



## Memorandum

**Project Name:** Sisson Brook Project EIA      **exp Project #:** FRE-00209565-A0

---

**To:** Denis Marquis, Project Manager, Stantec      **From:** Tim Holyoke, Project Manager, exp

---

**Date:** March 1, 2013

---

**Subject:** Sisson Project Road Transportation Study Addendum  
**Re:** No Operation Phase Bussing

---

Hi Denis,

Please accept this Addendum to the January, 2013, report: *Sisson Project Road Transportation Study*, by exp Services Inc.

This Addendum addresses the revisions to the *Transportation Study* that are a result of a change in the Sisson Project plan. As noted in our recent correspondence, bussing of mine workers during the Operation Phase of the Sisson Project has been eliminated, and workers will travel to the mine site in their own vehicles. This changes the volumes and composition of traffic generated, as well as the distribution and assignment of the traffic generated by the Project operations along highway routes to the Project Primary and Secondary Site roads, that were estimated in the January, 2013: *Sisson Project Road Transportation Study* report.

As requested, the change to the Sisson Project Operation Phase, to not providing bussing to a portion of the workers at two site locations, have been addressed. This has involved the recalculation of the traffic volumes generated, and reassignment of the traffic volumes to the travel routes to the site. The levels of service at the three key intersections of the Project Primary and Secondary Site roads entrance points with Provincial highway Route 105/ Route 605, Route 104 and Route 107, have also been recalculated. In addition, the potential environmental effects of the proposed Project with these traffic changes on Road Transportation have been addressed.

Overall, the effects of not providing any bussing to the mine workers during the Sisson Project Operation Phase, as had initially been planned, have not changed the results of the assessment provided in the January, 2013: *Sisson Project Road Transportation Study* report. The additional traffic generated by all workers travelling directly to the Project site is still relatively small, especially when distributed among the different routes to the site. That said, there are a number of revisions to tables and text of the report. They are listed below.

Any questions, or further information requirements regarding this proposal, please contact me at 506-452-7311, or at [tim.holyoke@exp.com](mailto:tim.holyoke@exp.com). Thank you.

A handwritten signature in blue ink that reads 'T R Holyoke'.

Tim Holyoke, M.Sc.Eng.,  
Project Manager, exp

Following is a list of changes to the January, 2013: *Sisson Project Road Transportation Study* report by exp Services Inc.

- Note that since bussing will be retained during the Construction Phase, as originally planned and assessed in the *Sisson Project Road Transportation Study*, all references to bussing during the Construction Phase and the potential effects of the Sisson Project on road transportation remain unchanged.
- Note that there are no changes in Section 2.0 regarding the existing conditions.
- *Section 1.3 page 2*: remove reference to bus traffic during the Operation Phase.
- *Section 3.1 page 23*: refer to worker trips by bus during the Construction Phase only.
- *Section 3.1.1 page 23*: refer to worker trips split to two parking lots for travel by bus during the Construction Phase only.
- *Section 3.1.2 page 24*: refer to worker trips by bus during the Construction Phase only.
- *Section 3.3 page 28*: remove reference to traffic generated by buses of mine workers from two designated off-site parking lots during the Operation Phase.
- *Section 3.3 page 28*: remove point references to:
  - the 150 workers bussed to Project site from off-site parking lots and
  - the split of workers using each the two parking lots for bus transfer,
- *Section 3.3 page 29*: change point reference to 50 mine workers travelling to the site in their own vehicles to 200 workers.
- *Section 3.3 page 29*: change additional traffic to 228 ADT, and **Table 3.3**, as shown:

**Table 3.3 - Average Daily Traffic Generated During Operation**

Traffic Components	Round Trips per day	ADT (one-way)
<b>Vehicles to/from Project Site:</b>		
Trucks ( <i>at full Project operation level, to Site</i> )	14	28
Mine Workers' Buses ( <i>75% of workers, between parking lots and Site</i> )		
Mine Workers' Autos ( <i>direct to Site, two per vehicle</i> )	100	200
<b>Total</b>	<b>114</b>	<b>228</b>

- Section 3.3 page 30: change **Table 3.4**, as shown (traffic volume changes indicated in red):

**Table 3.4 – Distribution of Traffic Volumes to Highway Segments – Operation Phase**

Location			Existing Vehicles (AADT)	Additional Project Traffic Generated (ADT)	Total Traffic during Project Operation (AADT)
Roadway Segment	a. Route 8	City Limits to Route 107	3500-5340	15	3515-5355
	b. Route 104	Route 105 to PSDA	780-2540	13	793-2553
	c. Route 104	PSA to Route 130	330-1070	12	348-1082
	d. Route 107	Route 8 to SSA	290-1280	52-58	348-1332
	e. Route 107	SSA to Route 105	300-1200	50	350-1250
	f. Route 105	Route 620 to Route 104	4500-8700	7	4507-8707
	g. Route 105	Route 2 to Route 605	1360-3480	96	1360-3576
	h. Route 105	Route 107 to Route 130	6000	26	6026
	i. Route 130	Route 105 to Route 104	2800	Negligible	2800
	j. Route 605	Route 105 to Mill Entrance	2430	75	2505
	k. Route 605	Mill Entrance to Route 104	520	Negligible	520
	l. Route 610	Route 105 to Route 104	360	Negligible	360
	m. Route 617	Route 104 to Route 620	650	Negligible	650
	n. Route 620	Route 105 to Route 107	1240	12	1252
	o. PSA	Route 605 to Route 104	190	96	286
p. PSA	Route 104 to Project Site	242	121	363	
q. SSA	Route 107 to Project Site	16	107	123	

- Section 3.3 page 30: change ADT traffic volume numbers in the two paragraphs referring to **Table 3.4**, and delete the last sentence, as follows:

As shown in **Table 3.4**, the additional traffic generated during full operation of the Project will result in total traffic volumes of up to **96** ADT along the segment of the principal access route from the Trans Canada Highway Route 2 to Route 105 and Route 605 in Nackawic and the forest road, Napadogan Road, to Route 104. North of Route 104, the ADT will increase to **121**

vehicles, as mine workers in their own passenger vehicles access Napadogan Road from the east and west on Route 104.

A total traffic volume of **107** ADT will be generated that will travel to the site on the Secondary Site Access Road from west and east on Route 107, as well as from the off-site parking lot located in at the CN Rail siding in Napadogan (also to the east on Route 107). ~~Of this 36 ADT on the Secondary Site Access Road, 11 will be trucks or busses, and the remaining 25 will be passenger vehicles. Immediately west of Napadogan to the Secondary Site Access road, and east of Napadogan towards Route 8, Project generated traffic volumes on Route 107 will be higher due to the additional mine worker passenger vehicles going to the Napadogan parking lot to catch a bus to the Project site, at 62 ADT and 52 ADT, respectively.~~

- Section 4.1 page 32: refer to worker trips by bus during the Construction Phase only.
- Section 4.3.1 pages 37 and 37: remove references to busses travelling between CN Rail siding site parking lot and the project site.
- Section 4.3.2 page 39: change **Table 4.3**, as shown (changes indicated in red):

**Table 4.3 – LOS Analysis under Existing and Projected Operations Phase Traffic Volumes**

Location			LOS Criteria and Results for Potential Access Routes					
			Existing Condition			Operation Phase		
			AADT (2010)	Roadway LOS (2010)	PTSF (2010)	AADT (After)	Roadway LOS (After)	PTSF (After)
Roadway Segment	Route 8	City Limits to Route 107	3500-5340	D	58.1-61.8%	15	D	58.7-62.0%
	Route 104	Route 130 to Primary Site Access road	330-1070	A	28.6-36.9%	13	A	31.3-37.9%
	Route 104	Primary Site Access road to Route 105	780-2540	A-B	33.4-50.1%	13	A-B	34.8-50.8%
	Route 105	Route 620 to Route 104	4500-8700	C-D	57.5-70.9%	7	C-D	57.7-71.0%
	Route 105	Route 2 to Route 610	1360-3480	A-B	35.5-54.4%	96	A-C	35.5-57.3%
	Route 105	Route 107 to Route 130	6000	C	63.50%	26	C	63.8%
	Route 107	Route 8 to Secondary Site Access road	290-1280	A	23.3-34.6%	52-58	A	27.8-38.5%
	Route 107	Secondary Site Access road to Route 105	300-1200	A	23.5-33.8%	51	A	34.3-37.6%
	Route 130	Route 105 to Route 104	2800	B	45.70%	No Change		

Sisson Transportation Study Addendum Re: No Operation Phase Bussing  
 Project Number: FRE-00209565-A0  
 March 1, 2013

Route 605	Route 105 to Mill Entrance	2430	B	53.40%	96	C	57.8%
Route 605	Mill Entrance to Route 107	520	A	30.80%	No Change		
Route 610	Route 107 to Route 105	360	A	29.30%	No Change		
Route 617	Route 104 to Route 620	650	A	32.70%	No Change		
Route 620	Route 105 to Route 107	1240	A	38.20%	12	A	39.3%

- Section 4.3.2 page 40: Note that the levels of service at the three site road entrance intersections remain unchanged without bussing workers to the site at the excellent LOS A conditions, as presented in Table 4.4 of the report.
- Section 4.3.3 page 41: remove the bus drivers in the last paragraph.
- Section 4.5.1 page 41: in the second point of project planned mitigation, remove the reference to the provision of off-site parking lots for bussing workers to the Project site during the Operation phase.
- Appendix C: The following revised Appendix C.3 table of Operations Phase traffic generated and assigned along the principal and alternate routes to the Project site has been revised to exclude bussing, and replaces the Operations Phase traffic table provided in Appendix C of the report.

APPENDIX C.3 Operations Phase Traffic Distribution	Revised *** Project Operation Phase Traffic Generated	Principal Routes Assignment			Alternate Routes Assignment		
		R 1 (PSA>Rte605>Rte105>Rte2)	R 2 (SSA>Rte 107>CN)	R 3 (SSA>Rte107>Rte 8)	R 4 (PSA>Rte 104>Rte 617)	R 5 (SSA>Rte 107>Rte 105)	R 6 (PSA>Rte 104>Rte 620)
		% R 1	% R 2	% R 3	% R 4	% R 5	% R 6
<b>Trucks</b>	<b>Trks/mo</b>						
Reagents and Grinding Media	257	85%	15%	0%	0%	0%	0%
Fuel Trucks	43	100%	0%	0%	0%	0%	0%
Bulk Explosives	5	100%	0%	0%	0%	0%	0%
Equipment and Materials (Liners, Fleet Assembly, Tires & Parts, Majors, Others)	8	85%	15%	0%	0%	0%	0%
Product (Concentrate & APT)	43	0%	100%	0%	0%	0%	0%
Road Maintenance Fleet	45	75%	0%	25%	0%	0%	0%
Misc (Garbage, Sewage, Maint, etc)	8	70%	0%	30%	0%	0%	0%
<b>Total Trucks</b>	<b>409</b>						
<b>Buses *</b>	<b>Buses/mo</b>	% R 1	% R 2	% R 3	% R 4	% R 5	% R 6
	0	0%	0%	0%	0%	0%	0%
<b>Passenger Vehicles (PVs)*</b>	<b>PVs/day</b>	% R 1	% R 2	% R 3	% R 4	% R 5	% R 6
PVs to Site	25	0%	0%	6.25%	6.25%	6.25%	6.25%
PVs to Site to off-site parking-***	75	37.5%	0%	18.75%	0%	18.75%	0%
<b>Total PVs</b>	<b>100</b>	37.5%	0%	25.00%	6.25%	25.00%	6.25%
<b>Total Trucks and Buses **</b>	<b>Trucks &amp;Bs/mo</b>						
	409						

\* Based on Northcliff Resources Sisson Project - Traffic Estimates - Memo, Nov-29/12 and Revised by Teleconference on Dec-4/12; Revised with no bussing of mine workers - March, 2013  
 \*\* Based on Maximum Month (Month 30 = 529) as given in Northcliff Resources Sisson Truck Forecast by Month - Table, Nov 29/12, less 120 busses per month as per Revision March, 2013  
 \*\*\* Revised with no bussing of mine workers - March, 2013

