

TECHNICAL MEMORANDUM

Project: Pioneer Aggregates– South Parcel Project

Subject: Traffic Impact Assessment

Date: July 18, 2022

Author: Marni C. Heffron, P.E., P.T.O.E.
Principal, Heffron Transportation, Inc.

Glacier Northwest (dba CalPortland) is seeking a permit to expand its existing Pioneer Aggregates Gravel Mine in Dupont, Washington. This expansion (hereafter referred to as the “South Parcel Project”) would increase the mine footprint and extend the life of the mine. Current mine operations on the North Parcel and the respective transportation-related impacts were assessed in the June 2013 *Final Environmental Impact Statement (FEIS)*.¹ This memorandum evaluates the potential transportation impacts associated with the South Parcel Project and compares those to impacts previously evaluated in the FEIS.

1. Current and Planned Mine Operations

The Dupont Pioneer Aggregates Gravel Mine is located at the north end of the City of Dupont. The existing processing plant is accessed from Pioneer Avenue. The mining areas and processing plant location are shown on Figure 1.

Current Operations

The mine, processing plant, and barge loading dock at Tatsolo Point have been in operation since 1997. The expansion of the mine to the 142-acre North Parcel (described in the 2013 *FEIS*) assumed extraction of approximately 2.8 million cubic yards of sand and gravel annually. It also assumed that 80% of that aggregate would be transported by barge, the same rate that had been historically barged before expansion. The remaining 20% was assumed to be exported from the site by truck, either as mined aggregate or as part of processed concrete. Section 2 of this memorandum presents information about the *FEIS*-estimated truck and employee traffic volumes, along with data about actual truck loads for the five years between 2015 and 2020.

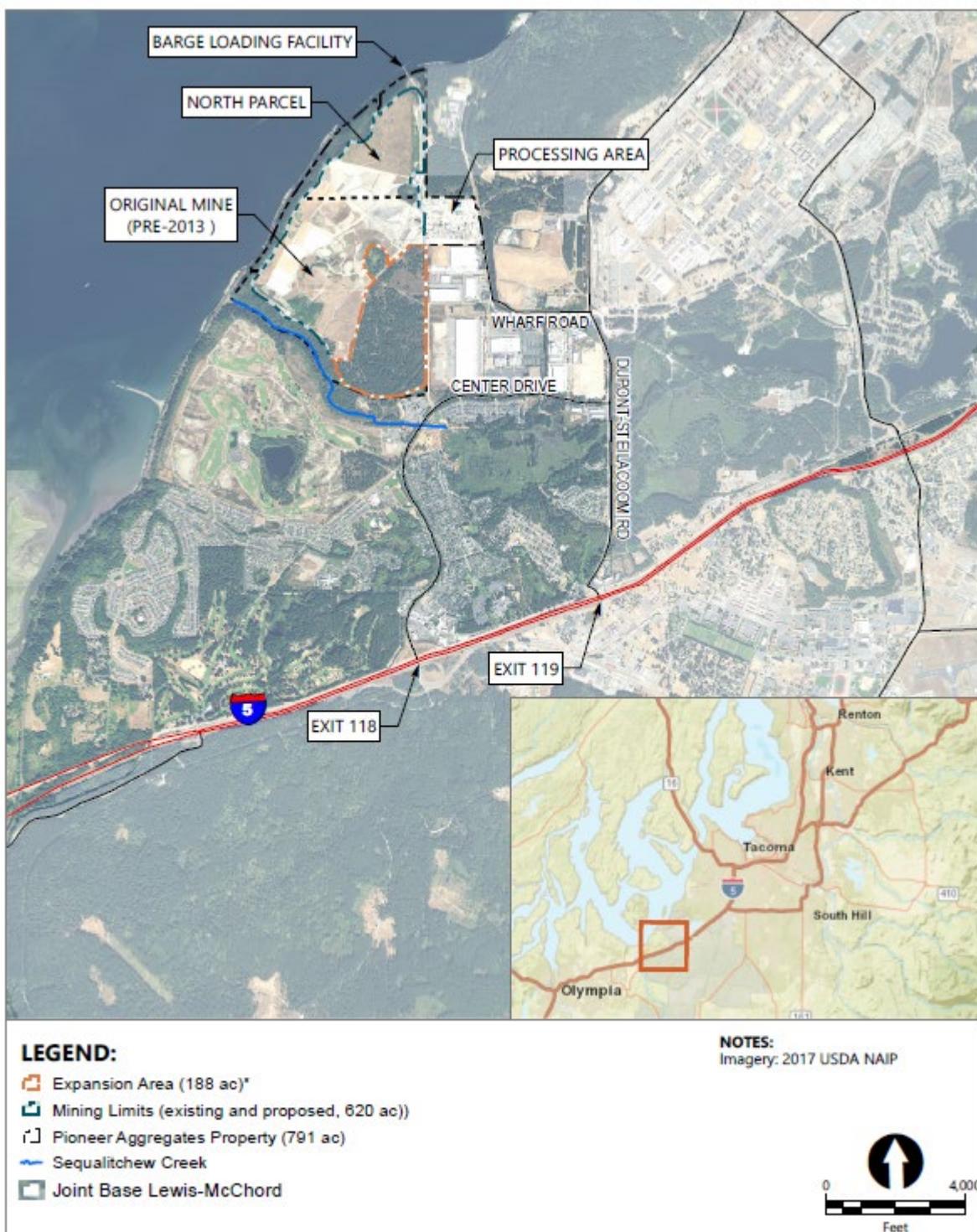
Future Operations with South Parcel Project

The South Parcel Project would expand the footprint of the existing mine to include the 188-acre expansion area shown in Figure 1. It would increase the existing sand and gravel resources available to mine by 30 to 40 million cubic yards, and extend the life of the mine by an additional 14 years. This relates to an annual extraction rate of between 2.1- and 2.8-million cubic yards -per-year, which is similar to the maximum rate of extraction defined in the *FEIS*. CalPortland expects that 80% of the aggregate would continue to be transported by barge with the remaining aggregate exported by truck. The processing plant would remain in its current (and historic) location.

¹ City of Dupont, *Final Environmental Impact Statement for CalPortland Dupont North Parcel Mining*, June 2013.

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Figure 1. Site Vicinity and Mining Operational Areas



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2. Existing Mine-Generated Traffic Volumes

Predicted by FEIS

The 2013 *FEIS* included detailed trip generation estimates for the mine (see Chapter 3.11), which were based on historic operations and annual extraction rates. The trip generation estimates assumed that 20% of the mined aggregate would be transported from the site by truck (the remaining 80% would be by barge and not affect roadways). *FEIS* Table 3.11-4 summarized the trip generation estimates, and is presented below.

FEIS Table 3.11-4. Summary of Project-Generated Off-Site Trips

Trip Type	Vehicle Type	Daily	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Typical Day								
Employee Commute	Automobile	126	3	0	3	0	3	3
Service & Deliveries	Light Truck	18	2	2	4	2	2	4
Product Transport	Heavy Truck	246	9	9	18	1	1	2
Logging ¹	Heavy Truck	0	0	0	0	0	0	0
Total		390	14	11	25	3	6	9
Peak Day								
Employee Commute	Automobile	200	7	3	10	0	4	4
Service & Deliveries	Light Truck	30	5	2	7	3	3	6
Product Transport	Heavy Truck	710	25	25	50	5	5	10
Logging ¹	Heavy Truck	24	0	0	0	0	0	0
Total		964	37	30	67	8	12	20

Source: Final Environmental Impact Statement for CalPortland Dupont North Parcel Mining, June 2013.

1. Logging the North Parcel would occur only during the first year of operation.

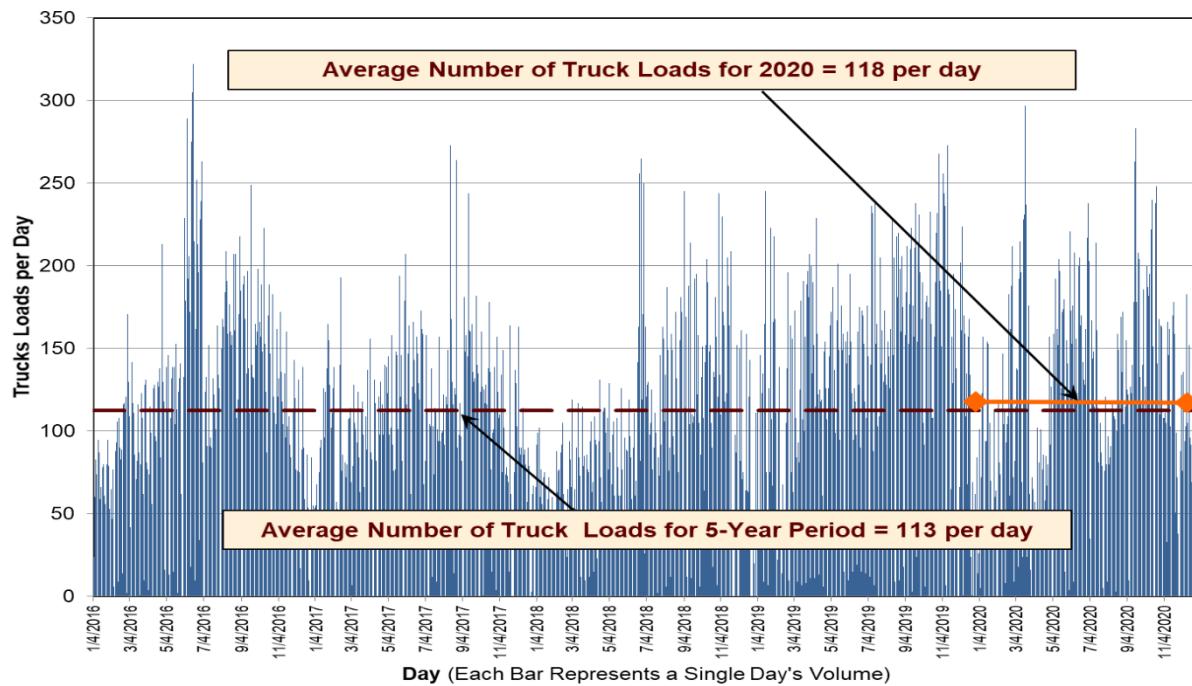
The *FEIS* had estimated that the mine would generate an average of 390 trips per day (195 trips entering the site and 195 trips exiting the site). Of these, 264 trips per day (132 inbound and 132 outbound) would be truck trips. On the peak day, daily trips were expected to increase to 964 trips per day (482 inbound and 482 outbound) of which 764 would be truck trips (382 inbound and 382 outbound). Trips during each of the commuter peak hours—AM and PM—were also determined. More traffic was expected to occur during the AM peak hour when product is typically transported out to construction sites. During the peak day, the mine was expected to generate 67 AM peak hour trips (37 inbound and 30 outbound). The PM peak hour would have much lower volumes, expected to be 20 trips on the peak day (8 inbound and 12 outbound).

Actual Truck Trips – Years 2016 through 2020

CalPortland tracks all trucks that exit the site with a load of material (e.g., truck loads). Five full years of data (from January 1, 2016 through December 31, 2020) were obtained from CalPortland and compiled to show the number of truck loads that exit the site each day. It is noted that each truck load reflects an outbound trip (an inbound trip is made by an empty truck and is accounted for later in the analysis). Figure 2 below shows each day's concrete and aggregate loads (trucks exiting the site).

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Figure 2. Daily Truck Loads (Outbound Truck Trips) – Actual for Years 2016 through 2020

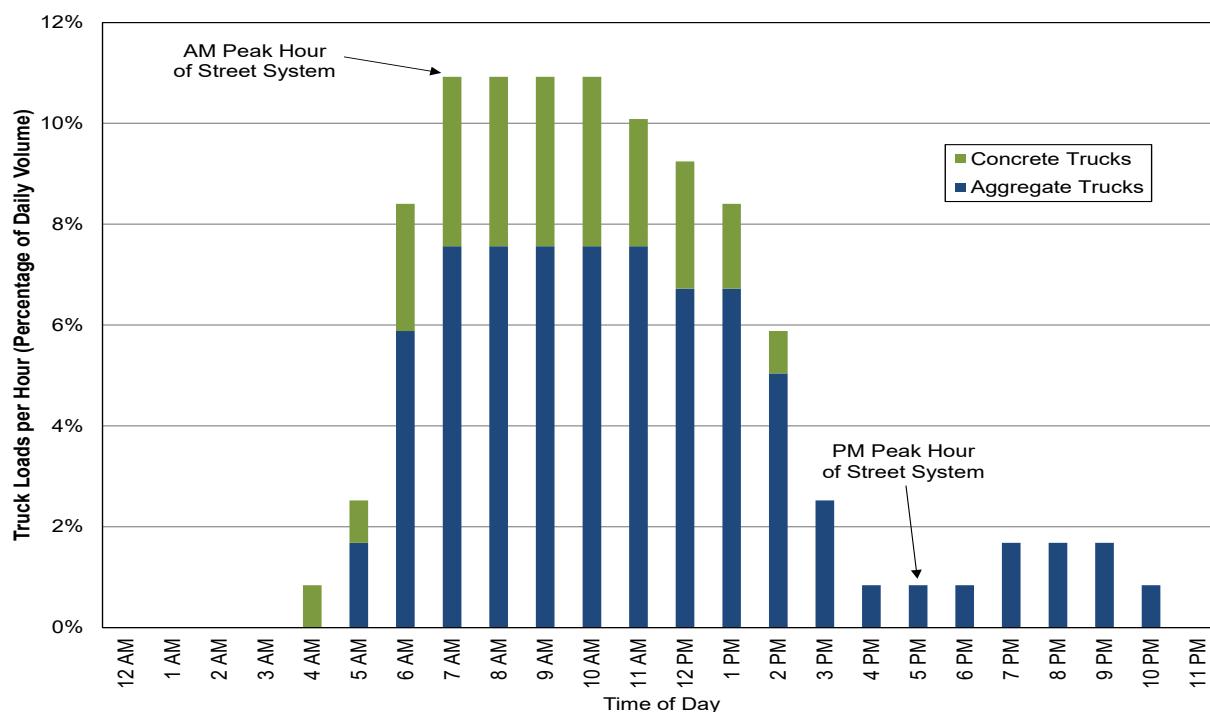


Source: CalPortland Data compiled by Heffron Transportation, Inc., February 2022.

More detailed information was compiled for 2020. While the COVID-19 pandemic affected activity during some weeks of the year, the total aggregate mined was 2,776,615 cubic yards, just below the 2.8 million cubic yards anticipated by the FEIS. The average truck loads per day over the five-year span (113 truck loads per day) were very similar to the average for the year 2020 (118 truck loads per day). Further analysis was performed for the full year of 2020 data to derive average truck loads by time of day. Figure 3 shows the percentage of each day's trucks for each hour.

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Figure 3. Percent Trucks by Hour – Weekday (2020)



Source: CalPortland Data compiled by Heffron Transportation, Inc., January 2021. Data reflect the average of full year of truck loads from 2020.

Table 1 compares the daily and peak hour truck trips from 2020 to those assumed in the *FEIS*. A total of 118 truckloads were processed on the average day in 2020, which results in 236 truck trips (empty truck inbound plus loaded truck outbound). The peak day of the year had 297 truckloads, equaling 594 truck trips. The total daily trips were below the level estimated in the *FEIS*. Actual AM peak hour trips were slightly higher for an average day (26 trips compared to the estimated 22 trips), but lower on the peak day (52 trips compared to the *FEIS* level estimated 57 trips). PM peak hour trips were lower for the average day and the same as expected for the peak day.

Table 1. Comparison of *FEIS* Truck Estimates to Actual Truck Volumes

Trip Type	Daily	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
FEIS Estimated Truck Trips ^a							
Average Day	266	11	11	22	3	3	6
Peak Day	740	30	27	57	8	8	16
Actual Truck Trips – Year 2020							
Average Day ^b	236	13	13	26	1	1	2
Peak Day ^c	594	26	26	52	8	8	16
Absolute Peak Day in Five- Year Period (06/15/2016) ^d	644	13	49	62	10	2	12

a. Source: Final Environmental Impact Statement for CalPortland Dupont North Parcel Mining, June 2013.

b. Based on average loads per hour for all of year 2020.

c. Based on actual loads for the Peak Day in 2020 (March 18, 2020).

d. Highest day in five-year period between 01/01/2016 and 12/31/2020. This day had substantial concrete truck activity associated with a continuous pour operation.

As shown above on Figure 2, the absolute highest volume in the past five years (June 15, 2016) generated 322 truck loads or 644 truck trips per day. This day had a very high number of concrete truck trips associated with a continuous-pour operation. The actual trips for that day were compiled to determine the peak hour volumes. The daily and PM peak hour trips were below the values assumed in the FEIS, but the AM peak hour was slightly higher due to the high number of outbound trips in the morning for the continuous pour. That type of event is very rare, and those volume levels were only observed one time in the five-year period.

3. Future Traffic with South Parcel Expansion

The South Parcel Project would allow for continued mine operations that are similar to those already permitted. The processing plant would remain in the same location, and the market area and travel patterns are expected to remain the same. Trip generation is expected to continue at current levels and would remain below the peak day estimates that had been evaluated in the 2013 *FEIS*. Expansion to the South Parcel would have a short period when logging trips are added to the traffic stream. The *FEIS* had estimated up to 24 logging truck trips per day (12 loads). This is likely to be conservatively high since the timber to be logged on the South Parcel is of poorer quality than for the previously-logged North Parcel.

The 2013 *FEIS* had evaluated traffic operations at area intersections for the future horizon year of 2035. The year 2035 conditions had accounted for substantial growth in traffic due to a dozen major development projects and background growth, and were consistent with assumptions in the *I-5 Joint Base Lewis-McChord (JBLM) Transportation Analysis*.² Impacts of the project were evaluated for the peak day condition, which as shown above, reflect a higher trip condition than occurred during the peak day in 2020. The *FEIS* traffic operations analysis found that, “*...project-generated trips are expected to constitute 3 percent or less of total trips through the LOS E and F intersections in the AM peak hour, and less than 1 percent in the PM peak hour. This reflects projected conditions on a day of peak mining operations; on days of more typical mining operations, these proportions would be even lower.*” It goes on to conclude, “*Because the project-generated trips would represent a small proportion of traffic volumes at the study area intersections and would have negligible effect on the levels of service at the I-5 ramps and city intersections, no adverse level of service impacts are project to result from the South Parcel proposal.*” The conclusion is still reasonable given that the trips are expected to remain similar to or less than those evaluated in the *FEIS*, and that the horizon year evaluated (2035) is reasonable to capture the extended life of the mine with expansion to the South Parcel.

4. Summary

The South Parcel Project is not expected to exacerbate transportation conditions in the study area. Trip generation is expected to continue at current levels and would remain below the peak day estimates that had been evaluated in the 2013 *FEIS*. Traffic operations had been evaluated in the *FEIS* for the anticipated South Parcel traffic and extended mine life, and concluded that the South Parcel would not adversely affect traffic operations in the site vicinity. This conclusion is still reasonable.

MCH/tsm

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² Washington State Department of Transportation (WSDOT) and the Tranpsco Group, *I-5 Transportation Alternatives Analysis & Traffic Operational Model*, from Mounts Road to SR 512. Prepared for the City of Lakewood, September 2010.