

PERRY ROUTE 1 PIN 10008.00

(12-13-2005)

Project Limits

The project begins not quite half a mile north of route 190 and extends northerly 4.1 miles to a point just beyond Gin Cove road.

Records indicate this stretch of highway was originally constructed in 1929

Traffic Data

Route 1 is classified as a rural arterial on the National Highway System

There are currently on average 2,590 vehicles a day and the 20 year projection is for on average 3,370 vehicles a day. A 30 percent increase.

13 percent of the traffic is heavy trucks

Accident Data

In the study period from January 2001 to December 2003 there were 18 crashes.

This is double what we had reported for the previous period January 1999 to December 2001.

Need / Justification

This project is a gap piece in route 1 that has never been built to a safe standard

1. The accident rate is increasing

The improvements proposed should reduce the accident rate

- ❑ *Alignment improvements (sight distance)*
- ❑ *Pavement and cross slope improvements*
- ❑ *improved clear zone*
- ❑ *proposed 6 ft. paved shoulder*

2. Both horizontal and vertical alignments are substandard for both the posted speed and the design speed.

The proposed design will meet current alignment standards with 1 exception.

3. The existing gravel shoulders do not meet the width and cross slope standards for the posted speed, road classification and traffic volume.

Currently it is a gravel shoulder of varying width and a non-uniform cross slope

The proposed design is for a 6 foot paved shoulder. A statistical safety analysis indicates there could be a reduction of approximately 40 % in crashes in a 20 year period verses not doing anything to the existing shoulder.

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4. Roadside safe recovery areas are inadequate for the traffic volumes and speed in several areas where there are obstacles such as: Ledge
Pond / Utility Poles / Trees
- *Utility poles will be set back as close to the clear zone as possible.*
 - *Guard Rail will be installed at a small pond*
 - *Trees removed within that safe zone*
 - *Four currently unoccupied buildings lie with the clear zone and will be removed*

5. The pavement condition is poor with widespread cracking, rutting and failure. Maintenance crews are having great difficulty plowing snow because of the pavement condition

New aggregate base and pavement installed designed for the projected traffic loads

6. Poor drainage
Much of the roadway base is poorly drained sitting low relative to the surrounding ground. Many if not most of the culverts do not have adequate cover and are susceptible to frost heaving. Many of the culverts are plugged and not functioning properly.

Drainage corrections:

- *Raising the surface grade of the roadway*
- *Constructing ditches where needed to drain the roadway base.*
- *In areas where we can't ditch or raise the grade we will be • installing under drain pipes to get the water out of the road*
- *We will be installing new culvert pipes as well.*

These actions should greatly improve the quality and durability of the pavement structure improving safety and the ability of maintenance personnel to plow the road in the winter.

Goals

- ⇒ Improve the structural integrity of the road to support projected future traffic loads
- ⇒ Bring the highway up to current safe standards
 - *Improved sight distances*
 - *Improved pavement condition*
 - *Restored cross slopes*
 - *6 foot paved shoulder*
 - *Clear zone improvements*

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Avoidance and minimization

- ⇒ *Staying on the existing alignment as much as possible while maintaining minimum safe alignment standards*
- ⇒ *The proposed 1.8 m (6 ft.) shoulder instead of the standard 2.4 m (8 ft.) shoulder minimizes wetland and property impacts.*
- ⇒ *Guard Rail installed by the pond avoids an alignment change and minimizes impacts to the pond.*
- ⇒ *Elimination of ditch back slope rounding in wetland areas to reduce wetland impacts*

<i>DESIGN</i>	<i>WETLAND IMPACTS (Sq. Ft.)</i>
8 ft. shoulder with ditch back slope rounding 10 foot shoulder for trucks on steep upgrades	71,898
6 ft. shoulder ditch backslope rounding eliminated in wetlands 10 foot shoulder for trucks on steep upgrades eliminated	59,977

Reduced wetland impacts = 11,921 sq. ft.

Percent reduction = 16.5%