
problem and tried to
fix it.*

A void had appeared high in the road embankment. A construction project installed a 24" pipe flume to carry drainage from the road surface and down over the eroded inslope. An old 36" metal culvert was underneath the void.

The cause lurked below the surface . . .



Rusted holes and a joint separation in the old metal culvert caused the loss of soil from the road embankment.

11/7/2001

Look again at
the hole in
the slope
above the old
culvert.



It Lurks

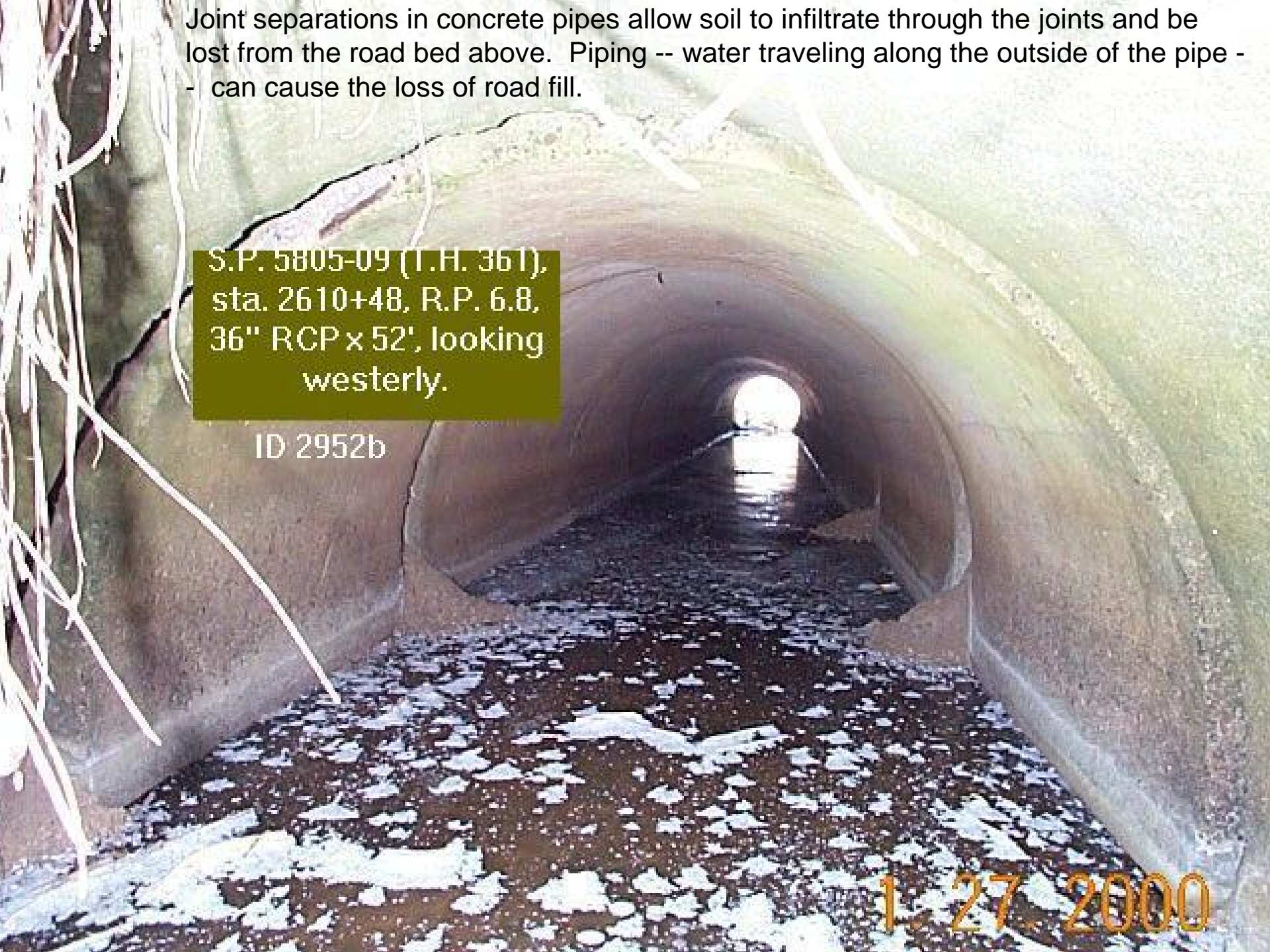
Somewhere Under Your Roadway . . .

Joint separations in concrete pipes allow soil to infiltrate through the joints and be lost from the road bed above. Piping -- water traveling along the outside of the pipe -- can cause the loss of road fill.

S.P. 5805-09 (I.H. 361),
sta. 2610+48, R.P. 6.8,
36" RCP x 52', looking
westerly.

ID 2952b

1.27.2000



Will you find *it*
before *it* finds you?



The hole in the pavement may look small. The void below it is the real concern. Holes, joint separations and piping in culverts and storm drain pipes cause voids under road pavement.

Where is *It* ?

Look for
Pipes or Structures
with
Condition Rating 4
(*and maybe 3*)

and look for HydInfra inspection flags: Holes, Joint Separation, Piping, Road Void.

End