

INTEROFFICE MEMORANDUM  
Transportation Division

Clark County, Washington  
Department of Public Works

TO: Michael Mabrey

FROM: Ejaz Khan, P.E.; Traffic Engineer 

DATE: October 1, 2013

SUBJECT: Livingston Mountain Quarry Overlay District.

Based on the proposed land use information regarding the mining overlay district in the Livingston Mountain area, I have evaluated the area roadway corridors for traffic safety and operations. The trucks from and to the proposed mining area can access via either Livingston Mountain Road or via Hancock Road. Livingston Mountain Road is a two lane paved roadway with lane width ranging between 10 and 11 feet. The entire corridor has significant horizontal and vertical curves. The corridor is stripped with centerline and edge line up to Hancock Road. Beyond Hancock Road, the corridor is only stripped for centerline.

There were a few segments along Livingston Mountain Road corridor that were of particular concern from traffic safety and operations point of view. The first location was the intersection of Livingston Mountain and Hancock Road. The intersection location has a combination of horizontal and vertical curve. The grade on the curve is approximately 14%. The terrain severely limits the sight distance of oncoming vehicles at this location. Exhibit 1 illustrates the drivers view approaching the curve looking north. Immediately north of Hancock Road intersections there are several sharp curves with sight distance restriction. The pavement width slightly narrows north of Hancock Road and there are drop-offs on the east side. The pavement narrows slightly further north of 70<sup>th</sup> Street (Private road) accompanied by several sharp curves and drop-offs. Exhibit 2 illustrates driver's view on another curve north of 70<sup>th</sup> street looking south.

Hancock Road corridor is initially a paved road with an initial pavement width of 18 to 19 feet. This corridor also has several sharp horizontal curves. Exhibit 3 illustrates a view of Hancock road. The pavement width narrows heading eastbound and the pavement condition continue to worsen. The pavement width in front of "Estate at Livingston Mountain" is between 15 to 16 feet. The pavement further down from "Estate at the Livingston Mountain" is uneven, narrow and gravel road and unsuitable for truck traffic.

**Conclusion:**

From traffic safety and operations point of view, a large truck with trailer travelling at a slow speed occupies approximately 11.5 feet when negotiating a curve alignment of 300 feet and approximately 13.5 feet when negotiating a curve of 150 feet radius (representing a sharp curve). The space occupied by the truck takes into account the off-tracking and the swept path of the truck.

Given that there would need to be certain shy distance or clearance between the opposing vehicles and the lane width on Livingston Mountain Road range between 10 and 11 feet, the corridor would be unsuitable for truck traffic. The grades along the corridor and the lack of available line of sight, around the sharp curves, between approaching vehicle further add to the corridor's unsuitability for heavy truck traffic from traffic safety and operations point of view.

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CC: Matt Griswold, P.E.; -Traffic Engineering Manager