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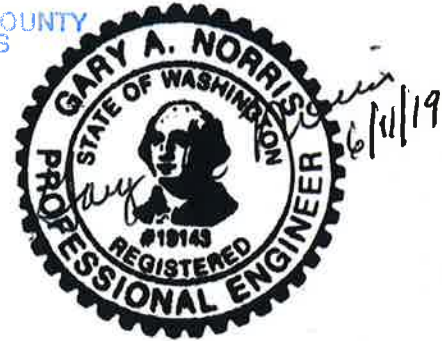
Memorandum

To: Dan Cox
Miles Sand and Gravel

From: Gary A. Norris, PE, PTOE
DN Traffic Consultants, Inc.

Date: June 6, 2019

Re: Grip Road Gravel Pit



The following memorandum was prepared to summarize the traffic studies prepared to address the traffic impacts of the proposed Grip Road Gravel Mine located approximately 0.75 miles east of Prairie Road in Hoogdal area of Skagit County.

Summary

The original analysis was based on the following assumptions:

- The Grip Road Mine would transport with dump truck & trailer up to 200,000 tons of material per year;
- Dump truck plus pup trailer has a capacity of 34 tons;
- Total trucks = $200,000/34 = 5,882.35$ trucks per year to address the anticipated demand;
- Annual trip generation assuming round trip = $11,765(5,882.35 * 2 = 11,764.70)$ vehicular trips per year;
- The mine would operate 260 days per year which results in an average of 46 ($11,765/260 = 45.25$) trips per day;
- While hours of operation are proposed to be unlimited as allowed by zoning, normal hours of operation would occur between 7 AM and 5 PM Monday through Friday, which would result in an average of 4.6 ($46/10 = 4.6$) truck trips per hour;
- If hauling only occurred outside the daily AM and PM peak hours, 9 AM to 3 PM, there would be an average of 8 ($46/6 = 8$) trips per hour, this example has been provided in earlier reports, however the most likely scenario is trips spread between 7 am and 5pm as noted above;
- Maximum truck volume on Grip Road is limited by the PM peak hour level of service capacity for the Prairie Road/Grip Road intersection based on the Skagit County Level of Service standard of LOS C;

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- Maximum hourly intersection capacity of truck volume on Grip Road was estimated to be 110 truck trips per hour based on the PM peak hour capacity of the Prairie Road/Grip Road intersection.

Our analysis explored further an extreme volume scenario as follows:

- As an extreme example, that would still function well below intersection capacity, mine production of 5,000 tons per day would result in 147 ($5000/34 = 147$) trucks per day or a total of 294 truck trips per day;
- Assuming the standard pit operation of 10 hours per day, the average hourly truck volume would be 29.4 ($294/10 = 29.4$) truck trips per hour;
- This volume, 29.4 truck trips per hour, is substantially less than the capacity of Grip Road, which is estimated to be 110 truck trips per hour, during the PM peak hour and significantly less than the 72 ($720/10 = 72$) truck trips per hour estimated by Skagit County. The County estimate was based on 720 truck trips per day.

As clearly stated in Mr. Lynn's February 27 response to Julie Nicoll's assertion, there is no contradiction in the anticipated truck traffic volumes generated by the Grip Road pit. The analysis explored different scenarios to address the various questions of project impact. Our analysis simply responded to Skagit County's request for an ultimate maximum truck traffic volume resulting from the mining operation. The hours of operation and anticipated volumes remain the same as originally stated.