DRAFT TRAFFIC IMPACT STUDY

PROPOSED INSTALLATION OF A 2500 HP SHREDDER
AT METAL RECYCLING FACILITY
On Smith Boulevard

Prepared For:

Ben Weitsman of Albany LLC

City of Albany
Albany County

December 27, 2018

Prepared by:

DELTA
ENGINEERS, ARCHITECTS, & LAND SURVEYORS

860 Hooper Road
Endwell, NY 13760
Tel: 607.231.6600
Fax: 607.231.6650

Website: www.delta-eas.com

DRAFT TRAFFIC IMPACT STUDY

I - INTRODUCTION AND SUMMARY

This report will present an assessment of traffic impacts generated by the addition of a 2500 HP shredder at an existing Ben Weitsman metal recycling transfer facility located at 300 Smith Boulevard in the City of Albany, Albany County, New York. This report has been requested by the City of Albany Coordinator of Traffic Engineering and is described in more detail below.

The existing metal recycling facility is situated on Smith Boulevard in the Port of Albany on the Hudson River. The study area includes seven intersections (from south to north):

- NYS Route 32 (South Pearl Street) / River Road / South Port Road intersection (signal controlled),
- South Port Road / Normanskill Street (stop sign control eastbound approach),
- Smith Blvd. / Raft Street /private commercial driveway (the driveway is a stop condition),
- Smith Blvd. / southern Weitsman site driveway (the driveway is a stop condition),
- Smith Blvd. / northern Weitsman site driveway (the driveway is a stop condition) ,
- Smith Blvd. / Marine Terminal Driveway (the driveway is a stop condition) ;
- Smith Boulevard / Boat Street / Warehouse Place intersection (stop sign control northbound approach).

The proposed development is to be located at the existing 17.9-acre metal recycling facility and consists of the addition of a 2500 HP metal shredder and 450 ft. railroad siding. The railroad siding is to be located along the west side of the site adjacent to an existing rail yard. No changes are proposed to the two existing driveways. A location map is shown in Figure 1 on the following page. A copy of the proposed site plan layout is included in Appendix A.

The developer expects that the addition of the shredder will reduce existing site traffic by approximately 20 trucks per day since it will no longer be necessary to truck out scrap metal to another site to be shredded. Instead, it will be shredded on site and shipped out via railroad, boat (future) or by trucks that hauled material to the site.

The studies undertaken and summarized in this report include an existing level of service (LOS) analysis of the appropriate study areas for the weekday AM & PM peaks, the Saturday afternoon peak, and the anticipated LOS for the same upon completion of the project.

Intersection LOS) and vehicle delay analyses were performed for both “existing” and “post build” conditions at the subject intersections utilizing Synchro 10 Traffic Analysis Software.

II – FINDINGS AND RECOMMENDATIONS

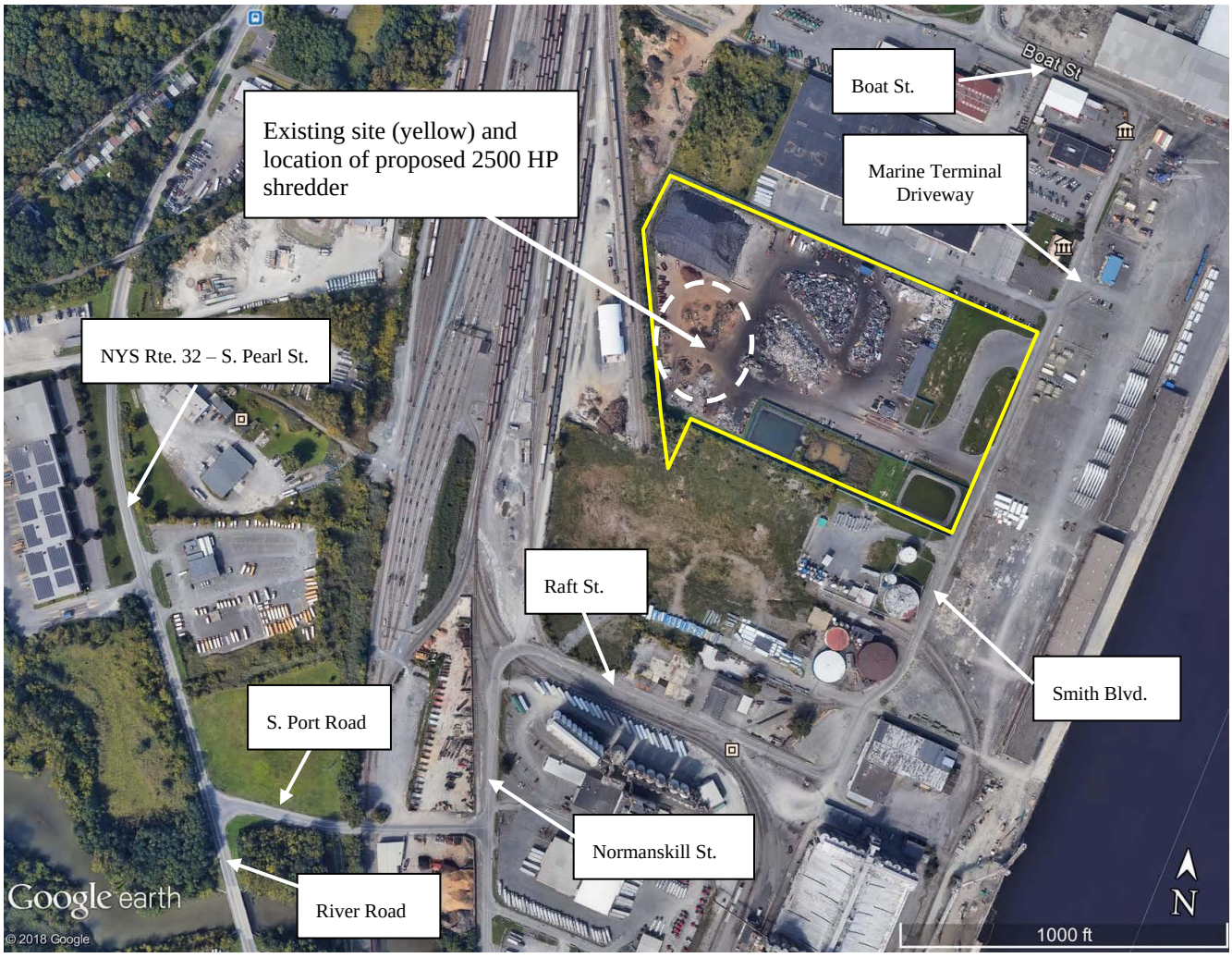
The addition of a 2500 HP shredder and railroad siding to the existing Ben Weitsman metal recycling facility will a not have a significant impact on traffic Level-of-Service or vehicle delay in the study area since the number of trucks will be reduced. Trucks that currently carry the condensed scrap the metal to an alternative facility in Owego, NY (about 20 per day) will negated

since the metal will be shredded on site and shipped out via railroad[1]. While the LOS and delays will technically improve due to the reduced traffic the changes will be negligible.

All intersections in the study area, except one, operated at Level-of-Service (LOS) "A" during the weekday AM and PM peak hours and the Saturday midday peak for both existing and proposed "build" conditions. The S. Pearl St., River Rd. and S. Port Rd. intersection operated at LOS "D" during the weekday peak hours and LOS "B" during the Saturday midday peak. The lower LOS was due the large proportion of daily commuter traffic.

The City has requested that signs be posted at the Weitsman site driveways requiring all truck traffic exiting the site to turn left (north) on Smith Blvd[2]. Accordingly, it is recommended to install R3-1 right turn prohibition signs (24x24) supplemented with R3-5 type "TRUCK" plaques (24x12) at each of the driveway exits. The City will need to file the appropriate local law, rule or ordinance with the New York Secretary of State to ensure the turn prohibitions will be enforceable.

Figure 1 - Location Map



[1] For information purposes: The maximum capacity of a truck is 80,000 pounds. A railroad gondola car has a maximum capacity between 214,000 and 267,000 pounds depending on the type of gondola car.
[2] The turning movement counts indicate a majority of the trucks are currently coming from or proceeding to the north.

III – AVERAGE ANNUAL DAILY TRAFFIC (AADT)

With consideration given to seasonal adjustments to these traffic counts, the intersection entering Average Annual Daily Traffic (AADT) were:

- 10,956 veh/day on NYS Route 32 (South Pearl St) in the vicinity of the South Port Road intersection
- 1,386 veh/day on the Smith Boulevard in the vicinity of the site.

Copies of the NYSDOT AADT counts are included in Appendix B.

IV – TURNING MOVEMENT COUNTS

Traffic Databank performed traffic turning movement and classification counts at the intersections listed above, except the site driveway, on Wednesday, November 14, 2018 and Saturday, November 17, 2018. Delta performed traffic turning movement and classification counts at the two site driveways on Thursday, December 13, 2018. All counts were seasonally factored for incorporation into the LOS and capacity analyses in this report. Copies of the turning movement counts are included in Appendix C. A copy of the seasonal factor calculations is included in Appendix D.

V – PEAK HOURS

The peak hours varied at the study intersection as shown in Table 1 below.

Table 1 - Intersection Peak Hours

Intersection	Weekday		Saturday	
	AM Peak	**PM Peak**	**AM Peak**	**Midday Peak**
S. Pearl St., River Rd. and S. Port Rd.	7:45 to 8:45	430 to 5:30	10:15 to 11:15	1:15 to 2:15
S. Port Rd. and Normanskill St.	10:00 to 11:00	2:45 to 3:45	10:15 to 11:15	12:30 to 1:30
Raft St. and Smith Blvd.	7:45 to 8:45	2:45 to 3:45	10:00 to 11:00	12:30 to 1:30
Smith Blvd and Site Driveways[3]	7:30 to 8:30	12:00 to 1:00	na	12:15 to 1:15
Smith Blvd. and Marine Terminal Dwy.	7:45 to 8:45	12:00 to 1:00	10:00 to 11:00	12:15 to 1:15
Boat St. and Smith Blvd.	7:30 to 8:30	12:00 to 1:00	1015 to 11:15	12:15 to 1:15

[3] The AM, PM and Saturday midday counts take at the site driveways were performed at times to match the peak hours at the adjacent intersections.

The S. Pearl St., River Rd. and S. Port Rd. exhibited more traditional peak hours, due to the predominance of commuter traffic, whereas the other intersections exhibited non-traditional peak hours during the weekday PM peaks hours due to the predominance of industrial and commercial traffic associated with the port of Albany area.

The given AM, PM and Saturday midday peak hours were used as-is in the LOS and capacity analyses.

VI – TRIP GENERATION

As stated in the summary, it is expected that the addition of the shredder will reduce existing site traffic by approximately 20 trucks per day or a total of about 40 vehicle-trip-ends (VTE). A VTE is a single or one-direction vehicle movement with either the origin or destination at the study site. Currently, about 20 trucks per day exit the Albany facility loaded with scrap metal destined to the Weitsman facility in Owego, New York for shredding. The empty trucks then return to Albany. Consequently, approximately 40 trips per day will be eliminated (20 "exiting" and 20 "entering") since the metal can be shredded at the Albany site with and be shipped out directly via railroad car.

Based on the daily distribution of truck traffic on Smith Blvd. the number of trucks reduced at the site driveways was assumed to be 4 Vehicle-Trip-Ends (VTE) during each of the AM and PM weekday peaks hours and 5 VTE during the Saturday midday peak hour.

VII – LEVEL-OF-SERVICE ANALYSIS

To assist in the understanding of Level of Service (LOS) criteria in the analyses, the following guidelines in Tables 2 and 3 below are included, noting there are different LOS criteria for signalized and unsignalized intersections. This is because drivers expect different levels of performance between signalized and unsignalized intersections.

Table 2 - Level-of-Service Criteria for Signalized Intersections

LOS Criteria – Signalized Intersections		
Level of Service (LOS)	General Description	Average Delay (seconds/vehicle)
A	Free flow traffic; many vehicles do not stop at all	<10
B	Generally good traffic flow; more vehicles stop than with LOS A	10-20
C	Fair traffic flow; the number of vehicles stopping is greater than LOS B although many still pass through without stopping	20-35
D	Longer delays; many vehicles stop and the number passing through without stopping decreases	35-55
E	Poor flow and progression; the number of vehicles stopping is very high	55-80
F	Very high delays with long queues of vehicles	>80

Table 3 - Level-of-Service Criteria for Unsignalized Intersections

LOS Criteria – Unsignalized Intersections		
Level of Service (LOS)	General Description	Average Delay (seconds/vehicle)
A	Free flow traffic; many vehicles do not stop at all	<10
B	Generally good traffic flow; more vehicles stop than with LOS A	10-15
C	Fair traffic flow; the number of vehicles stopping is greater than LOS B although many still pass through without stopping	15-25
D	Longer delays; many vehicles stop and the number passing through without stopping decreases	25-35
E	Poor flow and progression; the number of vehicles stopping is very high	35-50
F	Very high delays with long queues of vehicles	>50

The Levels-of-Service (LOS) and average vehicle delays were calculated for the subject intersections for both current "existing" conditions and proposed "build" conditions in 2019 for the weekday AM and PM peak hours as well as the Saturday midday peak hour. Due to the relatively short period between the existing conditions and the proposed build conditions, and the long-term rate growth on the only nearby AADT station (that has sufficient data[4]) shows a negative growth rate. Consequently, the short-term growth rate was assumed to be negligible. The LOS and delays are shown in Tables 4.1 through 4.7 for the intersection approaches as well as the intersection as a whole.

Copies of the Level-of-Service analyses are included in Appendix E.

[4] NYSDOT Count Station 11-0005

Table 4.1

		NYS Rte 32 (South Pearl St) / South Port Rd. Intersection Average Delay (seconds/veh)[5]/ Level of Service			
		Westbound	Northbound	Southbound	Average Delay / LOS
Existing Condition	Weekday AM Peak	14.6 / B	51.8 / D	18.4 / B	43.9 / D
	Weekday PM Peak	12.4 / B	12.2 / B	47.0 / D	36.1 / D
	Saturday Midday Peak	16.0 / B	9.5 / A	11.1 / B	10.7 / B
Proposed Condition	Weekday AM Peak	14.6 / B	51.8 / D	18.4 / B	43.9 / D
	Weekday PM Peak	12.4 / B	12.2 / B	47.0 / D	36.1 / D
	Saturday Midday Peak	16.0 / B	9.4	11.1 / B	10.7 / B

Table 4.2

		South Port Rd / Normanskill St Intersection Average Delay (seconds/veh)[6]/ Level Of Service			
		Eastbound	Northbound	Southbound	Average Delay / LOS
Existing Condition	Weekday AM Peak	10.1 / B	7.0 / A	0.0 / A	6.6 / A
	Weekday PM Peak	9.4 / A	0.0 / A	0.3 / A	4.2 / A
	Saturday Midday Peak	8.9 / A	5.6 / A	0.0 / A	4.9 / A
Proposed Condition	Weekday AM Peak	10.1 / B	7.0 / A	0.0 / A	6.6 / A
	Weekday PM Peak	10.3 / A	7.3 / A	0.1 / A	5.9 / A
	Saturday Midday Peak	8.9 / A	5.6 / A	0.0 / A	5.0 / A

[5] Average travel delay of all approaching vehicles during the peak hour period. Signalized control with permissive left turns.

[6] Average travel delay of all approaching vehicles during the peak hour period. Stop sign control for eastbound and westbound (driveway) approach.

Table 4.3

		Smith Boulevard / Raft St. Average Delay (seconds/veh)[7]/ Level Of Service			
		Northbound	Southbound	Eastbound	Average Delay / LOS
Existing Condition	Weekday AM Peak	0.0 / A	0.7 / A	9.4 / A	7.7 /A
	Weekday PM Peak	0.0 / A	0.3 / A	9.4 / A	4.2 / A
	Saturday Midday Peak	0.0 / A	0.0 / A	0.0 / A	0.0 / A
Proposed Condition	Weekday AM Peak	0.0 / A	0.7 / A	9.4 / A	7.7 /A
	Weekday PM Peak	0.0 / A	0.3 / A	9.4 / A	4.2 / A
	Saturday Midday Peak	0.0 / A	0.0 / A	0.0 / A	0.0 / A

Table 4.4

		Smith Boulevard / Weitsman Site Driveway (South) Average Delay (seconds/veh)[8]/ Level Of Service			
		Northbound	Southbound	Eastbound	Average Delay / LOS
Existing Condition	Weekday AM Peak	0.3 / A	0.0 / A	10.8 / B	1.2 / A
	Weekday PM Peak	2.3 / A	0.0 / A	9.8 / A	3.0 / A
	Saturday Midday Peak	3.5 / A	0.0 / A	9.2 / A	4.1 / A
Proposed Condition	Weekday AM Peak	0.3 / A	0.0 / A	10.7 / A	1.1 / A
	Weekday PM Peak	2.1 / A	0.0 / A	9.8 / A	2. 8 / A
	Saturday Midday Peak	3.1 / A	0.0 / A	9.1 / A	3.8 / A

[7] Average travel delay of all approaching vehicles during the peak hour period. Stop condition for the northbound approach (driveway exit).

[8] Average travel delay of all approaching vehicles during the peak hour period. Stop condition for the eastbound approach (driveway exit).

Table 4.5

		Smith Boulevard / Weitsman Site Driveway (North) Average Delay (seconds/veh)[9]/ Level Of Service			
		Northbound	Southbound	Eastbound	Average Delay / LOS
Existing Condition	Weekday AM Peak	0.0 / A	0.0 / A	0.0 / A	0.0 / A
	Weekday PM Peak	0.0 / A	0.0 / A	0.0 / A	0.0 / A
	Saturday Midday Peak	0.0 / A	0.0 / A	0.0 / A	0.0 / A
Proposed Condition	Weekday AM Peak	0.0 / A	0.0 / A	0.0 / A	0.0 / A
	Weekday PM Peak	0.0 / A	0.0 / A	0.0 / A	0.0 / A
	Saturday Midday Peak	0.0 / A	0.0 / A	0.0 / A	0.0 / A

Table 4.6

		Smith Boulevard / Marine Terminal Driveway Average Delay (seconds/veh)[10]/ Level Of Service			
		Northbound	Southbound	Westbound	Average Delay / LOS
Existing Condition	Weekday AM Peak	0.0 / A	3.8 / A	9.2 / A	2.0 / A
	Weekday PM Peak	0.0 / A	1.9 / A	9.2 / A	1.4 / A
	Saturday Midday Peak	0.0 / A	0.0 / A	8.5 / A	0.1 / A
Proposed Condition	Weekday AM Peak	0.0 / A	3.9 / A	9.2 / A	2.0 / A
	Weekday PM Peak	0.0 / A	2.0 / A	9.1 / A	1.4 / A
	Saturday Midday Peak	0.0 / A	0.0 / A	8.5 / A	0.1 / A

[9] Average travel delay of all approaching vehicles during the peak hour period. Stop condition for the eastbound approach (driveway exit).

[10] Average travel delay of all approaching vehicles during the peak hour period. Stop condition for the westbound approach (driveway exit).

Table 4.7

		Smith Boulevard / Boat St. / Warehouse Place Average Delay (seconds/veh)[11]/ Level Of Service			
		Northbound	Eastbound	Westbound	Average Delay / LOS
Existing Condition	Weekday AM Peak	9.7 / A	0.0 / A	0.0 / A	6.2 / A
	Weekday PM Peak	9.3 / A	0.0 / A	0.0 / A	4.5 / A
	Saturday Midday Peak	9.0 / A	0.0 / A	0.0 / A	4.2 / A
Proposed Condition	Weekday AM Peak	9.7 / A	0.0 / A	0.0 / A	6.2 / A
	Weekday PM Peak	9.3 / A	0.0 / A	0.0 / A	4.5 / A
	Saturday Midday Peak	9.0 / A	0.0 / A	0.0 / A	4.2 / A

VIII – QUEUE LENGTHs

The queue length for traffic along Smith Boulevard was evaluated for impacts / delays caused by traffic turning into the proposed driveway. The 50th and 95th percentile queue lengths for traffic along Smith Boulevard will not impede any movements.

Table 5

		Queue Lengths Along Smith Boulevard at Proposed Driveway	
		Northbound traffic turning left into the driveway 50th percentile / 95th percentile	Southbound traffic turning right into the driveway 50th percentile / 95th percentile
Proposed Condition	Weekday AM	< 1 vehicle	< 1 vehicle
	Weekday PM	< 1 vehicle	< 1 vehicle
	Saturday Peak	< 1 vehicle	< 1 vehicle

[11] Average travel delay of all approaching vehicles during the peak hour period. Stop sign on the northbound approach.

End of Document

❍❍❍

Appendix A
Site Plan Layout

Appendix B
NYSDOT AADT Counts

Appendix C
Turning Movement Counts

Appendix D
Seasonal Factor Calculations

Appendix E
Level-of-Service Analyses