

## Road Assessment by Volkert-Mar.28-30/31 2017

- 1) Is the design, layout and construction of our roads done to a reasonable level or spec given the location?

We are unable to provide a complete answer because we do not have information about the subgrade construction or geometric data for the curvature of the roadway.

The design of the roads do not meet county road standards for Fannin County. County standards require a minimum of 18 ft. road width with 3 ft. of stabilized shoulder on each side. Several roads in your network do not meet the width requirement or the shoulder requirement. Please see the full county specifications for roadway requirements in Article VI – S3.616 & S.617 in the link provided below.

However, while the roads in your network do not meet county road standards for Fannin County, they do seem typical for private roads in mountainous areas.

- 2) Is the type and spec of asphalt used here within acceptable engineering standards?

From what I can observe the asphalt's installation and spec falls within expectations. The asphalt description from Johnson Paving, LLC is a typical asphalt used in low volume roads. The minimum, recommended and maximum thickness recommended from GDOT would be 1.125, 1.25 and 1.5, respectively. See the asphalt selection guide referenced below for more information

- 3) Is our road design and present installation suitable for a mix of mostly passenger vehicles but also knowing that heavy construction vehicles will occasionally use the road (cement trucks and full laden wall board delivery trucks as example)?

See response number 1 and 2. I believe that the asphalt selection is reasonable but I cannot comment on the subgrade construction and the layout doesn't meet Fannin Co. standards.

- 4) What is your opinion of the repair or maintenance works and overlays you have observed here?

The repair options in curves have been appropriate. In the localized, problematic areas I believe the asphalt overlays to be a temporary solution that does not correct the cause of the problem.

- 5) What are the 3 most important issues we should concentrate on for the long term life and productivity of our roads?

The three most important issues would be:

1. Ensuring that the drainage system can function effectively and channel water away from the roadbed.

2. Using preventative maintenance to extend the life of existing pavements.
  3. Understanding and finding a solution to localized issues in your road network.
- 6) What criteria would you suggest for determining if a contractor is determined to have the necessary experience and equipment to provide the best quality of service to us at a reasonable level of compensation?

Requesting letters of recommendations from owners of similar projects and requesting to see the oldest examples of similar repair or projects that the contractor has performed. This would give you a history of their work.

- 7) Given the history and age of the road system within MT, is our approach in dealing with problem areas where the placement of the road in relation to the slope or gradient of the natural topography and the reality that trash or burn pits are in the ROW's, is excavation and removal of organic matter and noncompacted and unsuitable fill dirt which is then replaced with good spec dirt, the use of geotech fabric (where needed) and compaction at acceptable fill levels the best approach for the money?

Excavation and removal of the unsuitable fill and replacing with suitable material in compacted lifts would be an appropriate approach for areas that are determined to be trash or burn pits. I would not recommend a repair that would leave the unsuitable material in your subgrade.

- 8) Any other comments on improvements to existing layout and thoughts on use of crack sealing versus overlaying bad sections or other preventative maintenance suggestions.

Crack sealing is a great option for extending the life of properly performing pavements. They would not be a repair option for "bad sections." Overlaying asphalt on the "bad sections" would only be a temporary repair because the fundamental problem isn't failing asphalt. Also, without addressing the fundamental problem, simply overlaying asphalt would allow cracking to reflect upward through the new pavement.

Other preventative maintenance options would be a seal coats. The asphalt cement in your existing roads are not aged enough to warrant seal coats at this point.

The importance of proper drainage cannot be overstated. Preventing water infiltration into the roadbed is the paramount to a healthy road network.

## **References**

Fannin County Land Development Ordinances

<http://fannincountyga.org/wp-content/uploads/2012/11/LandDevel-Ordinance.pdf>

Georgia DOT Asphalt Pavement Selection Guidelines

<http://www.dot.ga.gov/PartnerSmart/Materials/Documents/GeorgiaasphaltpavementresurfacingguideMay06.pdf>

Georgia DOT Asphalt Pavement Design Manual

<http://www.dot.ga.gov/PartnerSmart/DesignManuals/Pavement/Pavement%20Design%20Manual.pdf>