TRAFFIC IMPACT ANALYSIS

FOR

GRIP ROAD MINE

Prepared By

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10/8/20

September 10, 2020

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TABLE OF CONTENTS

INTRODUCTION

The following traffic impact analysis (TIA) was prepared to address the traffic related impacts of the proposed Grip Road Mine located in northern Skagit County. Skagit County Road Standards[1] has identified two levels of traffic impact analyses: Level I and Level II. The Level I analysis is required for developments which generate 25 or more PM peak hour trips. A Level II analysis is required for developments which generate more than 50 PM peak hour trips.

It is expected the Grip Road Mine will generate approximately 4.6 trucks per hour under normal operation which is significantly less than the 25 PM peak hour trip threshold, established by Skagit County, which require a traffic impact analysis under Skagit County Road Standards.[2]

The Applicant has suggested that under abnormal circumstances, when extended hours are required, a reasonable upper limit of truck traffic would be 29.4 trips per hour. Although under the typical operation condition, a Level I analysis would not be required, under the "worst case" scenario, the extreme condition requiring extra hours of work, (29.4 trips per hour), a Level I analysis would be required.

According to the Skagit County Road Standards[3]; the purpose of a traffic impact analysis (TIA) is to:

A. Determine the safety impacts a particular development will have on the regional road network.

B. Establish whether the development will meet the County's level of service standards as adopted within the County's Comprehensive Plan.

C. Determine mitigating measures necessary to alleviate safety issues and to meet the adopted level of service standards.

PROJECT DESCRIPTION

The Grip Road Mine project proposal will consist of dry mining sand and gravel limited to excavation and removal from the site. The mine contains approximately 68 acres. The mining operation is anticipated to yield approximately 4,280,000 cubic yards of sand and gravel over an approximate 25-year period; or approximately 200,000 cubic yards per year.

The property is located approximately 3.7 miles east of the I-5/Bow Hill Road Interchange, Exit 236. The *Grip Road Mine* development is located on the north side of Grip Road approximately 4,000 feet east of the Prairie Road/Grip Road intersection. The city of Bellingham is approximately 14 miles to the north and the city of Burlington is approximately 5 miles to the south. A vicinity map is provided in Figure 1.

Concrete Nor 'West has proposed normal operating hours of the Mine as Monday – Saturday, 7AM to 5PM contrasted to the normal hauling hours of Monday – Friday, 7AM to 5PM. For purposes of this traffic analysis, we have calculated the highest potential daily truck trips, assuming a Monday – Friday, 7AM to 5PM hauling schedule. Overall, weekly trucking volumes are not expected to increase with the addition of Saturday hauling. Please refer to the Traffic Conditions with Project section of this report for additional discussion of truck volumes.

Parking for employees, trucks, and operations vehicles will be available on-site. The applicant has indicated that one (1) to two (2) employees would be working on the site at maximum operation.

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[1] Skagit County Road Standards; Version 5.2; Section 4.0 Traffic Analysis; May 26, 2000.
[2] Ibid.
[3] Ibid; Section 4.01 Traffic Impact Analysis; May 26, 2000

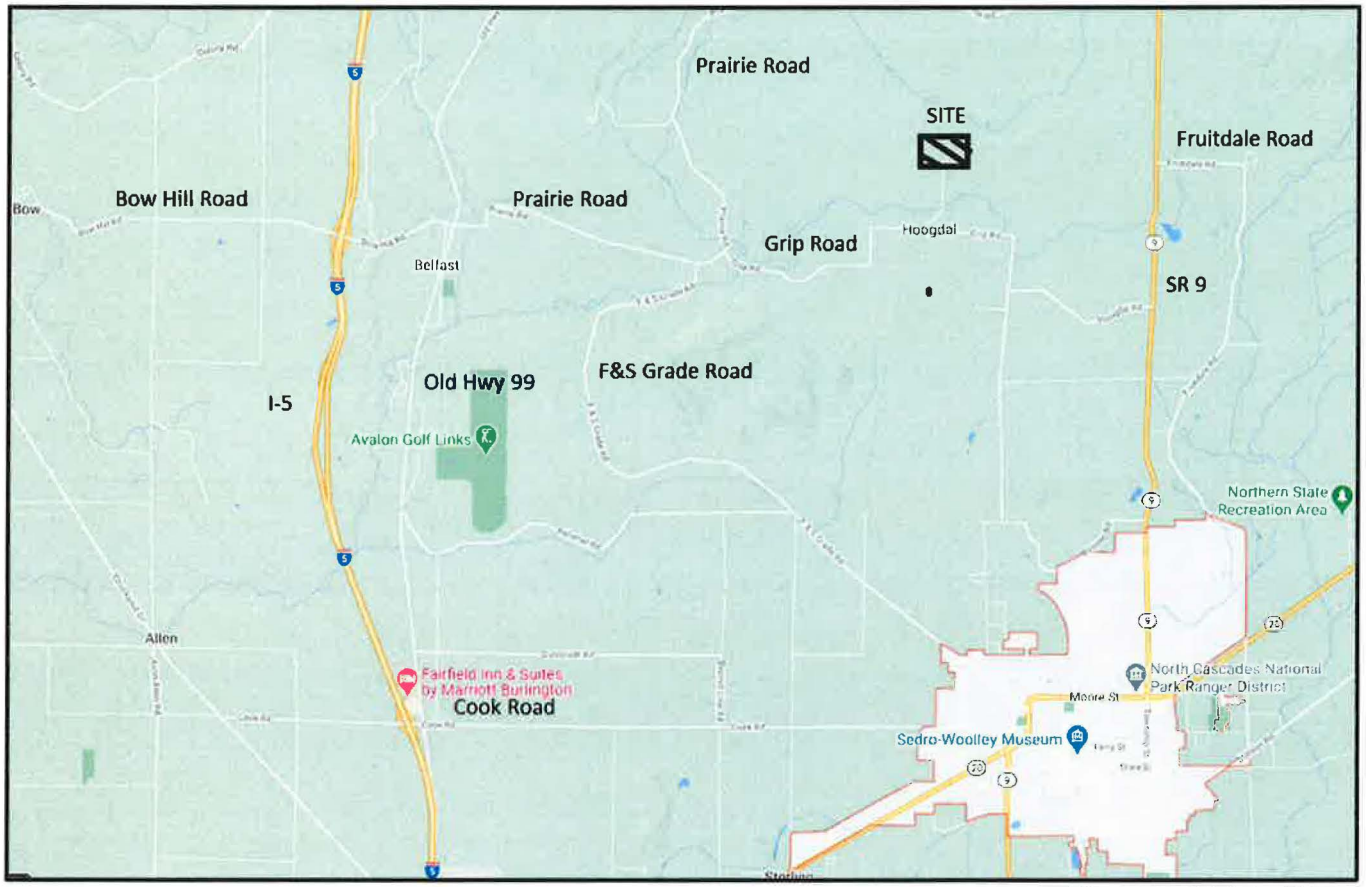


Figure 1 – Vicinity Map

Current zoning on the project site is Rural Reserve (RRv). According to the Skagit County Zoning Code[4]; "*The purpose of the Rural Reserve district is to allow low-density development and to preserve the open space character of those areas not designated as resource lands or as urban growth areas. Lands in this zoning district are transitional areas between resource lands and non-resource lands for those uses that require moderate acreage and provide residential and limited employment and service opportunities for rural residents. They establish long-term open spaces and critical area protection using CaRDs as the preferred residential development pattern*".

The parcels located adjacent and to the north, south and west of the subject site are zoned as Rural Resource Natural Resource Lands (RRc-NRL) and are utilized as low-density residential developments and forestry. RRc-NRL lands allow residential development of one (1) residential unit per 40 acres or four (4) residential units per 40 acres under the provisions of the Conservation and Reserve Development subdivision criteria, SCC 14.18.300. Properties adjacent to the east of the subject site are zoned as Agricultural-Natural resource Lands (AG-NRL) and are utilized for agriculture, low density residential developments and forest lands. Other Rural Reserve (RRv) zoned areas are located approximately ¼ of a mile to the east and west of the site and 1 mile to the south of the subject site.

[4] Skagit County Zoning Code; Section 14.16.320; Rural Reserve;

Access to the proposed mining area is from the existing private gravel road extending north from Grip Road.

The Grip Road Mine is expected to be operational by 2020. A preliminary site plan is provided in Figure 2.

EXISTING CONDITIONS (YEAR 2020)

The Existing Conditions analysis provides a statement of the traffic-related conditions within the study area at the time of the writing of this report. The statement includes discussion of the existing roadway conditions; pedestrian and bicycle facilities; identification of existing traffic volumes at the analysis intersections; and identification of proposed transportation improvements in the area.

Roadways

The major roadways serving the site include Interstate 5 (I-5), Bow Hill Road, Old Highway 99 N, Prairie Road, and Grip Road. The details for these roadways are as follows:

Interstate 5

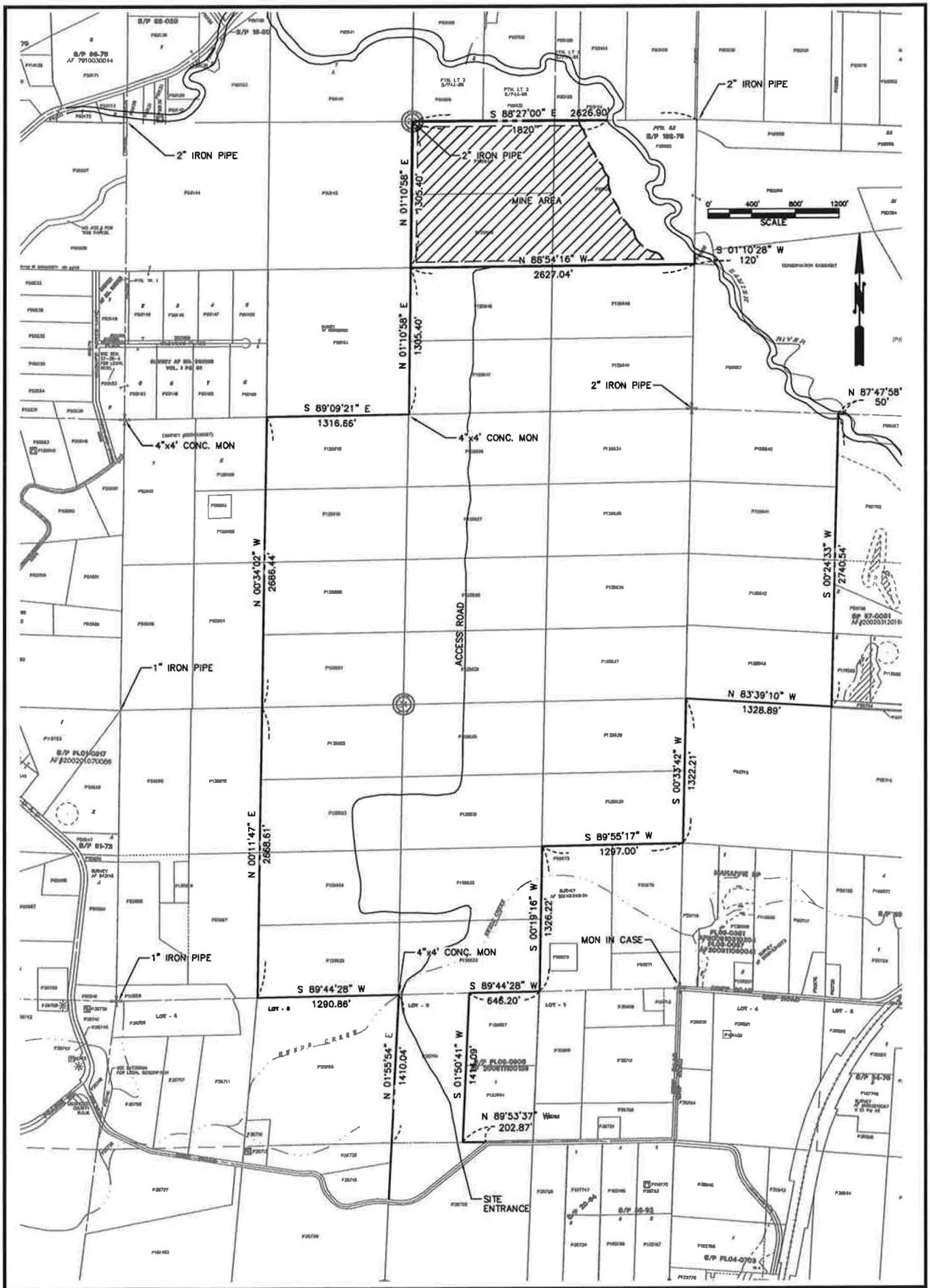
Interstate 5 is a north-south interstate highway running from the Mexican border to the Canadian Border. I-5 is functionally classified as a "Rural Interstate" in the project area vicinity. It is a "Highway of Statewide Significance" (HSS) for the entire length of the highway through the state of Washington. In the vicinity of the project site, I-5 includes four lanes, two in each direction. The posted speed limit is 70 mph for general traffic and 60 mph for trucks. The roadway meets interstate standards for shoulder and lane widths. The interchange serving the site is Bow Hill Road, Exit 236.

Old Highway 99 N

Old Highway 99 N is a north-south highway running parallel to I-5 from Nulle Road, Exit 242, on the north to Cedardale Road at I-5 Exit 224 south of Mount Vernon. Old Highway 99 is classified as a "Rural Major Collector" in the WSDOT Functional Classification System[5]. According to RCW 47.05.021[6], *the "collector system" shall consist of routes which primarily serve the more important inter county, intra county, and intraurban travel corridors, collect traffic from the system of local access roads and convey it to the arterial system, and on which, regardless of traffic volume, the predominant travel distances are shorter than on arterial routes."*

In the project study area, Old Highway 99 N is approximately 22 feet wide and is channelized for one lane each direction with four (4) feet to six (6) feet paved shoulders generally augmented with

[5] Ibid, WSDOT.
[6] Ibid, RCW 47.



DN TRAFFIC CONSULTANTS	SITE PLAN **FIGURE 2**	**Grip Road Mine**

approximately six (6) feet of gravel shoulder. Traffic control consists of stop signs on all side street approaches. The posted speed limit is 50 mph. There are no designated bicycle or pedestrian facilities.

Bow Hill Road

Bow Hill Road generally runs east-west through northern Skagit County between Smith Road in the vicinity of Edison, Washington on the west and Old Highway 99 N on the east. It is classified as a "Rural Major Collector" in the WSDOT Functional Classification System.

In the project vicinity and study area, Bow Hill Road is approximately 22 feet wide with one lane in each direction with generally four (4) feet to six (6) feet paved shoulders and guardrail in selected locations. Bow Hill Road provides connection from the project area to I-5 and Chuckanut Drive (SR11), a major north south state highway west of I-5.

Traffic control includes a traffic signal at the Bow Hill Road/Darrk Lane/Bow Ridge Drive (Skagit Valley Casino) and "Stop Signs" on the minor intersecting side streets. Two way stop control is provided on Bow Hill Road at Old Highway 99 N. The posted speed limit is 35 mph. There are no designated bicycle or pedestrian facilities along this section of road.

Prairie Road

Prairie Road generally runs east-west between Old Highway 99 N on the west and SR 9 on the east in a curvi-linear route. It is classified as a "Rural Major Collector" in the WSDOT Functional Classification System between Old Highway 99 N and F&S Grade Road and a "Rural Minor Collector" between F&S Grade Road and SR 9.

In the project vicinity and study area, Prairie Road is approximately 22 feet wide with one lane in each direction along with generally narrow two (2) feet to four (4) feet paved or gravel shoulders. Traffic control typically includes "Stop Signs" on the minor intersecting side streets.

The posted speed limit is 35 mph for approximately 2250 feet beginning at Old Highway 99 N; then 50 mph to F & S Grade Road; then 40 mph from F& S Grade Road to Anderson Lane (approx); then 50 mph to Blank Road (approx); and then 40/35 mph in the section from Blank Road to SR 9. There are Warning Signs with advisory speeds along the entire route to address significant curves in the roadway.

There are no designated bicycle or pedestrian facilities along this section of road.

F&S Grade Road

F&S Grade Road generally runs north-south between and connects Prairie Road on the north and Borseth Street/Bingham Street in Sedro-Woolley to the south, in a curvi-linear route. It is classified as a "Rural Major Collector" in the WSDOT Functional Classification System for the majority of the section.

In the project vicinity and study area, F&S Grade Road is approximately 22 feet wide with one lane in each direction with a two (2) foot to four (4) foot paved or gravel shoulders. Traffic control includes a stop sign on F&S Grade Road at Prairie Road and Borseth Street and minor intersecting side streets along the corridor. The posted speed limit is 40 mph. There are no designated bicycle or pedestrian facilities along this section of road.

Grip Road

Grip Road generally runs east-west from Prairie Road on the west to Bassett Road on the east. Bassett Road continues to the east intersecting with SR 9 approximately 1.5 miles east of the Grip Road

intersections. Grip Road is classified as a "Rural Minor Collector" in the WSDOT Functional Classification System.

In the project vicinity and study area, Grip Road is approximately 20 to 22 feet wide with one lane in each direction. There are virtually no shoulders along the roadway. Traffic control includes a stop sign on Grip Road at Prairie Road and Bassett Road as well as the minor intersecting side streets. The posted speed limit is 40 mph. The roadway channelization includes a solid double yellow centerline with passing striping opportunities, however there are no fog lines. There are no designated bicycle or pedestrian facilities along this section of road.

Transit/Non-Motorized Facilities

Transit

Transit service in Skagit County is provided by Skagit Transit. There is no transit service in the vicinity of the Grip Road Mine. The closest service is Route 80X. Route 80X provides weekday service between Bellingham Station and Skagit Station in Mount Vernon with one-hour headways during the AM and PM peak hours. Skagit Transit provides park & ride lots at Alger to the north and Chuckanut Drive in Burlington to the south.

By virtue of the traffic operational characteristics of mining activity proposed for the site, transit service would be of no benefit. It is not expected there would be any demand for transit service.

Non-Motorized Facilities

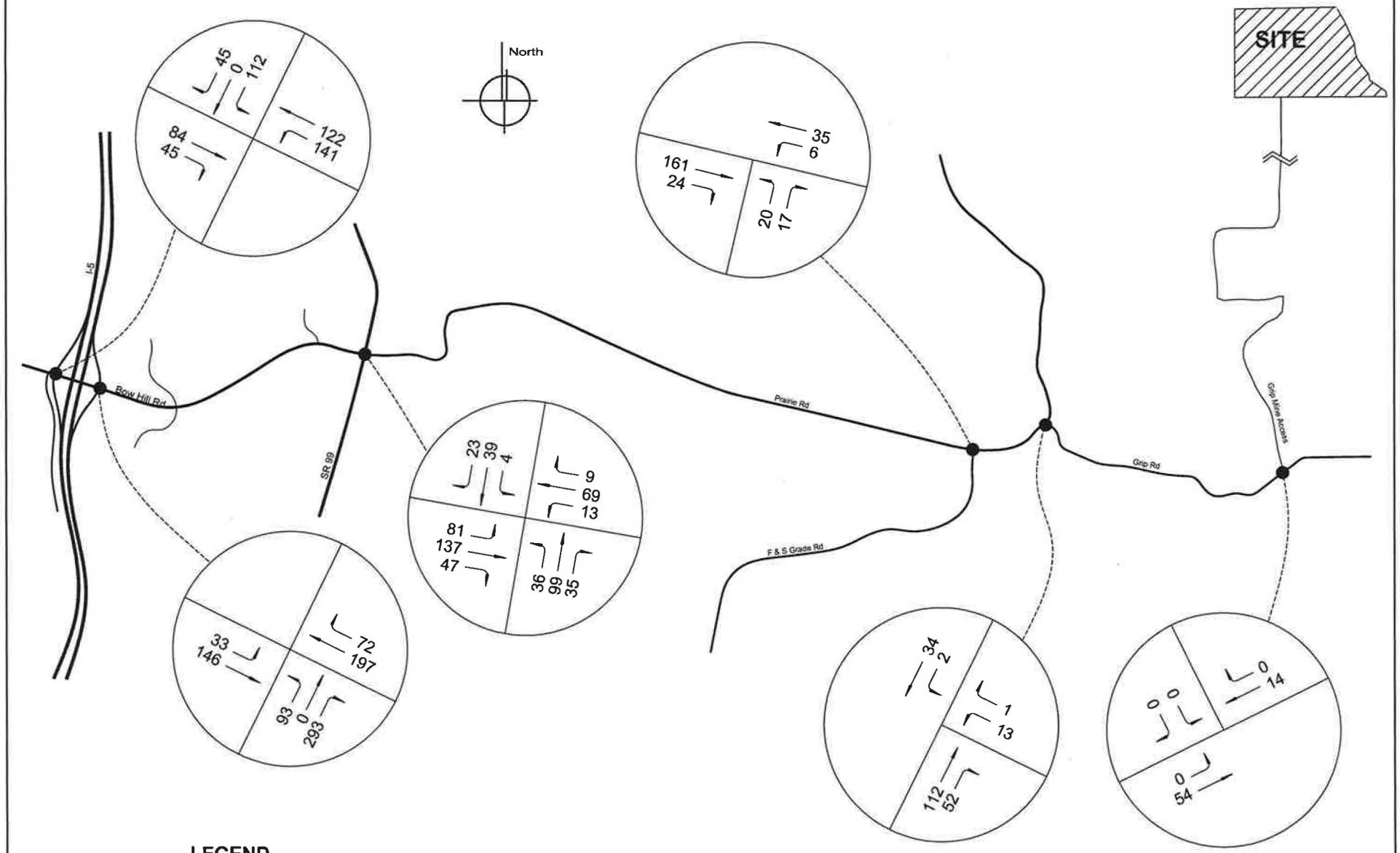
There are no known bike routes identified in the subject area. There are no pedestrian sidewalks or large shoulders on most of the subject roadways.

Traffic Volumes

2020 PM peak hour traffic volumes were determined from PM peak period turning movement counts collected at the following intersections in December 2019:

- I-5 SB Ramps/Bow Hill Road
- I-5 NB Ramps/Bow Hill Road
- Old Highway 99 N/Bow Hill Road/Prairie Road
- Prairie Road/F&S Grade Road
- Prairie Road/Grip Road

A summary of the existing PM peak hour turning volumes (without project traffic) is presented in Figure 3. The 2019 traffic volumes were increased by one percent to represent 2020 traffic conditions.



LEGEND

xx -- 2020 PM Peak Hour Volumes without Grip Road Mine

DN TRAFFIC CONSULTANTS	EXISTING VOLUMES (WITHOUT PROJECT) Figure 3	**Grip Road Mine**

Level of Service

Level of service (LOS) is used to describe the degree of traffic congestion and driver comfort on streets or at intersections. The Highway Capacity Manual (HCM) describes the methodologies for calculating LOS on street segments and at signalized and unsignalized intersections.

According to the HCM (TRB Special Report #209), there are six levels of service by which the operational performance of the roadway system may be described. The levels of service range from LOS A, which indicates a relatively free-flowing condition, to LOS F, which indicates operational breakdown.

The level of service for a two-way stop controlled (TWSC) intersection is determined by the computed or measured control delay and is defined for each minor movement. Level of service is not defined for the intersection as a whole. Average control delay less than or equal to 10 seconds per vehicle is defined as LOS A. For LOS F, the average control delay is greater than 50 seconds per vehicle.

The level of service for an all-way stop controlled (AWSC) intersection is defined in terms of average control delay per vehicle. Level of service is defined for the intersection as a whole. Average control delay less than or equal to 10 seconds per vehicle is defined as LOS A. For LOS F, the average control delay is greater than 50 seconds per vehicle.

Level of service for this report was calculated using Synchro™ 9.0, the software of the HCM 2010. Old Highway 99 N is a Highway of Statewide Significance (HSS)[7] and is subject to the relevant level of service (LOS) standards. The LOS for HSS highways in "Rural" Skagit County is LOS C[8]. According to the Skagit County Road Standards[9], the level of service for county roadways is LOS C. The results of the level of service analysis for the existing condition at the analysis intersections are shown in Table 1.

Table 1. 2020 PM Peak Hour Level of Service

Intersection	Traffic Control	Existing PM Peak	LOS Standard
Bow Hill Road / I-5 SB Ramps	WB Left Turn (yield) SB Off Ramp (stop)	A (7.8) C (16.1)	C
Bow Hill Road / I-5 NB Ramps	EB Left Turn (yield) NB Off-Ramp (stop)	A (7.9) C (15.2)	C
Old Highway 99 N / Prairie Road	NB Left Turn (yield) SB Left Turn (yield) EB Approach (stop) WB Approach (stop)	A (7.5) A (7.5) C (15.2) B (12.4)	C
Prairie Road / F&S Road	WB Left Turn (yield) NB Approach (stop)	A (7.7) B (10.2)	C
Prairie Road / Grip Road	SB Left Turn (yield) WB Approach (stop)	A (7.7) A (9.6)	C

(xx) - Seconds of delay per vehicle

As shown in Table 1, all impacted intersections are estimated to operate at LOS C or above during the PM peak hour in the 2019 existing condition. This LOS is acceptable under the Skagit County standard of LOS C.

[7] http://wsdot.maps.arcgis.com/home/webmap/viewer.html?useExisting=1&layers=9fcb9e36ab67438dafe7b0fb0764481f
[8] http://www.wsdot.wa.gov/NR/rdonlyres/6AF72388-2455-47B9-B72D-2BE9A89A0E19/0/LOSStandardsforWAHwys.pdf
[9] Skagit County Road Standards; Section 4.05 A.2; Level of Service; Version 5.2; May 26, 2000.

Crash History

Crash data for the study area intersections was obtained from WSDOT for the five-year plus period from January 1, 2015 through April 6, 2020, which was the most recent available at the time of this analysis. Crashes for each intersection were summarized by the milepost vicinity of each intersection identified in the records. These crashes were assumed as intersection related unless the description clearly identified as otherwise. A summary of available crash data is presented in Table 2.

Table 2: Five Year Crash History Summary by Intersection [a]

Intersection	Number of Crashes by Year						Crash Total	Crash Rate [b]
	2015	2016	2017	2018	2019	2020[a]		
I-5 SB Ramps/Bow Hill Road	3	2	0	2	0	0	7	0.60
I-5 NB Ramps/Bow Hill Road	0	1	2	1	0	1	5	0.28
Old Highway 99 N/Bow Hill Road/Prairie Road	2	4	3	1	2	0	12	0.96
Prairie Road/F&S Grade Road	1	0	0	0	0	0	1	0.18
Prairie Road/Grip Road	0	0	2	0	1	0	3	0.67

a Source: WSDOT, data period is 1/1/15 through 4/6/20. Note: Under 23 US Code 409 and 23 US Code 148, safety data, reports, surveys, schedules, lists compiled or collected for the purpose of identifying, evaluating, or planning the safety enhancement of potential crash sites, hazardous roadway conditions, or railway-highway crossings are not subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such reports, surveys, schedules, lists, or data.

b Crashes per million entering vehicles per period (cra/mev). Entering vehicles based on 2017 PM peak hour data * 11. Period is total number of days.

As shown in Table 2, the crash rate ranges between 0.18 cra/mev and 0.96 cra/mev for the five analysis intersections, for the 5-year plus period. The Institute of Transportation Engineers (ITE) recommends that any intersection with more than one (1) crash per million entering vehicles may be worthy of additional analysis.[10]

The most common type of crash, within the study area, is "enter-at-angle". Table 3 identifies the number of occurrences by crash type at each of the five intersections. As shown in Table 3, the "enter-at-angle" ("angle") type crash is the most prevalent type of crash at each of the five intersections. It should be noted that Table 3 shows all the crashes occurring in the vicinity of each intersection (i.e.., intersection related), as noted in the WSDOT crash data records. Any crash identified as non-intersection related was not included in this analysis.

[10] Traffic Impact Analyses for Site Development, An ITE Recommended Practice; Institute of Transportation Engineers; 2010.

Table 3. Five-Year Crash Type History by Intersection [a]

Intersection	Intersection Related	Rear End	Angle	Left Turn	Fixed Object	Other
I-5 SB Ramps/Bow Hill Road						
# of Accident Type	4	0	2	2	0	0
Percent of Total Accidents		0%	50%	50%	0%	0%
I-5 NB Ramps/Bow Hill Road						
# of Accident Type	5	2	2	0	1	0
Percent of Total Accidents		40%	40%	0%	20%	0%
Old Highway 99 N/Bow Hill Road/Prairie Road						
# of Accident Type	12	1	9	1	0	1
Percent of Total Accidents		8%	75%	8%	0%	8%
Prairie Road/F&S Grade Road						
# of Accident Type	1	0	0	0	1	0
Percent of Total Accidents		0%	0%	0%	100%	0%
Prairie Road/Grip Road						
# of Accident Type	3	0	2	0	1	0
Percent of Total Accidents		0%	67%	0%	33%	0%

a Source WSDOT. For the period between 1/1/15 and 4/6/20.

Table 4 identifies the crash severity for the five-year plus crash history at each of the analysis intersections.

Table 4. Five-Year Plus Crash Severity History by Intersection [a]

	Total Crashes	Property Only	Injury Related	Fatality	Total Vehicles	Total Pedestrians	Total Bicycles
I-5 SB Ramps/Bow Hill Road	7	5	1	1	13	0	1
I-5 NB Ramps/Bow Hill Road	5	4	1	0	9	0	0
Old Highway 99 N/Bow Hill Road/Prairie Road	10	5	5	0	19	0	0
Prairie Road/F&S Grade Road	1	0	1	0	1	0	0
Prairie Road/Grip Road	3	2	1	0	4	0	0

a Source WSDOT. For the period between 1/1/15 and 4/6/20.

In terms of crash severity, of the total 26 crashes noted during the five year plus crash history, there were 46 vehicles involved, one bicycle crash: and no pedestrian crashes. Of all the crashes, 61% were "property damage only" (PDO), 39% resulted in injury (reported as possible or evident), with one of those being identified as a fatal crash. The fatality occurred at the I-5 SB Ramps/Bow Hill Road intersection on May 20, 2015 at 7:12 PM. The fatal crash included a single vehicle (pickup) making a west bound left turn from Bow Hill Road to the southbound on-ramp colliding with a bicycle east bound across the I-5 interchange on Bow Hill Road.

Planned and Programmed Improvements

A review of the WSDOT Statewide Transportation Improvement (STIP)[11] and the Skagit County indicated there are no proposed transportation improvement projects to the roadways in the vicinity of the proposed Grip Road Mine.

[11] https://www.wsdot.wa.gov/LocalPrograms/ProgramMgmt/STIP.htm

Sight Distance

The proposed Grip Road Mine development will use the existing access from the property to Grip Road. The sight distance analysis looks at Stopping Sight Distance (SSD) and Intersection Sight Distance (ISD) at the Grip Road/Site access, at the Prairie Road/Grip Road intersection, and at the Prairie Road/F&S Grade Road intersection. The Applicant is responsible for providing acceptable SSD and ISD at the Grip Road/Site Access intersection. Existing sight distance at the Prairie Road/Grip Road and Prairie Road/F&S Grade Road intersection is the responsibility of Skagit County. If sight distance deficiencies exist at these intersections, it is the responsibility of the County to make necessary improvement to provide acceptable sight distance.

A summary of the available and minimum required stopping sight distance is all presented in Table 5.

Table 5. Stopping Sight Distance[a]

Intersection	Minimum Required [b]	Design Speed [c]	Stopping Sight Distance Field Observations	
Prairie Road/F&S Grade Road	305' / 425'	40 / 50 [d]	380' from the east	2000+' from the west
Prairie Road/Grip Road	305'	40	115' from the north	625' from the west
Grip Road/ Site Access	305'	40	345' from the east	500' from the west

a Stopping Sight Distance – All intersection locations were assumed to be at less than 3% grade with no vertical curves. The limiting element observed in the sight distance measurements was the horizontal curvature of the primary road.
b Minimum distance required for an approaching vehicle, based on design speed.
c Design speed is assumed as the posted speed (mph).
d The posted speed on Prairie Road east of F&S Grade Road is 40 mph, and the posted speed west of F&S Grade Road is 50 mph. The corresponding minimum P Vehicle SSD is shown as xxx'/yyy'.

As shown in Table 5, the stopping sight distance is met for all the cases, except for one, i.e. Prairie Road/Grip Road looking to the north. For a vehicle on Prairie Road approaching Grip Road from the north, there is a sharp horizontal curve that limits the available stopping sight distance to approximately 115 feet which is less than the minimum required distance of 305 feet based on a 40 mph Design Speed. There are posted warning signs on approach from both directions that recommend a 20-mph speed through the curve. The required minimum SSD for a 20-mph case is 115 feet.

A summary of the available Intersection Sight Distance (ISD) conditions for a standard passenger vehicle as well as a combination truck are presented in Table 6.

Table 6. Intersection Sight Distance

Intersection	Minimum Required [a] P Veh (Truck)	Design Speed [b]	Field Observations [c]	
Prairie Road/F&S Grade Road	445'/555' (n/a)	40/50 [d]	480' to the east	2000+' to the west
Prairie Road/Grip Road	445' (680')	40	185' to the north	625' to the west
Grip Road/ Site Access	445' (680')	40	375' to the east	500' to the west

a Intersection Sight Distance – Based on the AASHTO Green Book, Case B1 Left Turn from Stop for a two-lane roadway. The typical time gap is 7.5 seconds for a passenger vehicle, and 11.5 seconds for a combination truck.

b Design speed is assumed as the posted speed (mph).

c Measurements are from an eye location 14.5 feet back from edge of traveled way viewing an approaching vehicle 3.5 feet in height.

d The posted speed on Prairie Road east of F&S Grade Road is 40 mph, and the posted speed west of F&S Grade Road is 50 mph. The corresponding minimum P Vehicle ISD is shown as xxx'/yyy'.

As shown in Table 6, the available intersection sight distance (ISD) exceeds the required distance at the Prairie Road/F&S Grade Road intersection for the "P" vehicle. The ISD for trucks does not meet the standard, however, the ISD standard is not applicable to this analysis as truck traffic from the Grip Road Mine is not expected to use F&S Grade Road.

At the Prairie Road/Grip Road intersection, the available ISD (185') is less than the minimum required for both a passenger vehicle (445') and a combination truck (680') looking right (north) and turning left (west) from Grip Road. The ISD (625') looking to the left exceeds the required value (445') for a passenger vehicle but is less than what is required (680') for a combination truck.

At the Grip Road Mine access intersection, the ISD (375') is less than the minimum for both a passenger vehicle and a combination truck looking left (east) and turning right (west) from the Mine access. The ISD (500') looking to the right (west), for turning left out, exceeds the standard for a passenger vehicle (445') but is less than that required for a combination truck (680'). In this case, it is estimated there would be no more than one (1) left turning truck during the PM peak hour from the Mine access road. The WSDOT Design Manual[12], however, indicates that ISD is not required for low volume roadways such as Grip Road.

[12] WSDOT Design Manual; Section 1310.05 Intersection Sight Distance.

TRAFFIC CONDITIONS WITH PROJECT (YEAR 2020)

The traffic conditions "with Project" provides a discussion of the traffic-related conditions for the current year (2020) with the project in operation. Due to the fact the "with project" analysis is for the existing year, there are no discussions of historical growth rates or pipeline development. There are no known developmental proposals in this area, currently under consideration by Skagit County.

Project Trip Generation

Trip generation for the proposed Grip Mine project has been discussed in previous technical memoranda.[13] The current proposal anticipates a trip generation of 46 truck trips per day under normal 7AM to 5PM Monday through Friday hauling operation. The proposal assumes the mining operation would generate 200,000 tons per year with hauling operations occurring over 260 days. Assuming each truck & trailer combination will average 34-ton loads, this results in 769 tons per day. Assuming hauling would occur Monday through Friday between 7 AM and 5 PM for, a total of 10 hours, average truck trips per hour is 4.6 (46/10 = 4.6).

If the Mine were operated over a six-day week, Monday through Saturday, mining operations would be conducted for 312 (52 * 6 = 312) days per year. This would result in an average of 38 (200,000 tons/312 days = 641 tons per day/34 tons per truck = 18.9 trucks * 2 trips per truck = 38 trips per day) truck trips per day under the six day scenario as compared to 46 truck trips per day under the five day operational scenario.

Under extended hours conditions, it is anticipated the Mine could generate up to 5000 tons per day. To serve this demand, 294 (5000/34 = 147 * 2 = 294) truck trips would be generated per day. Assuming the Mine would operate for the standard ten-hour (7AM to 5PM) period, the hourly truck volume would be 29.4 (294/10 = 29.4) trucks per hour. This volume is still considered to be significantly less than the capacity of Grip Road which is approximately 110 trucks per hour. This TIA analysis is based on the "worst case" trip generation for the Mine of 30 truck trips during the PM peak hour.

In summary, truck trips generated by the proposal are anticipated to average 46 daily trips during mining operations not to exceed 30 trucks per hour under extended hours operations. To address the extended hours conditions, the Applicant will seek permission from Skagit County prior to generating the higher truck volume.

Trip Distribution/Traffic Assignment

Truck traffic generated by the Grip Road Mine will be distributed and assigned to the following public roads as haul routes for the mined material:

- Grip Road
- Prairie Road
- Old Highway 99N
- Bow Hill Rd
- Interstate 5

It is estimated that 95 percent of the trips will be assigned to and from the west on Prairie Road; with 80 percent south to the existing Belleville Pit Operation using either Old Highway 99N or I-5 south; ten (10) percent of the trips to end users via I-5 south, five (5) percent to end users west of I-5 on Bow Hill Road; and five (5) percent to end users east of the Mine access via Grip Road. Overall, it is estimated, based on market demand, that 80 percent of the mined material will be sent to the Belleville Pit Operation located at 8198 Old Highway

[13] Technical Memorandum; To Dan Cox, Miles Sand and Gravel; From Gary Norris, DN Traffic Consultants, Inc.; June 6, 2019.

99N south of the Prairie Road intersection for processing. The remaining twenty (20) percent will be sent from the Mine directly to end users.

At the writing of this TIA, the Old Highway 99N bridge over the Samish River has a temporary weight restriction of 80,000 pounds to 96,000 pounds. The weight of the proposed fully loaded truck/pup trailer combination, serving the Mine is 105,500 pounds, which is significantly higher than the maximum load restrictions. As such, at maximum load these trucks would not be able to use Old Highway 99N to the Belleville pit and would be forced to used I-5 south to the Cook Road interchange (Exit 232) due to the weight restrictions on the Samish River Bridge However, unloaded trucks returning from the Belleville pit to the Mine would use Old Highway 99N. No matter what the load restriction, Concrete Nor 'West agrees to comply with Skagit County restrictions on the bridge. If unable to use the Samish River Bridge on Highway 99N, Concrete Nor 'West will use I-5 to access the Belleville site rather than Old Highway 99N.

Given the potential temporary weight restrictions on the bridge, the traffic assignment as well as the subsequent level of service analysis is evaluated under two Options. Option 1 assumes trucks use Old Highway 99N over the bridge with either reduced weight trucks or the load restrictions being removed. Option 2 assumes trucks circumvent the Samish River bridge and use I-5 to Cook Road for trips bound for the Belleville Pit, and Old Highway 99N for return trips.

Option 1 – Old Highway 99N

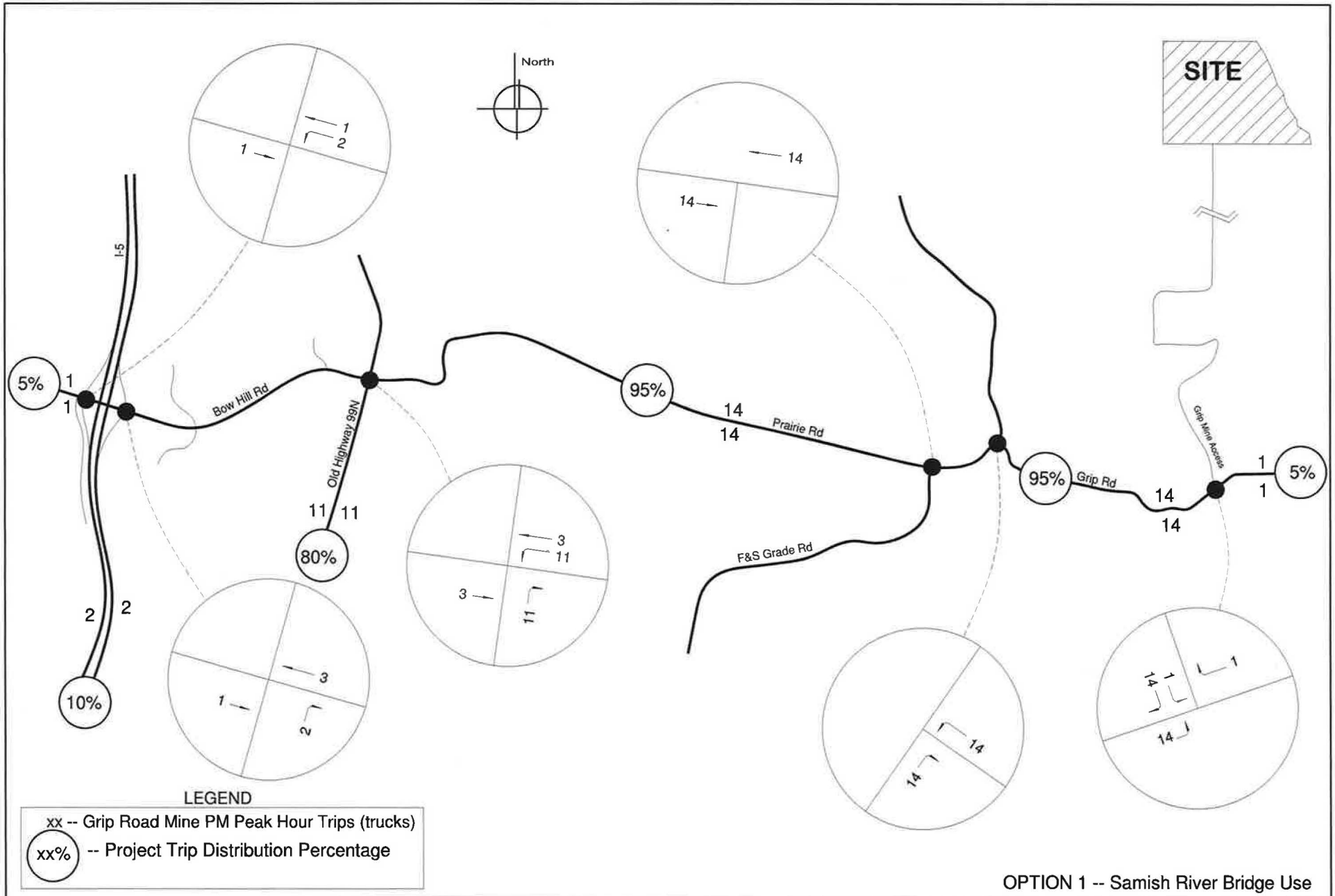
Project Trip Assignment

For Option 1, it is estimated 95 percent of the hauling trips, will be to and from the west on Prairie Road; 80 percent south on Highway 99 N to the existing Belleville Pit Operation; approximately ten percent of the truck trips will be sent to end users via I-5 south, five (5) percent to end users west of I-5 on Bow Hill Road; and five (5) percent to end users east of the Mine access via Grip Road.

The Option 1 project trip assignment for the PM peak hour is shown in Figure 4. A summary of the 2020 PM peak hour turning volumes (with project traffic) is presented in Figure 5.

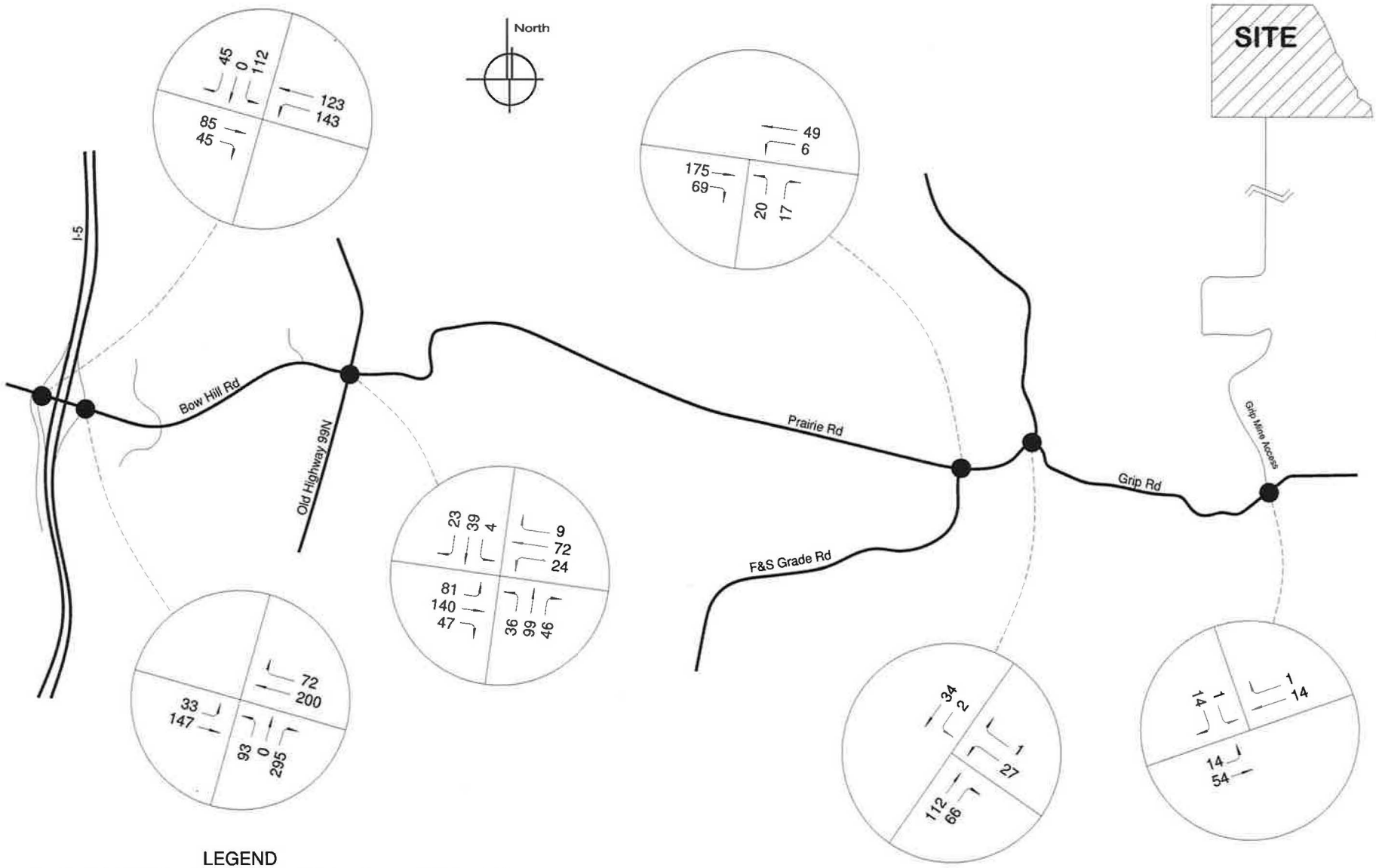
Level of Service

The 2020, with and without project, PM peak hour level of service at the analysis intersections are provided in Table 8. The level of service condition for existing conditions without the project is shown for comparison purposes.



OPTION 1 -- Samish River Bridge Use

DN TRAFFIC CONSULTANTS	PROJECT TRIP DISTRIBUTION AND ASSIGNMENT Figure 4	Grip Rd Mine



LEGEND

xx -- 2020 PM Peak Hour Volumes with Grip Road Mine

OPTION 1 -- Samish River Bridge Use

DN TRAFFIC CONSULTANTS	EXISTING VOLUMES (WITH PROJECT) Figure 5	Grip Rd Mine

Table 8. Option 1 - 2020 with and without Project -- PM Peak Hour Level of Service

Intersection	Traffic Control	Without Project LOS (Delay)	With Project LOS (Delay)	LOS Standard
Bow Hill Road / I-5 SB Ramps	WB Left Turn (yield) SB Off Ramp (stop)	A (7.8) C (16.1)	A (7.8) C (16.4)	C
Bow Hill Road / I-5 NB Ramps	EB Left Turn (yield) NB Off-Ramp (stop)	A (7.9) C (15.2)	A (7.9) C (15.3)	C
Old Highway 99 N / Prairie Road	NB Left Turn (yield) SB Left Turn (yield) EB Approach (stop) WB Approach (stop)	A (7.5) A (7.5) C (15.2) B (12.4)	A (7.5) A (7.5) C (15.9) B (13.4)	C
Prairie Road / F&S Road	WB Left Turn (yield) NB Approach (stop)	A (7.7) B (10.2)	A (8.1) B (10.4)	C
Prairie Road / Grip Road	SB Left Turn (yield) WB Approach (stop)	A (7.7) A (9.6)	A (7.7) A (10.5)	C
Grip Road / Project Access	EB Left Turn (yield) SB Approach (stop)	n/a	A (7.5) A (9.4)	C

(xx) - Seconds of delay per vehicle

As shown in Table 8, all the intersections are estimated to operate at an acceptable level of service (LOS C or better) in the 2020 PM peak with or without project traffic.

Option 2 – I-5 Southbound

Trip Assignment

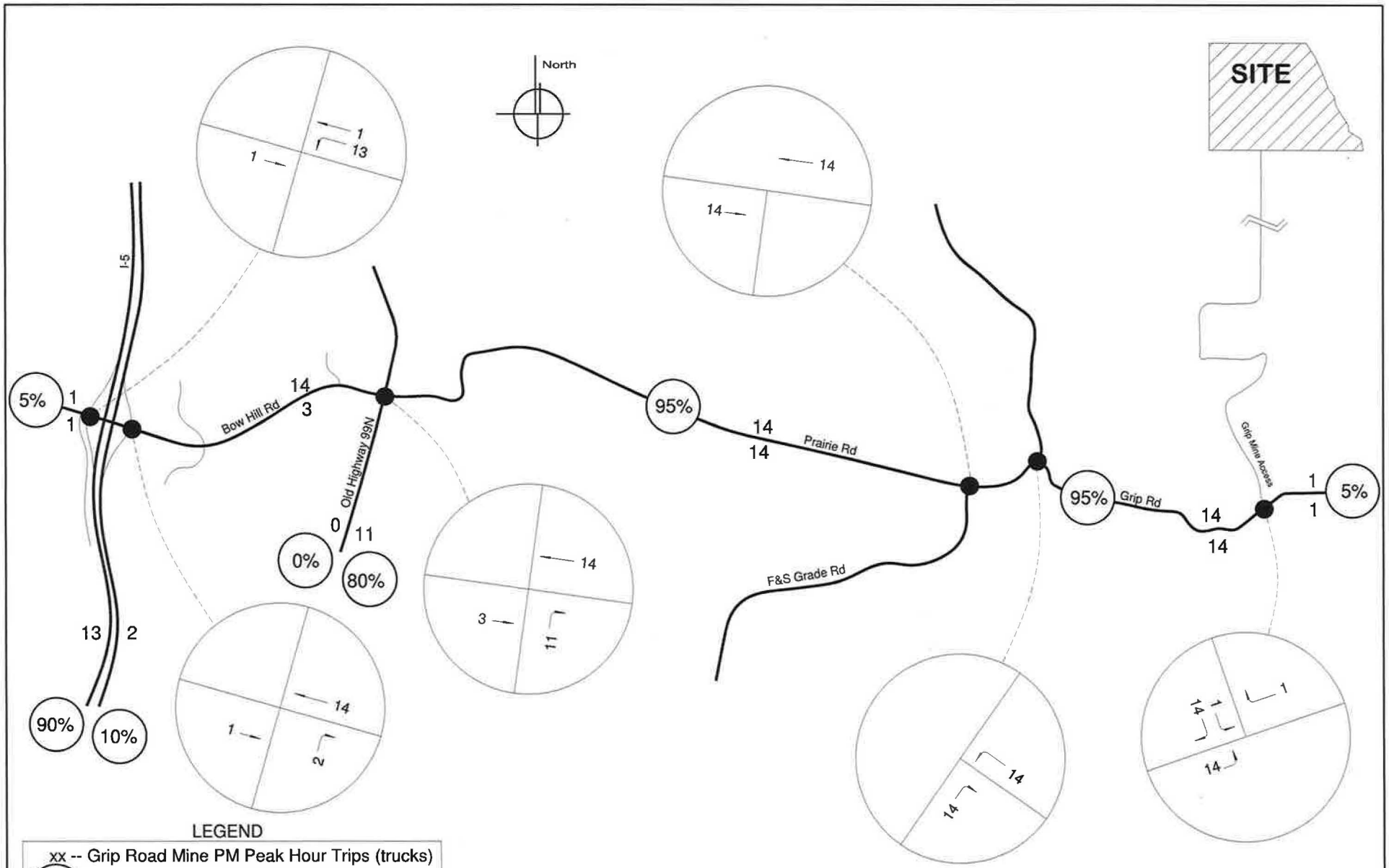
For Option 2, it is estimated 95 percent of the hauling trips, will be to and from the west on Prairie Road; 90 percent south on I-5 with 80% exiting at Cook Rd and traveling north on Old Highway 99 N to the existing Belleville Pit Operation; approximately ten percent of the truck trips are sent to end users via I-5 south, five (5) percent to end users west of I-5 on Bow Hill Road; and five (5) percent to end users east of the Mine access via Grip Road. Trips returning from the Belleville Pit to the Mine (80%) are presumed to use Old Highway 99N.

The Option 2 project trip assignment for the PM peak hour is shown in Figure 6. A summary of the 2020 PM peak hour turning volumes (with project traffic) is presented in Figure 7.

Level of Service

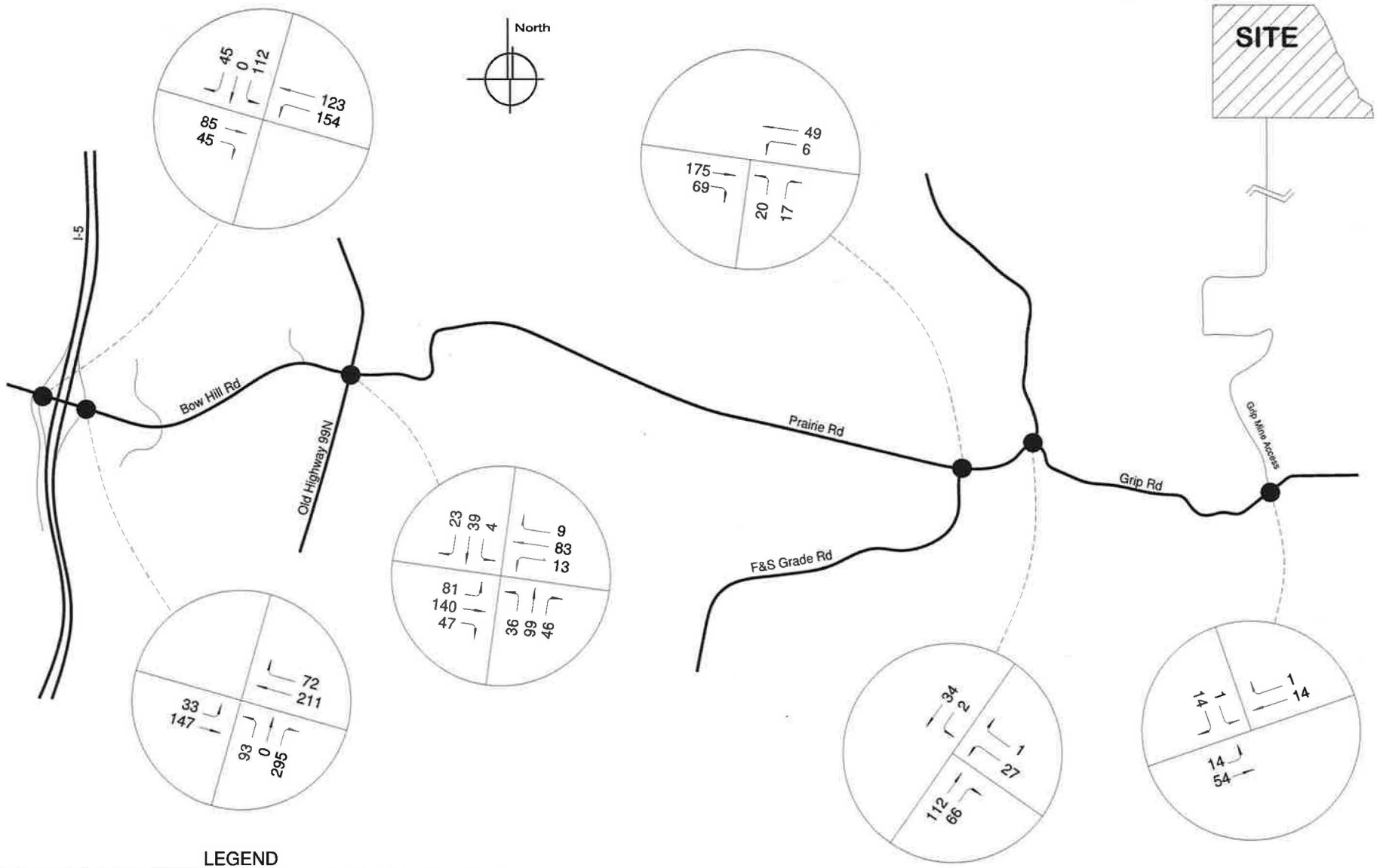
The 2020 with and without project PM peak hour level of service at the analysis intersections are provided in Table 9. The level of service condition for 2020 conditions without the project is shown for comparison purposes.

As shown in Table 9, all the intersections are estimated to operate at an acceptable level of service (LOS C or better) in the 2020 PM peak with or without project traffic.



OPTION 2 -- No Loaded Truck Use of Samish River Bridge

DN TRAFFIC CONSULTANTS	PROJECT TRIP DISTRIBUTION AND ASSIGNMENT Figure 6	Grip Rd Mine



LEGEND

xx -- 2020 PM Peak Hour Volumes with Grip Road Mine

OPTION 2 -- No Loaded Truck Use of Samish River Bridge

DN TRAFFIC CONSULTANTS	EXISTING VOLUMES (WITH PROJECT) Figure 7	Grip Rd Mine

Table 9. Option 2 - 2020 with and without Project -- PM Peak Hour Level of Service

Intersection	Traffic Control	Without Project LOS (Delay)	With Project LOS (Delay)	LOS Standard
Bow Hill Rd / I-5 SB Ramps	WB Left Turn (yield) SB Off Ramp (stop)	A (7.8) C (16.1)	A (7.8) C (17.0)	C
Bow Hill Rd / I-5 NB Ramps	EB Left Turn (yield) NB Off-Ramp (stop)	A (7.9) C (15.2)	A (7.9) C (15.5)	C
Old Highway 99 N / Prairie Road	NB Left Turn (yield) SB Left Turn (yield) EB Approach (stop) WB Approach (stop)	A (7.5) A (7.5) C (15.2) B (12.4)	A (7.5) A (7.5) C (15.9) B (13.0)	C
Prairie Rd / F&S Road	WB Left Turn (yield) NB Approach (stop)	A (7.7) B (10.2)	A (8.1) B (10.4)	C
Prairie Rd / Grip Road	SB Left Turn (yield) WB Approach (stop)	A (7.7) A (9.6)	A (7.7) A (10.5)	C
Grip Rd / Project Access	EB Left Turn (yield) SB Approach (stop)	n/a	A (7.5) A (9.4)	C

(xx) - Seconds of delay per vehicle

As shown in Table 9, similar to Table 8, all the intersections are estimated to operate at an acceptable level of service (LOS C or better) in the 2020 PM peak with or without project traffic.

Other Issues

Other concerns expressed regarding the proposed mining operation include the impact of the truck traffic on the anticipated haul routes serving the Mine. Based on the traffic assignment prepared for this analysis, it is assumed the following roadways will be impacted by project generated truck traffic:

- Grip Road
- Prairie Road
- Old Highway 99N
- Bow Hill Road

The existing Prairie Road and Grip Road pavement cross sections are not consistent with current Skagit County Road Standards. County Road Standards require a shoulder width on Grip Road of six (6) feet on both sides of the roadway[14] whereas the standard shoulder width on Prairie Road should be eight (8) feet. Currently there is virtually no paved shoulders along Grip Road and between two (2) feet and four (4) feet on Prairie Road. Prairie Road has a number of curves which would force the dump truck/pup rigs to encroach on the centerline or the shoulder.

[14] Skagit County Road Standards; Figure B-6

Skagit County expressed concern regarding the potential for the gravel trucks to encroach over the shoulder and center line of these roadways. To address this concern, Skagit County staff requested the Applicant evaluate the potential for the trucks to travel outside their lane of travel and encroach on the shoulder or the opposite lane of travel through the 90 degree turns east of Old Highway 99. The Consultant prepared an AutoTurn® analysis of these turns on Prairie Road approximately 1200 lineal feet and 1800 lineal feet east of the Prairie Road/Old Highway 99 intersection. Based on this analysis, it was estimated the dump truck/pup trailer combination is expected to encroach approximate two (2) to three (3) feet onto the shoulder or over the centerline.

The findings of the AutoTurn® analysis is presented in the appendix.

CONCLUSIONS/RECOMMENDATIONS

According to the Skagit County Road Standards[15] the purpose of a traffic Impact Analysis (TIA) is to:

A Determine the safety impacts a particular development will have on the regional road network.

B Establish whether the development will meet the County's level of service standards as adopted within the County's Comprehensive Plan.

C. Determine mitigating measures necessary to alleviate safety issues and to meet the adopted level of service standards.

Safety Impacts

The foregoing TIA identified current crash history at the intersections anticipated to be impacted by the proposed Grip Road Mine traffic. The most significant safety issue is the Bow Hill Road/Old Highway 99 N intersection where twelve (12) intersection related crashes occurred over the five year plus crash history identified in the report. The majority of these crashes were "enter at angle". Traffic control at this intersection includes stop signs on Bow Hill Road and Prairie Road. To improve the safety of this intersection, it is recommended the existing channelization be revised to eliminate the high-speed radii that exist for north and south bound right turn movement. The pavement stripe delineating the radii line should be enhanced with raised reflectorized pavement markings to provide better lane delineation. Also, additional stop signs should be installed on the opposite shoulder. All stop signs should be supplemented with LED flashers.

The analysis identified substandard Intersection Sight Distance (ISD) at the Mine Access/Grip Road intersection and the Prairie Road/Grip Road intersection. As stated previously, the provision of adequate sight distance at the Prairie Road/Grip Road intersection is the responsibility of Skagit County. However, to address these substandard conditions, the Applicant has proposed the installation of a flashing beacon warning system to advise traffic the presence of turning truck traffic. In addition, the signal will also inform the Mine traffic of the presence of conflicting traffic approaching the intersection.

Level of Service Standards

The traffic analysis documented that the Skagit County Road Standard level of service requirements are met at each intersection impacted by the traffic generated by Grip Road Mine. These findings are true for both alternative traffic assignment Options. Therefore, no mitigation is required.

Other Issues

Potential encroachment of the dump trucks/pup combination on the shoulder and center line is a safety concern. It should be noted the roadways are not consistent with current Skagit County Road Standards for shoulder width.

[15] Ibid; Section 4.01 Traffic Impact Analysis; May 26, 2000

This is a current issue for County roads which needs to be addressed by the County. Based on a recent count, Grip Road currently has three (3) percent of the total traffic volume or 23 vehicles which have axle combinations which would encroach on the shoulder or into the opposing lane.

Mitigation Measures

The following mitigation measures are offered to address the traffic related issues of the proposed Grip Road Mine:

- The Applicant shall purchase and install, at their expense, a traffic loop activated flashing beacon system in the area of the Grip Road and Prairie Road intersection to address the sight distance deficiencies. The Applicant will submit a proposed plan for Skagit County review and approval. All equipment and signage to be installed shall meet the standards and specifications of the Skagit County Public Works. After installation, equipment will be turned over to Skagit County for ongoing operation and maintenance.
- The Applicant shall purchase and install at their expense, a traffic loop activated flashing beacon system in the area of the Grip Road and Mine Access Road intersection to address the sight distance deficiencies. The Applicant will submit a proposed plan for Skagit County review and approval. All equipment and signage that is to be installed shall meet the standards and specifications of the Skagit County Public Works. After installation, equipment will be turned over to Skagit County for ongoing operation and maintenance.
- The Applicant agrees comply with all Skagit County load restrictions on the Samish River bridge on Old Highway 99. If the dump truck/pup trailer combinations exceed the load restrictions, the Applicant will use Interstate 5 for south bound access to the Belleville pit located on Old Highway 99 south of the Samish River bridge.

TECHNICAL APPENDIX

FOR

GRIP ROAD MINE

GRIP ROAD MINE PM PEAK HOUR VOLUMES
OPTION 1 Project Trip Assignment

GRIP ROAD MINE
Bow Hill Rd / I-5 SB Ramps
PM Peak Hour: 4:45 PM - 5:45 PM
Date Collected: 12/18/2019

	Existing PM Peak Hour	2020 PM Peak Hour	Peak Hour Factor		Percent Trucks	Grip Road Mine	2020 PM Pk Hr w/Project		Percent Trucks
EBLT	0	0				0	0		
EBT	83	84	0.66	1	0.8%	1	85	1	1.5%
EBRT	45	45				0	45		
WBLT	140	141				2	143		
WBT	121	122	0.92	4	1.5%	1	123	3	2.6%
WBRT	0	0				0	0		
NBLT	0	0				0	0		
NBT	0	0	0.00	0	0.0%	0	0	0	0.0%
NBRT	0	0				0	0		
SBLT	111	112				0	112		
SBT	0	0	0.68	5	3.2%	0	0	0	3.2%
SBRT	45	45				0	45		
	545	549	0.89			4	553		

GRIP ROAD MINE PM PEAK HOUR VOLUMES
OPTION 1 Project Trip Assignment

GRIP ROAD MINE
Bow Hill Rd / I-5 NB Ramps
PM Peak Hour: 4:30 PM - 5:30 PM
Date Collected: 12/20/2019

	Existing PM Peak Hour	2020 PM Peak Hour	Peak Hour Factor		Percent Trucks	Grip Road Mine	2020 PM Pk Hr w/Project		Percent Trucks
EBLT	33	33				0	33		
EBT	145	146	0.85	3	1.7%	1	147	1	2.2%
EBRT	0	0				0	0		
WBLT	0	0				0	0		
WBT	195	197	0.90	2	0.8%	3	200	3	1.8%
WBRT	71	72				0	72		
NBLT	92	93				0	93		
NBT	0	0	0.89	9	2.4%	0	0	2	2.8%
NBRT	290	293				2	295		
SBLT	0	0				0	0		
SBT	0	0	0.00	0	0.0%	0	0	0	0.0%
SBRT	0	0				0	0		
	826	834	0.93			6	840		

GRIP ROAD MINE PM PEAK HOUR VOLUMES
OPTION 1 Project Trip Assignment

GRIP ROAD MINE
SR 99 / Prairie Rd
PM Peak Hour: 4:00 PM - 5:00 PM
Date Collected: 12/18/2019

	Existing PM Peak Hour	2020 PM Peak Hour	Peak Hour Factor		Percent Trucks	Grip Road Mine	2020 PM Pk Hr w/Project		Percent Trucks
EBLT	80	81				0	81		
EBT	136	137	0.88	18	6.8%	3	140	3	7.8%
EBRT	47	47				0	47		
WBLT	13	13				11	24		
WBT	68	69	0.90	11	12.2%	3	72	14	23.8%
WBRT	9	9				0	9		
NBLT	36	36				0	36		
NBT	98	99	0.90	14	8.3%	0	99	11	13.8%
NBRT	35	35				11	46		
SBLT	4	4				0	4		
SBT	39	39	0.53	2	3.0%	0	39	0	3.0%
SBRT	23	23				0	23		
	588	592	0.94			28	620		

GRIP ROAD MINE PM PEAK HOUR VOLUMES
OPTION 1 Project Trip Assignment

GRIP ROAD MINE
Prairie Rd / F&S Rd
PM Peak Hour: 5:00 PM - 6:00 PM
Date Collected: 12/17/2019

	Existing PM Peak Hour	2020 PM Peak Hour	Peak Hour Factor		Percent Trucks	Grip Road Mine	2020 PM Pk Hr w/Project		Percent Trucks
EBLT	0	0				0	0		
EBT	159	161	0.77	9	4.9%	14	175	14	11.6%
EBRT	24	24				0	24		
WBLT	6	6				0	6		
WBT	35	35	0.75	1	2.4%	14	49	14	27.3%
WBRT	0	0				0	0		
NBLT	20	20				0	20		
NBT	0	0	0.80	3	8.1%	0	0	0	8.1%
NBRT	17	17				0	17		
SBLT	0	0				0	0		
SBT	0	0	0.00	0	0.0%	0	0	0	0.0%
SBRT	0	0				0	0		
	261	263	0.78			28	291		

GRIP ROAD MINE PM PEAK HOUR VOLUMES
OPTION 1 Project Trip Assignment

GRIP ROAD MINE
Prairie Rd / Grip Rd
PM Peak Hour: 5:00 PM - 6:00 PM
Date Collected: 12/16/2019

	Existing PM Peak Hour	2020 PM Peak Hour	Peak Hour Factor		Percent Trucks	Grip Road Mine	2020 PM Pk Hr w/Project		Percent Trucks
EBLT	0	0				0	0		
EBT	0	0	0.00	0	0.0%	0	0	0	0.0%
EBRT	0	0				0	0		
WBLT	13	13				14	27		
WBT	0	0	0.46	0	0.0%	0	0	14	50.0%
WBRT	1	1				0	1		
NBLT	0	0				0	0		
NBT	111	112	0.93	9	5.6%	0	112	14	12.9%
NBRT	51	52				14	66		
SBLT	2	2				0	2		
SBT	34	34	0.65	3	8.3%	0	34	0	8.3%
SBRT	0	0				0	0		
	212	214	0.9			28	242		

GRIP ROAD MINE PM PEAK HOUR VOLUMES
OPTION 1 Project Trip Assignment

GRIP ROAD MINE
Grip Rd / Site Access
PM Peak Hour: n/a
Date Collected: n/a

	Existing PM Peak Hour	2020 PM Peak Hour	Peak Hour Factor		Percent Trucks	Grip Road Mine	2020 PM Pk Hr w/Project		Percent Trucks
EBLT	0	0				14	14		
EBT	53	54	x	x	x	0	54	14	20.6%
EBRT	0	0				0	0		
WBLT	0	0				0	0		
WBT	14	14	x	x	x	0	14	1	6.7%
WBRT	0	0				1	1		
NBLT	0	0				0	0		
NBT	0	0	x	x	x	0	0	0	0.0%
NBRT	0	0				0	0		
SBLT	0	0				1	1		
SBT	0	0	x	x	x	0	0	15	100.0%
SBRT	0	0				14	14		
	67	68	0.9			30	98		

GRIP ROAD MINE PM PEAK HOUR VOLUMES
OPTION 2 Project Trip Assignment

GRIP ROAD MINE
Bow Hill Rd / I-5 SB Ramps
PM Peak Hour: 4:45 PM - 5:45 PM
Date Collected: 12/18/2019

	Existing PM Peak Hour	2020 PM Peak Hour	Peak Hour Factor		Percent Trucks	Grip Road Mine (Option 2 assignment)	2020 PM Pk Hr w/Project		Percent Trucks
EBLT	0	0				0	0		
EBT	83	84	0.66	1	0.8%	1	85	1	1.5%
EBRT	45	45				0	45		
WBLT	140	141				13	154		
WBT	121	122	0.92	4	1.5%	1	123	14	6.5%
WBRT	0	0				0	0		
NBLT	0	0				0	0		
NBT	0	0	0.00	0	0.0%	0	0	0	0.0%
NBRT	0	0				0	0		
SBLT	111	112				0	112		
SBT	0	0	0.68	5	3.2%	0	0	0	3.2%
SBRT	45	45				0	45		
	545	549	0.89			15	564		

GRIP ROAD MINE PM PEAK HOUR VOLUMES
OPTION 2 Project Trip Assignment

GRIP ROAD MINE
Bow Hill Rd / I-5 NB Ramps
PM Peak Hour: 4:30 PM - 5:30 PM
Date Collected: 12/20/2019

	Existing PM Peak Hour	2020 PM Peak Hour	Peak Hour Factor		Percent Trucks	Grip Road Mine (Option 2 assignment)	2020 PM Pk Hr w/Project		Percent Trucks
EBLT	33	33				0	33		
EBT	145	146	0.85	3	1.7%	1	147	1	2.2%
EBRT	0	0				0	0		
WBLT	0	0				0	0		
WBT	195	197	0.90	2	0.8%	14	211	14	5.7%
WBRT	71	72				0	72		
NBLT	92	93				0	93		
NBT	0	0	0.89	9	2.4%	0	0	2	2.8%
NBRT	290	293				2	295		
SBLT	0	0				0	0		
SBT	0	0	0.00	0	0.0%	0	0	0	0.0%
SBRT	0	0				0	0		
	826	834	0.93			17	851		

GRIP ROAD MINE PM PEAK HOUR VOLUMES
OPTION 2 Project Trip Assignment

GRIP ROAD MINE
SR 99 / Prairie Rd
PM Peak Hour: 4:00 PM - 5:00 PM
Date Collected: 12/18/2019

	Existing PM Peak Hour	2020 PM Peak Hour	Peak Hour Factor		Percent Trucks	Grip Road Mine (Option 2 assignment)	2020 PM Pk Hr w/Project		Percent Trucks
EBLT	80	81				0	81		
EBT	136	137	0.88	18	6.8%	3	140	3	7.8%
EBRT	47	47				0	47		
WBLT	13	13				0	13		
WBT	68	69	0.90	11	12.2%	14	83	14	23.8%
WBRT	9	9				0	9		
NBLT	36	36				0	36		
NBT	98	99	0.90	14	8.3%	0	99	11	13.8%
NBRT	35	35				11	46		
SBLT	4	4				0	4		
SBT	39	39	0.53	2	3.0%	0	39	0	3.0%
SBRT	23	23				0	23		
	588	592	0.94			28	620		

GRIP ROAD MINE PM PEAK HOUR VOLUMES
OPTION 2 Project Trip Assignment

GRIP ROAD MINE
Prairie Rd / F&S Rd
PM Peak Hour: 5:00 PM - 6:00 PM
Date Collected: 12/17/2019

	Existing PM Peak Hour	2020 PM Peak Hour	Peak Hour Factor		Percent Trucks	Grip Road Mine (Option 2 assignment)	2020 PM Pk Hr w/Project		Percent Trucks
EBLT	0	0				0	0		
EBT	159	161	0.77	9	4.9%	14	175	14	11.6%
EBRT	24	24				0	24		
WBLT	6	6				0	6		
WBT	35	35	0.75	1	2.4%	14	49	14	27.3%
WBRT	0	0				0	0		
NBLT	20	20				0	20		
NBT	0	0	0.80	3	8.1%	0	0	0	8.1%
NBRT	17	17				0	17		
SBLT	0	0				0	0		
SBT	0	0	0.00	0	0.0%	0	0	0	0.0%
SBRT	0	0				0	0		
	261	263	0.78			28	291		

GRIP ROAD MINE PM PEAK HOUR VOLUMES
OPTION 2 Project Trip Assignment

GRIP ROAD MINE
Prairie Rd / Grip Rd
PM Peak Hour: 5:00 PM - 6:00 PM
Date Collected: 12/16/2019

	Existing PM Peak Hour	2020 PM Peak Hour	Peak Hour Factor		Percent Trucks	Grip Road Mine (Option 2 assignment)	2020 PM Pk Hr w/Project		Percent Trucks
EBLT	0	0				0	0		
EBT	0	0	0.00	0	0.0%	0	0	0	0.0%
EBRT	0	0				0	0		
WBLT	13	13				14	27		
WBT	0	0	0.46	0	0.0%	0	0	14	50.0%
WBRT	1	1				0	1		
NBLT	0	0				0	0		
NBT	111	112	0.93	9	5.6%	0	112	14	12.9%
NBRT	51	52				14	66		
SBLT	2	2				0	2		
SBT	34	34	0.65	3	8.3%	0	34	0	8.3%
SBRT	0	0				0	0		
	212	214	0.9			28	242		

GRIP ROAD MINE PM PEAK HOUR VOLUMES
OPTION 2 Project Trip Assignment

GRIP ROAD MINE
Grip Rd / Site Access
PM Peak Hour: n/a
Date Collected: n/a

	Existing PM Peak Hour	2020 PM Peak Hour	Peak Hour Factor		Percent Trucks	Grip Road Mine (Option 2 assignment)	2020 PM Pk Hr w/Project		Percent Trucks
EBLT	0	0				14	14		
EBT	53	54	x	x	x	0	54	14	20.6%
EBRT	0	0				0	0		
WBLT	0	0				0	0		
WBT	14	14	x	x	x	0	14	1	6.7%
WBRT	0	0				1	1		
NBLT	0	0				0	0		
NBT	0	0	x	x	x	0	0	0	0.0%
NBRT	0	0				0	0		
SBLT	0	0				1	1		
SBT	0	0	x	x	x	0	0	15	100.0%
SBRT	0	0				14	14		
	67	68	0.9			30	98		

Intersection	
Int Delay, s/veh	6.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	84	45	141	122	0	0	0	0	112	0	45
Future Vol, veh/h	0	84	45	141	122	0	0	0	0	112	0	45
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	100	100	100	89	89	89
Heavy Vehicles, %	1	1	1	2	2	2	0	0	0	3	3	3
Mvmt Flow	0	94	51	158	137	0	0	0	0	126	0	51

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	145	0	0	574	599	137
Stage 1	-	-	-	-	-	-	454	454	-
Stage 2	-	-	-	-	-	-	120	145	-
Critical Hdwy	-	-	-	4.12	-	-	6.43	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	5.43	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.43	5.53	-
Follow-up Hdwy	-	-	-	2.218	-	-	3.527	4.027	3.327
Pot Cap-1 Maneuver	0	-	-	1437	-	0	479	414	909
Stage 1	0	-	-	-	-	0	638	568	-
Stage 2	0	-	-	-	-	0	903	775	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	1437	-	-	422	0	909
Mov Cap-2 Maneuver	-	-	-	-	-	-	422	0	-
Stage 1	-	-	-	-	-	-	562	0	-
Stage 2	-	-	-	-	-	-	903	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	4.2	16.1
HCM LOS			C

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1437	-	499
HCM Lane V/C Ratio	-	-	0.11	-	0.354
HCM Control Delay (s)	-	-	7.8	0	16.1
HCM Lane LOS	-	-	A	A	C
HCM 95th %tile Q(veh)	-	-	0.4	-	1.6

Intersection	
Int Delay, s/veh	7.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰			↑			↔				
Traffic Vol, veh/h	33	146	0	0	197	72	93	0	293	0	0	0
Future Vol, veh/h	33	146	0	0	197	72	93	0	293	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	100	100	100
Heavy Vehicles, %	2	2	2	1	1	1	2	2	2	0	0	0
Mvmt Flow	35	157	0	0	212	77	100	0	315	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	289	0	-	-	-	0	479	517	157
Stage 1	-	-	-	-	-	-	228	228	-
Stage 2	-	-	-	-	-	-	251	289	-
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1273	-	0	0	-	-	545	462	889
Stage 1	-	-	0	0	-	-	810	715	-
Stage 2	-	-	0	0	-	-	791	673	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1273	-	-	-	-	-	529	0	889
Mov Cap-2 Maneuver	-	-	-	-	-	-	529	0	-
Stage 1	-	-	-	-	-	-	786	0	-
Stage 2	-	-	-	-	-	-	791	0	-

Approach	EB	WB	NB
HCM Control Delay, s	1.5	0	15.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	764	1273	-	-	-
HCM Lane V/C Ratio	0.543	0.028	-	-	-
HCM Control Delay (s)	15.2	7.9	0	-	-
HCM Lane LOS	C	A	A	-	-
HCM 95th %tile Q(veh)	3.3	0.1	-	-	-

Intersection	
Int Delay, s/veh	9.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	81	137	47	13	69	9	36	99	35	4	39	23
Future Vol, veh/h	81	137	47	13	69	9	36	99	35	4	39	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	7	7	7	12	12	12	8	8	8	3	3	3
Mvmt Flow	86	146	50	14	73	10	38	105	37	4	41	24

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	304	281	54	361	275	124	66	0	0	143	0	0
Stage 1	62	62	-	201	201	-	-	-	-	-	-	-
Stage 2	242	219	-	160	74	-	-	-	-	-	-	-
Critical Hdwy	7.17	6.57	6.27	7.22	6.62	6.32	4.18	-	-	4.13	-	-
Critical Hdwy Stg 1	6.17	5.57	-	6.22	5.62	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.17	5.57	-	6.22	5.62	-	-	-	-	-	-	-
Follow-up Hdwy	3.563	4.063	3.363	3.608	4.108	3.408	2.272	-	-	2.227	-	-
Pot Cap-1 Maneuver	639	619	999	577	616	901	1498	-	-	1434	-	-
Stage 1	937	833	-	778	717	-	-	-	-	-	-	-
Stage 2	750	713	-	819	814	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	559	600	999	435	597	901	1498	-	-	1434	-	-
Mov Cap-2 Maneuver	559	600	-	435	597	-	-	-	-	-	-	-
Stage 1	911	831	-	756	697	-	-	-	-	-	-	-
Stage 2	645	693	-	640	812	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.2	12.4	1.6	0.5
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1498	-	-	631	585	1434	-	-
HCM Lane V/C Ratio	0.026	-	-	0.447	0.165	0.003	-	-
HCM Control Delay (s)	7.5	0	-	15.2	12.4	7.5	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	2.3	0.6	0	-	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	161	24	6	35	20	17
Future Vol, veh/h	161	24	6	35	20	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	5	5	2	2	8	8
Mvmt Flow	206	31	8	45	26	22

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	237	0	282	222
Stage 1	-	-	-	-	222	-
Stage 2	-	-	-	-	60	-
Critical Hdwy	-	-	4.12	-	6.48	6.28
Critical Hdwy Stg 1	-	-	-	-	5.48	-
Critical Hdwy Stg 2	-	-	-	-	5.48	-
Follow-up Hdwy	-	-	2.218	-	3.572	3.372
Pot Cap-1 Maneuver	-	-	1330	-	695	803
Stage 1	-	-	-	-	801	-
Stage 2	-	-	-	-	948	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1330	-	691	803
Mov Cap-2 Maneuver	-	-	-	-	691	-
Stage 1	-	-	-	-	801	-
Stage 2	-	-	-	-	942	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.1	10.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	738	-	-	1330	-
HCM Lane V/C Ratio	0.064	-	-	0.006	-
HCM Control Delay (s)	10.2	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	13	1	112	52	2	34
Future Vol, veh/h	13	1	112	52	2	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	6	6	8	8
Mvmt Flow	14	1	124	58	2	38

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	195	153	0	0	182	0
Stage 1	153	-	-	-	-	-
Stage 2	42	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.18	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.272	-
Pot Cap-1 Maneuver	798	898	-	-	1358	-
Stage 1	880	-	-	-	-	-
Stage 2	986	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	796	898	-	-	1358	-
Mov Cap-2 Maneuver	796	-	-	-	-	-
Stage 1	880	-	-	-	-	-
Stage 2	984	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.6	0	0.4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	803	1358	-
HCM Lane V/C Ratio	-	-	0.019	0.002	-
HCM Control Delay (s)	-	-	9.6	7.7	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	54	14	0	0	1
Future Vol, veh/h	0	54	14	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	59	15	0	0	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	15	0	-	0	74	15
Stage 1	-	-	-	-	15	-
Stage 2	-	-	-	-	59	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1603	-	-	-	930	1065
Stage 1	-	-	-	-	1008	-
Stage 2	-	-	-	-	964	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1603	-	-	-	930	1065
Mov Cap-2 Maneuver	-	-	-	-	930	-
Stage 1	-	-	-	-	1008	-
Stage 2	-	-	-	-	964	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	8.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1603	-	-	-	1065
HCM Lane V/C Ratio	-	-	-	-	0.001
HCM Control Delay (s)	0	-	-	-	8.4
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	6.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	85	45	143	123	0	0	0	0	112	0	45
Future Vol, veh/h	0	85	45	143	123	0	0	0	0	112	0	45
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	100	100	100	89	89	89
Heavy Vehicles, %	2	2	2	3	3	3	0	0	0	3	3	3
Mvmt Flow	0	96	51	161	138	0	0	0	0	126	0	51

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	146	0	0	581	606	138
Stage 1	-	-	-	-	-	-	460	460	-
Stage 2	-	-	-	-	-	-	121	146	-
Critical Hdwy	-	-	-	4.13	-	-	6.43	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	5.43	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.43	5.53	-
Follow-up Hdwy	-	-	-	2.227	-	-	3.527	4.027	3.327
Pot Cap-1 Maneuver	0	-	-	1430	-	0	474	410	908
Stage 1	0	-	-	-	-	0	634	564	-
Stage 2	0	-	-	-	-	0	902	774	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	1430	-	-	416	0	908
Mov Cap-2 Maneuver	-	-	-	-	-	-	416	0	-
Stage 1	-	-	-	-	-	-	557	0	-
Stage 2	-	-	-	-	-	-	902	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	4.2	16.4
HCM LOS			C

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1430	-	492
HCM Lane V/C Ratio	-	-	0.112	-	0.359
HCM Control Delay (s)	-	-	7.8	0	16.4
HCM Lane LOS	-	-	A	A	C
HCM 95th %tile Q(veh)	-	-	0.4	-	1.6

Intersection	
Int Delay, s/veh	7.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰			↱			↔				
Traffic Vol, veh/h	33	147	0	0	200	72	93	0	295	0	0	0
Future Vol, veh/h	33	147	0	0	200	72	93	0	295	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	3	3	3	0	0	0
Mvmt Flow	35	158	0	0	215	77	100	0	317	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	292	0	-	-	-	0	483	521	158
Stage 1	-	-	-	-	-	-	229	229	-
Stage 2	-	-	-	-	-	-	254	292	-
Critical Hdwy	4.12	-	-	-	-	-	6.43	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	5.43	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.43	5.53	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.527	4.027	3.327
Pot Cap-1 Maneuver	1270	-	0	0	-	-	541	458	885
Stage 1	-	-	0	0	-	-	807	713	-
Stage 2	-	-	0	0	-	-	786	669	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1270	-	-	-	-	-	525	0	885
Mov Cap-2 Maneuver	-	-	-	-	-	-	525	0	-
Stage 1	-	-	-	-	-	-	783	0	-
Stage 2	-	-	-	-	-	-	786	0	-

Approach	EB	WB	NB
HCM Control Delay, s	1.5	0	15.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	760	1270	-	-	-
HCM Lane V/C Ratio	0.549	0.028	-	-	-
HCM Control Delay (s)	15.3	7.9	0	-	-
HCM Lane LOS	C	A	A	-	-
HCM 95th %tile Q(veh)	3.4	0.1	-	-	-

Intersection	
Int Delay, s/veh	9.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	81	140	47	24	72	9	36	99	46	4	39	23
Future Vol, veh/h	81	140	47	24	72	9	36	99	46	4	39	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	12	12	12	25	25	25	8	8	8	3	3	3
Mvmt Flow	86	149	50	26	77	10	38	105	49	4	41	24

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	311	293	54	368	280	130	66	0	0	154	0	0
Stage 1	62	62	-	206	206	-	-	-	-	-	-	-
Stage 2	249	231	-	162	74	-	-	-	-	-	-	-
Critical Hdwy	7.22	6.62	6.32	7.35	6.75	6.45	4.18	-	-	4.13	-	-
Critical Hdwy Stg 1	6.22	5.62	-	6.35	5.75	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.22	5.62	-	6.35	5.75	-	-	-	-	-	-	-
Follow-up Hdwy	3.608	4.108	3.408	3.725	4.225	3.525	2.272	-	-	2.227	-	-
Pot Cap-1 Maneuver	622	602	986	548	591	862	1498	-	-	1420	-	-
Stage 1	925	824	-	746	690	-	-	-	-	-	-	-
Stage 2	733	695	-	789	790	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	539	583	986	408	573	862	1498	-	-	1420	-	-
Mov Cap-2 Maneuver	539	583	-	408	573	-	-	-	-	-	-	-
Stage 1	899	822	-	725	671	-	-	-	-	-	-	-
Stage 2	624	676	-	611	788	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.9	13.4	1.5	0.5
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1498	-	-	612	539	1420	-	-
HCM Lane V/C Ratio	0.026	-	-	0.466	0.207	0.003	-	-
HCM Control Delay (s)	7.5	0	-	15.9	13.4	7.5	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	2.5	0.8	0	-	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	175	24	6	49	20	17
Future Vol, veh/h	175	24	6	49	20	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	12	12	29	29	8	8
Mvmt Flow	224	31	8	63	26	22

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	255	0	318	240
Stage 1	-	-	-	-	240	-
Stage 2	-	-	-	-	78	-
Critical Hdwy	-	-	4.39	-	6.48	6.28
Critical Hdwy Stg 1	-	-	-	-	5.48	-
Critical Hdwy Stg 2	-	-	-	-	5.48	-
Follow-up Hdwy	-	-	2.461	-	3.572	3.372
Pot Cap-1 Maneuver	-	-	1168	-	663	784
Stage 1	-	-	-	-	786	-
Stage 2	-	-	-	-	930	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1168	-	658	784
Mov Cap-2 Maneuver	-	-	-	-	658	-
Stage 1	-	-	-	-	786	-
Stage 2	-	-	-	-	923	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	10.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	710	-	-	1168	-
HCM Lane V/C Ratio	0.067	-	-	0.007	-
HCM Control Delay (s)	10.4	-	-	8.1	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	27	1	112	66	2	34
Future Vol, veh/h	27	1	112	66	2	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	50	50	13	13	8	8
Mvmt Flow	30	1	124	73	2	38

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	203	161	0	0	198	0
Stage 1	161	-	-	-	-	-
Stage 2	42	-	-	-	-	-
Critical Hdwy	6.9	6.7	-	-	4.18	-
Critical Hdwy Stg 1	5.9	-	-	-	-	-
Critical Hdwy Stg 2	5.9	-	-	-	-	-
Follow-up Hdwy	3.95	3.75	-	-	2.272	-
Pot Cap-1 Maneuver	689	773	-	-	1339	-
Stage 1	764	-	-	-	-	-
Stage 2	871	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	688	773	-	-	1339	-
Mov Cap-2 Maneuver	688	-	-	-	-	-
Stage 1	764	-	-	-	-	-
Stage 2	869	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.5	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	691	1339	-
HCM Lane V/C Ratio	-	-	0.045	0.002	-
HCM Control Delay (s)	-	-	10.5	7.7	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	14	54	14	1	1	14
Future Vol, veh/h	14	54	14	1	1	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	21	21	7	7	100	100
Mvmt Flow	16	60	16	1	1	16

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	17	0	-	0	107	16
Stage 1	-	-	-	-	16	-
Stage 2	-	-	-	-	91	-
Critical Hdwy	4.31	-	-	-	7.4	7.2
Critical Hdwy Stg 1	-	-	-	-	6.4	-
Critical Hdwy Stg 2	-	-	-	-	6.4	-
Follow-up Hdwy	2.389	-	-	-	4.4	4.2
Pot Cap-1 Maneuver	1485	-	-	-	701	838
Stage 1	-	-	-	-	803	-
Stage 2	-	-	-	-	735	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1485	-	-	-	693	838
Mov Cap-2 Maneuver	-	-	-	-	693	-
Stage 1	-	-	-	-	803	-
Stage 2	-	-	-	-	727	-

Approach	EB	WB	SB
HCM Control Delay, s	1.5	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1485	-	-	-	826
HCM Lane V/C Ratio	0.01	-	-	-	0.02
HCM Control Delay (s)	7.5	0	-	-	9.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	6.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	85	45	154	123	0	0	0	0	112	0	45
Future Vol, veh/h	0	85	45	154	123	0	0	0	0	112	0	45
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	100	100	100	89	89	89
Heavy Vehicles, %	2	2	2	7	7	7	0	0	0	3	3	3
Mvmt Flow	0	96	51	173	138	0	0	0	0	126	0	51

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	146	0	0	605	630	138
Stage 1	-	-	-	-	-	-	484	484	-
Stage 2	-	-	-	-	-	-	121	146	-
Critical Hdwy	-	-	-	4.17	-	-	6.43	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	5.43	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.43	5.53	-
Follow-up Hdwy	-	-	-	2.263	-	-	3.527	4.027	3.327
Pot Cap-1 Maneuver	0	-	-	1406	-	0	459	397	908
Stage 1	0	-	-	-	-	0	618	550	-
Stage 2	0	-	-	-	-	0	902	774	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	1406	-	-	398	0	908
Mov Cap-2 Maneuver	-	-	-	-	-	-	398	0	-
Stage 1	-	-	-	-	-	-	536	0	-
Stage 2	-	-	-	-	-	-	902	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	4.4	17
HCM LOS			C

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1406	-	474
HCM Lane V/C Ratio	-	-	0.123	-	0.372
HCM Control Delay (s)	-	-	7.9	0	17
HCM Lane LOS	-	-	A	A	C
HCM 95th %tile Q(veh)	-	-	0.4	-	1.7

Intersection	
Int Delay, s/veh	7.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰			↱			✣				
Traffic Vol, veh/h	33	147	0	0	211	72	93	0	295	0	0	0
Future Vol, veh/h	33	147	0	0	211	72	93	0	295	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	100	100	100
Heavy Vehicles, %	2	2	2	6	6	6	3	3	3	0	0	0
Mvmt Flow	35	158	0	0	227	77	100	0	317	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	304	0	-	-	-	0	495	533	158
Stage 1	-	-	-	-	-	-	229	229	-
Stage 2	-	-	-	-	-	-	266	304	-
Critical Hdwy	4.12	-	-	-	-	-	6.43	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	5.43	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.43	5.53	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.527	4.027	3.327
Pot Cap-1 Maneuver	1257	-	0	0	-	-	532	451	885
Stage 1	-	-	0	0	-	-	807	713	-
Stage 2	-	-	0	0	-	-	776	661	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1257	-	-	-	-	-	516	0	885
Mov Cap-2 Maneuver	-	-	-	-	-	-	516	0	-
Stage 1	-	-	-	-	-	-	782	0	-
Stage 2	-	-	-	-	-	-	776	0	-

Approach	EB	WB	NB
HCM Control Delay, s	1.5	0	15.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	756	1257	-	-	-
HCM Lane V/C Ratio	0.552	0.028	-	-	-
HCM Control Delay (s)	15.5	7.9	0	-	-
HCM Lane LOS	C	A	A	-	-
HCM 95th %tile Q(veh)	3.4	0.1	-	-	-

Intersection	
Int Delay, s/veh	9.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	81	140	47	13	83	9	36	99	46	4	39	23
Future Vol, veh/h	81	140	47	13	83	9	36	99	46	4	39	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	8	8	8	24	24	24	14	14	14	3	3	3
Mvmt Flow	86	149	50	14	88	10	38	105	49	4	41	24

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	317	293	54	368	280	130	66	0	0	154	0	0
Stage 1	62	62	-	206	206	-	-	-	-	-	-	-
Stage 2	255	231	-	162	74	-	-	-	-	-	-	-
Critical Hdwy	7.18	6.58	6.28	7.34	6.74	6.44	4.24	-	-	4.13	-	-
Critical Hdwy Stg 1	6.18	5.58	-	6.34	5.74	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.18	5.58	-	6.34	5.74	-	-	-	-	-	-	-
Follow-up Hdwy	3.572	4.072	3.372	3.716	4.216	3.516	2.326	-	-	2.227	-	-
Pot Cap-1 Maneuver	624	608	996	550	593	864	1463	-	-	1420	-	-
Stage 1	934	832	-	748	692	-	-	-	-	-	-	-
Stage 2	736	702	-	791	792	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	531	589	996	411	574	864	1463	-	-	1420	-	-
Mov Cap-2 Maneuver	531	589	-	411	574	-	-	-	-	-	-	-
Stage 1	907	830	-	726	672	-	-	-	-	-	-	-
Stage 2	614	682	-	615	790	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.9	13	1.5	0.5
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1463	-	-	613	563	1420	-	-
HCM Lane V/C Ratio	0.026	-	-	0.465	0.198	0.003	-	-
HCM Control Delay (s)	7.5	0	-	15.9	13	7.5	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	2.5	0.7	0	-	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	175	24	6	49	20	17
Future Vol, veh/h	175	24	6	49	20	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	12	12	27	27	8	8
Mvmt Flow	224	31	8	63	26	22

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	255	0	318	240
Stage 1	-	-	-	-	240	-
Stage 2	-	-	-	-	78	-
Critical Hdwy	-	-	4.37	-	6.48	6.28
Critical Hdwy Stg 1	-	-	-	-	5.48	-
Critical Hdwy Stg 2	-	-	-	-	5.48	-
Follow-up Hdwy	-	-	2.443	-	3.572	3.372
Pot Cap-1 Maneuver	-	-	1178	-	663	784
Stage 1	-	-	-	-	786	-
Stage 2	-	-	-	-	930	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1178	-	658	784
Mov Cap-2 Maneuver	-	-	-	-	658	-
Stage 1	-	-	-	-	786	-
Stage 2	-	-	-	-	923	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	10.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	710	-	-	1178	-
HCM Lane V/C Ratio	0.067	-	-	0.007	-
HCM Control Delay (s)	10.4	-	-	8.1	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	27	1	112	66	2	34
Future Vol, veh/h	27	1	112	66	2	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	50	50	13	13	8	8
Mvmt Flow	30	1	124	73	2	38

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	203	161	0	0	198	0
Stage 1	161	-	-	-	-	-
Stage 2	42	-	-	-	-	-
Critical Hdwy	6.9	6.7	-	-	4.18	-
Critical Hdwy Stg 1	5.9	-	-	-	-	-
Critical Hdwy Stg 2	5.9	-	-	-	-	-
Follow-up Hdwy	3.95	3.75	-	-	2.272	-
Pot Cap-1 Maneuver	689	773	-	-	1339	-
Stage 1	764	-	-	-	-	-
Stage 2	871	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	688	773	-	-	1339	-
Mov Cap-2 Maneuver	688	-	-	-	-	-
Stage 1	764	-	-	-	-	-
Stage 2	869	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.5	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	691	1339	-
HCM Lane V/C Ratio	-	-	0.045	0.002	-
HCM Control Delay (s)	-	-	10.5	7.7	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	14	54	14	1	1	14
Future Vol, veh/h	14	54	14	1	1	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	21	21	7	7	100	100
Mvmt Flow	16	60	16	1	1	16

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	17	0	-	0	107	16
Stage 1	-	-	-	-	16	-
Stage 2	-	-	-	-	91	-
Critical Hdwy	4.31	-	-	-	7.4	7.2
Critical Hdwy Stg 1	-	-	-	-	6.4	-
Critical Hdwy Stg 2	-	-	-	-	6.4	-
Follow-up Hdwy	2.389	-	-	-	4.4	4.2
Pot Cap-1 Maneuver	1485	-	-	-	701	838
Stage 1	-	-	-	-	803	-
Stage 2	-	-	-	-	735	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1485	-	-	-	693	838
Mov Cap-2 Maneuver	-	-	-	-	693	-
Stage 1	-	-	-	-	803	-
Stage 2	-	-	-	-	727	-

Approach	EB	WB	SB
HCM Control Delay, s	1.5	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1485	-	-	-	826
HCM Lane V/C Ratio	0.01	-	-	-	0.02
HCM Control Delay (s)	7.5	0	-	-	9.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

TRAFFIC DATA GATHERING
LAKE STEVENS, WA 98258 (425) 334-3348
EMAIL: Carlan@Trafficdatagathering.com

Location : Grip Road 1,500 feet e/o Prairie Road
City, State : Bow, Skajit County
Counter # : NT-2808

Site: Loc 01

Seven Day Volume

Interval Start	Mon 8/17/2020		Tue 8/18/2020		Wed 8/19/2020		Thu 8/20/2020		Fri 8/21/2020		Sat 8/22/2020		Sun 8/23/2020		Mon - Fri Average	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
12:00 AM	0	4	1	3	2	4	2	4	0	3	-	-	-	-	1.0	3.6
1:00 AM	0	1	0	4	2	1	1	2	1	0	-	-	-	-	0.8	1.6
2:00 AM	1	1	2	2	1	2	3	3	1	1	-	-	-	-	1.6	1.8
3:00 AM	4	0	2	0	4	1	4	0	4	0	-	-	-	-	3.6	0.2
4:00 AM	7	0	5	0	6	0	5	0	4	2	-	-	-	-	5.4	0.4
5:00 AM	18	3	15	5	22	1	18	1	17	2	-	-	-	-	18.0	2.4
6:00 AM	34	4	39	4	44	7	35	3	39	2	-	-	-	-	38.2	4.0
7:00 AM	36	9	29	7	37	9	31	4	31	9	-	-	-	-	32.8	7.6
8:00 AM	21	6	23	10	18	19	23	11	21	12	-	-	-	-	21.2	11.6
9:00 AM	13	15	15	4	3	6	12	6	17	2	-	-	-	-	12.0	6.6
10:00 AM	15	16	20	8	0	0	17	17	20	12	-	-	-	-	14.4	10.6
11:00 AM	23	16	25	19	0	0	17	19	20	18	-	-	-	-	17.0	14.4
12:00 PM	20	18	14	14	15	9	18	18	19	19	-	-	-	-	17.2	15.6
1:00 PM	16	22	16	17	25	16	14	23	24	24	-	-	-	-	19.0	20.4
2:00 PM	17	20	24	26	24	14	21	21	18	30	-	-	-	-	20.8	22.2
3:00 PM	17	36	24	40	23	19	21	30	16	26	-	-	-	-	20.2	30.2
4:00 PM	36	39	23	44	23	34	18	37	17	31	-	-	-	-	23.4	37.0
5:00 PM	13	46	18	49	12	45	17	50	18	28	-	-	-	-	15.6	43.6
6:00 PM	13	21	20	39	7	25	20	37	20	26	-	-	-	-	16.0	29.6
7:00 PM	10	18	15	23	8	22	10	24	8	23	-	-	-	-	10.2	22.0
8:00 PM	8	12	13	17	10	15	14	16	4	12	-	-	-	-	9.8	14.4
9:00 PM	6	8	4	16	8	7	6	8	7	15	-	-	-	-	6.2	10.8
10:00 PM	2	7	3	12	3	5	2	6	5	8	-	-	-	-	3.0	7.6
11:00 PM	2	1	3	5	1	5	0	2	1	6	-	-	-	-	1.4	3.8
Totals	332	323	353	368	298	266	329	342	332	311	0	0	0	0	328.8	322.0
Combined	655		721		564		671		643		0		0		650.8	
Split (%)	50.7	49.3	49.0	51.0	52.8	47.2	49.0	51.0	51.6	48.4	-	-	-	-	50.5	49.5
Peak Hours																
12:00 AM - 12:00 PM	7:00 AM	10:00 AM	6:00 AM	11:00 AM	6:00 AM	8:00 AM	6:00 AM	11:00 AM	6:00 AM	11:00 AM	-	-	-	-	6:00 AM	11:00 AM
Volume	36	16	39	19	44	19	35	19	39	18	-	-	-	-	38.2	14.4
12:00 PM - 12:00 AM	4:00 PM	5:00 PM	2:00 PM	5:00 PM	1:00 PM	5:00 PM	2:00 PM	5:00 PM	1:00 PM	4:00 PM	-	-	-	-	4:00 PM	5:00 PM
Volume	36	46	24	49	25	45	21	50	24	31	-	-	-	-	23.4	43.6

FHWA VEHICLE CLASSIFCATION STANDARD GROUPINGS

Class 1
Motorcycles

Class 2
Passenger cars

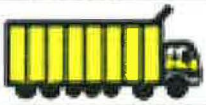
Class 3
Four tire, single unit

Class 4
Buses

Class 5
Two axle, six tire, single unit

Class 6
Three axle, single unit

Class 7
Four or more axle, single unit



Class 8
Four or less axle, single trailer

Class 9
5-Axle tractor semitrailer

Class 10
Six or more axle, single trailer

Class 11
Five or less axle, multi trailer

Class 12
Six axle, multi-trailer

Class 13
Seven or more axle, multi-trailer

TRAFFIC DATA GATHERING
LAKE STEVENS, WA 98258 (425) 334-3348
EMAIL: Carlan@Trafficdatagathering.com

Location : Grip Road 1,500 feet e/o Prairie Road
City, State : Bow, Skajit County
Counter # : NT-2808

Site: Loc 01
8/17/2020
Monday

Daily Classification

WB

Interval Start	Total	Motor Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi	Tailgating
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0
3:00 AM	4	0	2	1	0	1	0	0	0	0	0	0	0	0	0
4:00 AM	7	0	1	1	0	5	0	0	0	0	0	0	0	0	0
5:00 AM	18	0	8	6	0	3	0	0	1	0	0	0	0	0	0
6:00 AM	34	0	19	11	0	4	0	0	0	0	0	0	0	0	0
7:00 AM	36	0	22	13	0	1	0	0	0	0	0	0	0	0	0
8:00 AM	21	0	14	5	0	2	0	0	0	0	0	0	0	0	0
9:00 AM	13	0	8	4	0	1	0	0	0	0	0	0	0	0	0
10:00 AM	15	1	9	4	0	1	0	0	0	0	0	0	0	0	0
11:00 AM	23	1	11	10	0	1	0	0	0	0	0	0	0	0	0
12:00 PM	20	0	13	4	0	2	0	0	1	0	0	0	0	0	0
1:00 PM	16	0	8	4	0	2	0	0	2	0	0	0	0	0	0
2:00 PM	17	0	12	1	0	4	0	0	0	0	0	0	0	0	0
3:00 PM	17	0	7	7	0	1	0	0	2	0	0	0	0	0	0
4:00 PM	36	1	16	13	0	6	0	0	0	0	0	0	0	0	0
5:00 PM	13	0	7	6	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	13	0	10	0	0	2	0	0	1	0	0	0	0	0	0
7:00 PM	10	0	7	3	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	8	0	6	1	0	1	0	0	0	0	0	0	0	0	0
9:00 PM	6	0	3	2	0	0	0	0	1	0	0	0	0	0	0
10:00 PM	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0
Total	332	3	187	96	0	37	0	0	9	0	0	0	0	0	0
%		0.9	56.3	28.9	0.0	11.1	0.0	0.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0

TRAFFIC DATA GATHERING
LAKE STEVENS, WA 98258 (425) 334-3348
EMAIL: Carlan@Trafficdatagathering.com

Location : Grip Road 1,500 feet e/o Prairie Road
City, State : Bow, Skajit County
Counter # : NT-2808

Site: Loc 01
8/18/2020
Tuesday

Daily Classification

WB

Interval Start	Total	Motor Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi	Tailgating
12:00 AM	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	2	0	1	0	0	1	0	0	0	0	0	0	0	0	0
4:00 AM	5	0	0	1	0	4	0	0	0	0	0	0	0	0	0
5:00 AM	15	0	9	3	0	3	0	0	0	0	0	0	0	0	0
6:00 AM	39	1	18	14	0	4	0	0	2	0	0	0	0	0	0
7:00 AM	29	0	16	11	0	2	0	0	0	0	0	0	0	0	0
8:00 AM	23	0	14	6	0	2	0	0	1	0	0	0	0	0	0
9:00 AM	15	0	11	1	1	1	1	0	0	0	0	0	0	0	0
10:00 AM	20	1	7	8	0	4	0	0	0	0	0	0	0	0	0
11:00 AM	25	0	15	8	0	2	0	0	0	0	0	0	0	0	0
12:00 PM	14	1	6	4	0	3	0	0	0	0	0	0	0	0	0
1:00 PM	16	0	6	5	0	4	0	0	1	0	0	0	0	0	0
2:00 PM	24	1	13	8	0	2	0	0	0	0	0	0	0	0	0
3:00 PM	24	0	12	7	0	5	0	0	0	0	0	0	0	0	0
4:00 PM	23	1	13	5	0	4	0	0	0	0	0	0	0	0	0
5:00 PM	18	0	10	6	0	2	0	0	0	0	0	0	0	0	0
6:00 PM	20	1	13	4	0	2	0	0	0	0	0	0	0	0	0
7:00 PM	15	0	10	5	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	13	0	6	5	0	2	0	0	0	0	0	0	0	0	0
9:00 PM	4	0	3	1	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	3	0	2	1	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	3	0	2	1	0	0	0	0	0	0	0	0	0	0	0
Total	353	6	190	104	1	47	1	0	4	0	0	0	0	0	0
%		1.7	53.8	29.5	0.3	13.3	0.3	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0

TRAFFIC DATA GATHERING
LAKE STEVENS, WA 98258 (425) 334-3348
EMAIL: Carlan@Trafficdatagathering.com

Location : Grip Road 1,500 feet e/o Prairie Road
City, State : Bow, Skajit County
Counter # : NT-2808

Site: Loc 01
8/19/2020
Wednesday

Daily Classification

WB

Interval Start	Total	Motor Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi	Tailgating
12:00 AM	2	0	1	0	0	1	0	0	0	0	0	0	0	0	0
1:00 AM	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	4	0	2	1	0	1	0	0	0	0	0	0	0	0	0
4:00 AM	6	0	2	1	0	3	0	0	0	0	0	0	0	0	0
5:00 AM	22	1	10	3	0	6	0	0	1	0	1	0	0	0	0
6:00 AM	44	1	21	19	0	3	0	0	0	0	0	0	0	0	0
7:00 AM	37	0	17	17	0	2	0	0	1	0	0	0	0	0	0
8:00 AM	18	0	12	3	0	2	0	0	1	0	0	0	0	0	0
9:00 AM	3	0	2	1	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	15	0	10	1	0	0	4	0	0	0	0	0	0	0	0
1:00 PM	25	0	11	3	0	3	7	0	0	1	0	0	0	0	0
2:00 PM	24	0	6	5	0	2	11	0	0	0	0	0	0	0	0
3:00 PM	23	0	13	7	0	2	0	0	0	0	1	0	0	0	0
4:00 PM	23	0	12	7	0	3	0	0	1	0	0	0	0	0	0
5:00 PM	12	0	6	6	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	7	0	5	2	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	8	0	5	1	0	2	0	0	0	0	0	0	0	0	0
8:00 PM	10	1	7	1	0	1	0	0	0	0	0	0	0	0	0
9:00 PM	8	1	4	2	0	1	0	0	0	0	0	0	0	0	0
10:00 PM	3	0	1	2	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Total	298	4	150	83	0	32	22	0	4	1	2	0	0	0	0
%		1.3	50.3	27.9	0.0	10.7	7.4	0.0	1.3	0.3	0.7	0.0	0.0	0.0	0.0

TRAFFIC DATA GATHERING
LAKE STEVENS, WA 98258 (425) 334-3348
EMAIL: Carlan@Trafficdatagathering.com

Location : Grip Road 1,500 feet e/o Prairie Road
City, State : Bow, Skajit County
Counter # : NT-2808

Site: Loc 01
8/20/2020
Thursday

Daily Classification

WB

Interval Start	Total	Motor Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi	Tailgating
12:00 AM	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	3	0	2	1	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	4	0	0	3	0	1	0	0	0	0	0	0	0	0	0
4:00 AM	5	0	0	2	0	3	0	0	0	0	0	0	0	0	0
5:00 AM	18	0	9	4	0	5	0	0	0	0	0	0	0	0	0
6:00 AM	35	0	17	14	0	4	0	0	0	0	0	0	0	0	0
7:00 AM	32	1	11	15	0	4	0	0	1	0	0	0	0	0	0
8:00 AM	23	0	13	7	0	2	0	0	1	0	0	0	0	0	0
9:00 AM	12	0	7	3	0	2	0	0	0	0	0	0	0	0	0
10:00 AM	17	0	10	6	0	1	0	0	0	0	0	0	0	0	0
11:00 AM	17	0	12	5	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	18	0	9	7	0	1	0	0	0	1	0	0	0	0	0
1:00 PM	14	0	6	6	0	0	0	0	2	0	0	0	0	0	0
2:00 PM	21	0	13	5	1	2	0	0	0	0	0	0	0	0	0
3:00 PM	21	0	13	5	0	3	0	0	0	0	0	0	0	0	0
4:00 PM	18	0	9	8	0	1	0	0	0	0	0	0	0	0	0
5:00 PM	17	0	7	5	0	5	0	0	0	0	0	0	0	0	0
6:00 PM	20	0	10	8	0	2	0	0	0	0	0	0	0	0	0
7:00 PM	10	0	5	4	0	0	0	0	1	0	0	0	0	0	0
8:00 PM	14	0	9	5	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	6	0	4	1	0	1	0	0	0	0	0	0	0	0	0
10:00 PM	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	330	1	169	116	1	37	0	0	5	1	0	0	0	0	0
%		0.3	51.2	35.2	0.3	11.2	0.0	0.0	1.5	0.3	0.0	0.0	0.0	0.0	0.0

TRAFFIC DATA GATHERING
LAKE STEVENS, WA 98258 (425) 334-3348
EMAIL: Carlan@Trafficdatagathering.com

Location : Grip Road 1,500 feet e/o Prairie Road
City, State : Bow, Skajit County
Counter # : NT-2808

Site: Loc 01
8/21/2020
Friday

Daily Classification

WB

Interval Start	Total	Motor Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi	Tailgating
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	4	0	2	2	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	4	0	0	2	0	2	0	0	0	0	0	0	0	0	0
5:00 AM	17	0	9	3	0	4	1	0	0	0	0	0	0	0	0
6:00 AM	39	0	20	15	0	4	0	0	0	0	0	0	0	0	0
7:00 AM	31	0	15	14	0	2	0	0	0	0	0	0	0	0	0
8:00 AM	21	0	14	3	1	2	0	0	1	0	0	0	0	0	0
9:00 AM	17	0	7	6	1	3	0	0	0	0	0	0	0	0	0
10:00 AM	20	0	9	5	1	3	0	0	2	0	0	0	0	0	0
11:00 AM	20	1	11	5	0	2	0	0	1	0	0	0	0	0	0
12:00 PM	19	0	10	5	1	3	0	0	0	0	0	0	0	0	0
1:00 PM	23	0	12	11	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	18	0	9	8	0	0	0	0	1	0	0	0	0	0	0
3:00 PM	16	0	7	6	0	1	0	0	2	0	0	0	0	0	0
4:00 PM	17	0	9	3	0	5	0	0	0	0	0	0	0	0	0
5:00 PM	18	0	10	6	0	1	0	1	0	0	0	0	0	0	0
6:00 PM	20	1	10	7	0	0	0	2	0	0	0	0	0	0	0
7:00 PM	8	0	4	3	0	1	0	0	0	0	0	0	0	0	0
8:00 PM	4	0	2	1	0	1	0	0	0	0	0	0	0	0	0
9:00 PM	7	0	5	2	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	5	0	1	3	0	1	0	0	0	0	0	0	0	0	0
11:00 PM	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Total	331	2	169	110	4	35	1	3	7	0	0	0	0	0	0
%		0.6	51.1	33.2	1.2	10.6	0.3	0.9	2.1	0.0	0.0	0.0	0.0	0.0	0.0

TRAFFIC DATA GATHERING
LAKE STEVENS, WA 98258 (425) 334-3348
EMAIL: Carlan@Trafficdatagathering.com

Location : Grip Road 1,500 feet e/o Prairie Road
City, State : Bow, Skajit County
Counter # : NT-2808

Site: Loc 01
8/17/2020
Monday

Daily Classification

EB

Interval Start	Total	Motor Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi	Tailgating
12:00 AM	4	0	2	2	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	3	0	1	1	0	1	0	0	0	0	0	0	0	0	0
6:00 AM	4	0	2	1	0	1	0	0	0	0	0	0	0	0	0
7:00 AM	9	0	4	3	0	0	0	0	2	0	0	0	0	0	0
8:00 AM	6	0	2	2	0	1	0	0	1	0	0	0	0	0	0
9:00 AM	15	0	6	5	0	4	0	0	0	0	0	0	0	0	0
10:00 AM	16	0	7	6	0	2	0	0	1	0	0	0	0	0	0
11:00 AM	16	0	8	6	0	1	0	0	0	0	0	0	0	1	0
12:00 PM	18	0	13	3	0	1	0	0	1	0	0	0	0	0	0
1:00 PM	22	0	8	6	0	7	0	0	1	0	0	0	0	0	0
2:00 PM	20	1	12	5	0	2	0	0	0	0	0	0	0	0	0
3:00 PM	36	0	15	11	0	9	0	0	1	0	0	0	0	0	0
4:00 PM	39	0	20	11	0	6	1	0	0	0	0	0	0	1	0
5:00 PM	46	1	16	20	0	9	0	0	0	0	0	0	0	0	0
6:00 PM	21	0	12	6	0	3	0	0	0	0	0	0	0	0	0
7:00 PM	18	0	14	2	0	1	0	0	1	0	0	0	0	0	0
8:00 PM	12	1	8	2	0	0	0	0	1	0	0	0	0	0	0
9:00 PM	8	0	5	3	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	7	0	3	4	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Total	323	3	161	99	0	48	1	0	9	0	0	0	0	2	0
%		0.9	49.8	30.7	0.0	14.9	0.3	0.0	2.8	0.0	0.0	0.0	0.0	0.6	0.0

TRAFFIC DATA GATHERING
LAKE STEVENS, WA 98258 (425) 334-3348
EMAIL: Carlan@Trafficdatagathering.com

Location : Grip Road 1,500 feet e/o Prairie Road
City, State : Bow, Skajit County
Counter # : NT-2808

Site: Loc 01
8/18/2020
Tuesday

Daily Classification

EB

Interval Start	Total	Motor Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi	Tailgating
12:00 AM	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	4	0	3	1	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	5	0	3	1	0	0	0	0	1	0	0	0	0	0	0
6:00 AM	4	0	1	0	0	2	0	0	1	0	0	0	0	0	0
7:00 AM	7	0	5	1	0	1	0	0	0	0	0	0	0	0	0
8:00 AM	10	0	2	4	0	3	0	0	0	1	0	0	0	0	0
9:00 AM	4	0	1	2	0	1	0	0	0	0	0	0	0	0	0
10:00 AM	8	0	5	2	0	1	0	0	0	0	0	0	0	0	0
11:00 AM	19	1	6	8	0	2	0	1	0	0	0	0	0	1	0
12:00 PM	14	1	7	4	0	2	0	0	0	0	0	0	0	0	0
1:00 PM	17	0	11	2	0	2	1	0	1	0	0	0	0	0	0
2:00 PM	27	1	14	8	0	4	0	0	0	0	0	0	0	0	0
3:00 PM	40	0	19	13	0	7	0	0	0	0	1	0	0	0	0
4:00 PM	44	0	20	17	0	7	0	0	0	0	0	0	0	0	0
5:00 PM	49	2	19	18	0	9	0	0	1	0	0	0	0	0	0
6:00 PM	39	2	16	16	0	3	0	0	2	0	0	0	0	0	0
7:00 PM	23	0	13	9	0	1	0	0	0	0	0	0	0	0	0
8:00 PM	17	0	12	3	0	2	0	0	0	0	0	0	0	0	0
9:00 PM	16	1	8	5	0	2	0	0	0	0	0	0	0	0	0
10:00 PM	12	0	6	6	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	5	0	3	2	0	0	0	0	0	0	0	0	0	0	0
Total	369	8	177	124	0	49	1	1	6	1	1	0	0	1	0
%		2.2	48.0	33.6	0.0	13.3	0.3	0.3	1.6	0.3	0.3	0.0	0.0	0.3	0.0

TRAFFIC DATA GATHERING
LAKE STEVENS, WA 98258 (425) 334-3348
EMAIL: Carlan@Trafficdatagathering.com

Location : Grip Road 1,500 feet e/o Prairie Road
City, State : Bow, Skajit County
Counter # : NT-2808

Site: Loc 01
8/19/2020
Wednesday

Daily Classification

EB

Interval Start	Total	Motor Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi	Tailgating
12:00 AM	4	0	2	1	0	1	0	0	0	0	0	0	0	0	0
1:00 AM	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	2	0	1	1	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	7	0	3	1	0	3	0	0	0	0	0	0	0	0	0
7:00 AM	9	0	1	3	0	1	3	1	0	0	0	0	0	0	0
8:00 AM	19	0	6	4	0	1	2	5	1	0	0	0	0	0	0
9:00 AM	6	0	1	1	0	0	3	1	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	9	0	5	2	0	0	1	0	1	0	0	0	0	0	0
1:00 PM	16	0	11	2	0	2	1	0	0	0	0	0	0	0	0
2:00 PM	14	0	7	5	0	2	0	0	0	0	0	0	0	0	0
3:00 PM	19	0	2	11	0	3	2	0	1	0	0	0	0	0	0
4:00 PM	34	0	9	19	0	5	1	0	0	0	0	0	0	0	0
5:00 PM	45	0	20	16	0	8	0	0	1	0	0	0	0	0	0
6:00 PM	25	0	13	9	0	2	0	0	1	0	0	0	0	0	0
7:00 PM	22	0	7	12	0	2	0	0	1	0	0	0	0	0	0
8:00 PM	15	0	7	6	0	2	0	0	0	0	0	0	0	0	0
9:00 PM	7	0	4	3	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	5	0	4	0	0	1	0	0	0	0	0	0	0	0	0
11:00 PM	5	0	2	2	0	1	0	0	0	0	0	0	0	0	0
Total	266	0	108	98	0	34	13	7	6	0	0	0	0	0	0
%		0.0	40.6	36.8	0.0	12.8	4.9	2.6	2.3	0.0	0.0	0.0	0.0	0.0	0.0

TRAFFIC DATA GATHERING
LAKE STEVENS, WA 98258 (425) 334-3348
EMAIL: Carlan@Trafficdatagathering.com

Location : Grip Road 1,500 feet e/o Prairie Road
City, State : Bow, Skajit County
Counter # : NT-2808

Site: Loc 01
8/20/2020
Thursday

Daily Classification

EB

Interval Start	Total	Motor Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi	Tailgating
12:00 AM	4	0	2	2	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	3	0	2	1	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0
7:00 AM	4	0	1	2	0	1	0	0	0	0	0	0	0	0	0
8:00 AM	11	0	6	4	0	1	0	0	0	0	0	0	0	0	0
9:00 AM	6	0	5	1	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	17	0	8	8	0	1	0	0	0	0	0	0	0	0	0
11:00 AM	19	0	11	5	0	3	0	0	0	0	0	0	0	0	0
12:00 PM	18	0	7	8	0	2	0	0	0	1	0	0	0	0	0
1:00 PM	23	0	8	11	1	3	0	0	0	0	0	0	0	0	0
2:00 PM	21	0	5	12	0	4	0	0	0	0	0	0	0	0	0
3:00 PM	30	0	11	14	0	3	1	0	1	0	0	0	0	0	0
4:00 PM	37	0	18	14	0	5	0	0	0	0	0	0	0	0	0
5:00 PM	50	0	20	18	0	11	0	0	1	0	0	0	0	0	0
6:00 PM	37	0	20	11	0	5	0	0	1	0	0	0	0	0	0
7:00 PM	24	0	11	9	0	3	1	0	0	0	0	0	0	0	0
8:00 PM	16	0	6	6	0	3	0	0	1	0	0	0	0	0	0
9:00 PM	8	0	3	4	0	1	0	0	0	0	0	0	0	0	0
10:00 PM	6	0	2	4	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0
Total	342	0	147	138	1	49	2	0	4	1	0	0	0	0	0
%		0.0	43.0	40.4	0.3	14.3	0.6	0.0	1.2	0.3	0.0	0.0	0.0	0.0	0.0

TRAFFIC DATA GATHERING
LAKE STEVENS, WA 98258 (425) 334-3348
EMAIL: Carlan@Trafficdatagathering.com

Location : Grip Road 1,500 feet e/o Prairie Road
City, State : Bow, Skajit County
Counter # : NT-2808

Site: Loc 01
8/21/2020
Friday

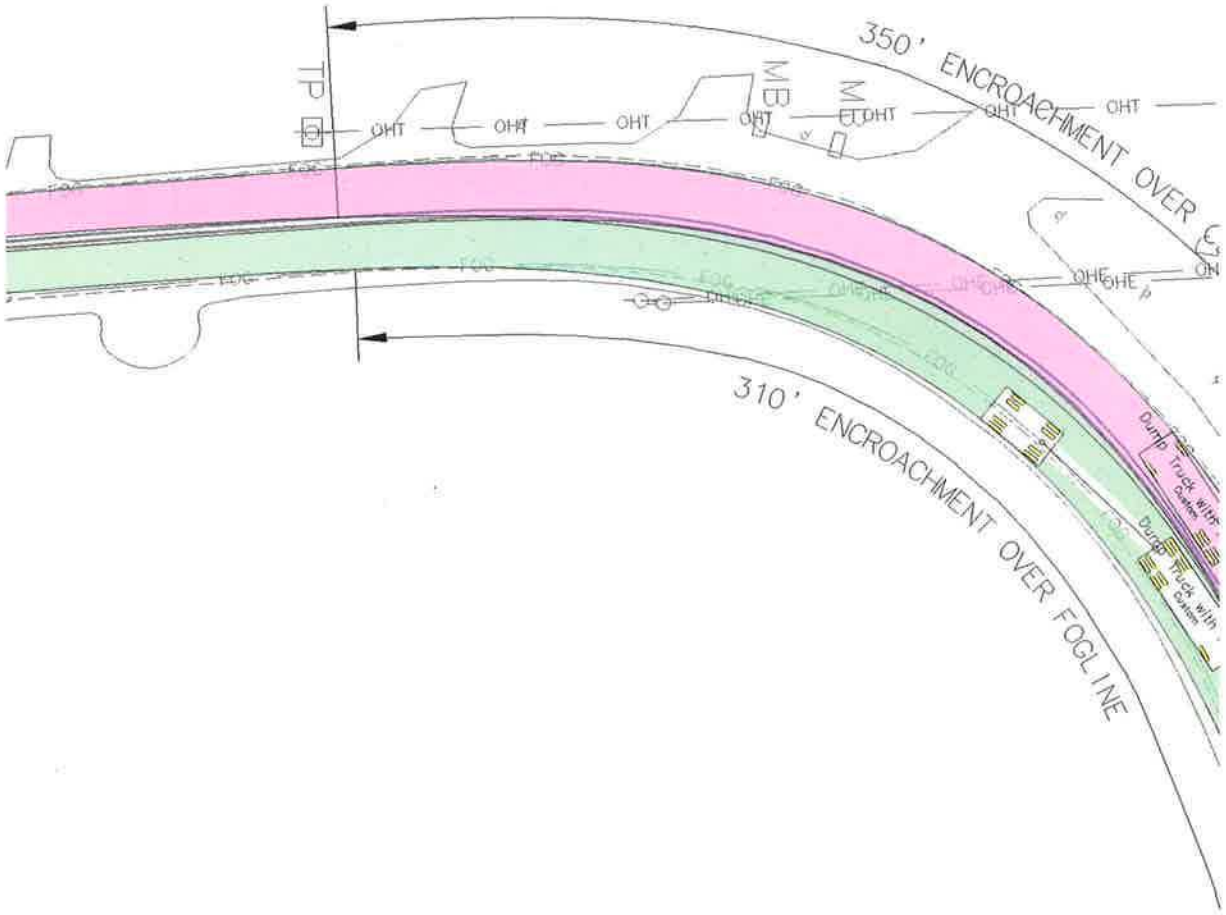
Daily Classification

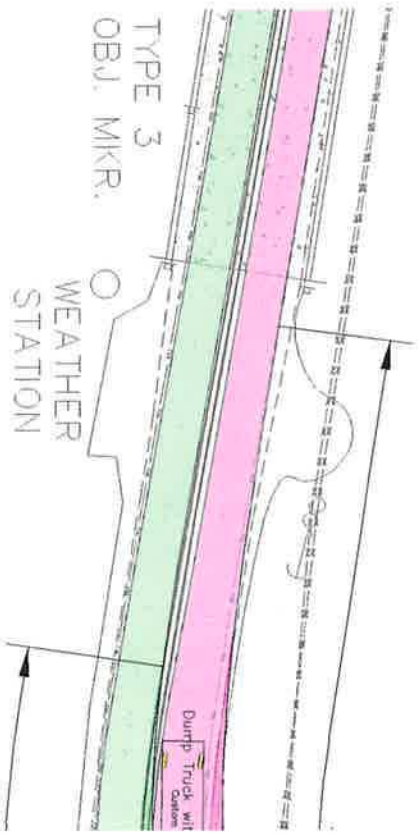
EB

Interval Start	Total	Motor Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi	Tailgating
12:00 AM	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	2	0	1	0	0	1	0	0	0	0	0	0	0	0	0
7:00 AM	9	0	4	2	2	1	0	0	0	0	0	0	0	0	0
8:00 AM	12	0	3	5	1	3	0	0	0	0	0	0	0	0	0
9:00 AM	2	0	1	1	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	12	0	6	3	1	2	0	0	0	0	0	0	0	0	0
11:00 AM	18	1	7	7	1	1	0	0	1	0	0	0	0	0	0
12:00 PM	19	0	10	7	0	2	0	0	0	0	0	0	0	0	0
1:00 PM	24	0	11	10	0	3	0	0	0	0	0	0	0	0	0
2:00 PM	30	0	11	13	0	5	1	0	0	0	0	0	0	0	0
3:00 PM	26	0	10	10	0	6	0	0	0	0	0	0	0	0	0
4:00 PM	31	0	8	14	0	6	0	0	3	0	0	0	0	0	0
5:00 PM	28	0	10	13	0	4	1	0	0	0	0	0	0	0	0
6:00 PM	26	0	13	9	0	2	1	0	1	0	0	0	0	0	0
7:00 PM	23	0	13	8	0	1	1	0	0	0	0	0	0	0	0
8:00 PM	12	0	5	7	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	15	0	5	7	0	3	0	0	0	0	0	0	0	0	0
10:00 PM	8	0	7	0	0	1	0	0	0	0	0	0	0	0	0
11:00 PM	6	0	4	1	0	1	0	0	0	0	0	0	0	0	0
Total	311	1	134	120	5	42	4	0	5	0	0	0	0	0	0
%		0.3	43.1	38.6	1.6	13.5	1.3	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0

TRUCK/PUP VEHICLE PATHS

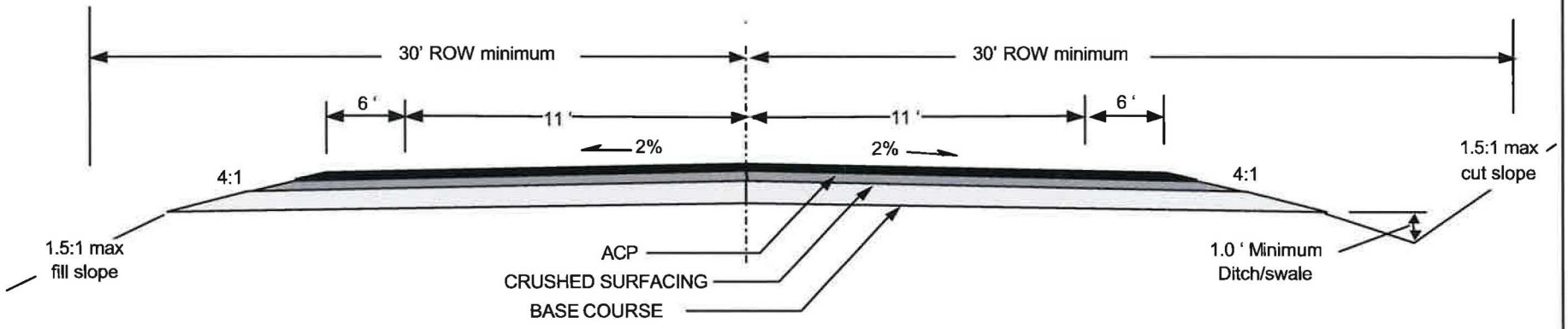
PRAIRIE RD EAST OF OLD HIGHWAY 99N


350' ENCROACHMENT OVER
310' ENCROACHMENT OVER FOGLINE
TP
MB
OHT
OHE
FOG
Dump Truck with Custom


TYPE 3
OBJ. MKR.
WEATHER
STATION
Dump Truck with Custom

RURAL AREA ROADWAY DESIGN STANDARDS

ROADWAY CLASSIFICATION: MAJOR & MINOR COLLECTORS
20-YR PROJECTED AVERAGE DAILY TRAFFIC (ADT): 401 - 2000



DESIGN SPEED (MPH)	Flat=50; Rolling=40; Mountainous =30
MAXIMUM ROAD GRADE (Percent)	Flat=6; Rolling=8; Mountainous=10
MINIMUM ROAD GRADE (Percent)	0.5
MINIMUM ROADWAY WIDTH (Ft)	34
MINIMUM SURFACING WIDTH (Ft)	34
MINIMUM DESIGN LOAD	HS 20-44
MINIMUM RIGHT-OF-WAY WIDTH (Ft)	60
MINIMUM REQUIRED SURFACING:	
ACP	ACP = 2" compacted depth
CRUSHED SURFACING TOP COURSE	2" compacted depth
GRAVEL BASE	10" compacted depth
VERTICAL CLEARANCE	16.5 ft.

Collector401-2000.doc

SKAGIT COUNTY
DEPARTMENT OF
PUBLIC WORKS

REVISIONS	DATE

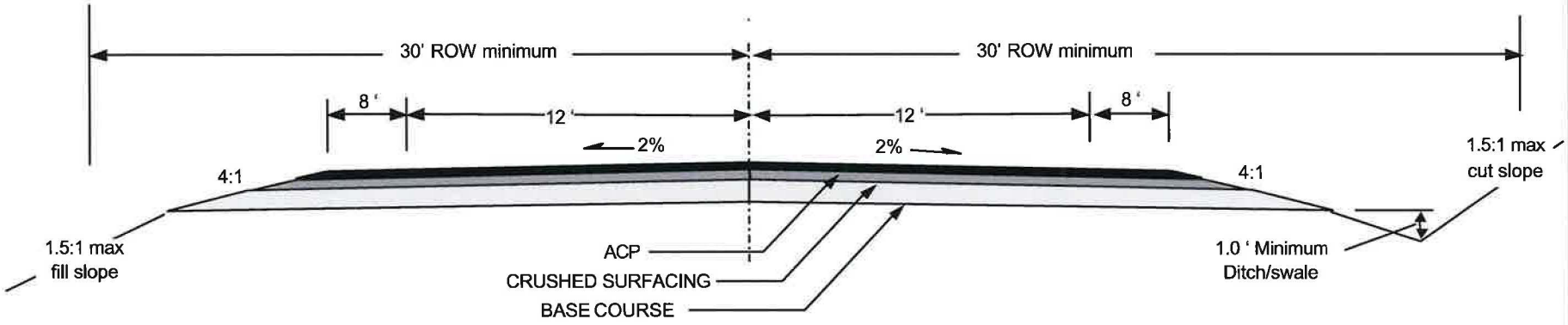
ROADWAY
STANDARDS

RURAL MAJOR & MINOR COLLECTOR ROADWAY SECTION ADT 401 - 2000
FIGURE B - 6

6/26/2000

RURAL AREA ROADWAY DESIGN STANDARDS

ROADWAY CLASSIFICATION: MAJOR & MINOR COLLECTORS
20-YR PROJECTED AVERAGE DAILY TRAFFIC (ADT): OVER 2000



DESIGN SPEED (MPH)	Flat=50; Rolling=50; Mountainous =40
MAXIMUM ROAD GRADE (Percent)	Flat=6; Rolling=7; Mountainous=10
MINIMUM ROAD GRADE (Percent)	0.5
MINIMUM ROADWAY WIDTH (Ft)	40
MINIMUM SURFACING WIDTH (Ft)	40
MINIMUM DESIGN LOAD	HS 20-44
MINIMUM RIGHT-OF-WAY WIDTH (Ft)	60
MINIMUM REQUIRED SURFACING:	
ACP	ACP = 2" compacted depth
CRUSHED SURFACING TOP COURSE	2" compacted depth
GRAVEL BASE	10" compacted depth
VERTICAL CLEARANCE	16.5 ft.

CollectorOver2000.doc

SKAGIT COUNTY
DEPARTMENT OF
PUBLIC WORKS

REVISIONS	DATE

ROADWAY
STANDARDS

RURAL MAJOR & MINOR COLLECTOR ROADWAY SECTION ADT OVER 2000
FIGURE B - 7

6/26/200