May 6, 2025

Ms. Theresa Joyner, Planning Board Chair
and Hudson Planning Board Members
City of Hudson
520 Warren Street
Hudson, NY 12534

Re: Colarusso Conditional Use Permit Application for the Dock

Dear Ms. Joyner and Hudson Planning Board Members:

On behalf of Our Hudson Waterfront (OHW), we write regarding the intensification of truck traffic at the Colarusso dock and to recommend critical truck volume conditions for the Conditional Use Permit (C.U.P.) that protect Hudson's waterfront, community, and future.

OVERVIEW – For over three years Colarusso refused to provide truck traffic data to the Planning Board, only commissioning a Creighton Manning Engineering (CM) truck study in 2020 at the Board's insistence for data. That Study revealed that:

- truck volume almost tripled from 2015 to 2019, and levels were substantially higher than Colarusso disclosed to government agencies in permit applications.

- the haul road permit limits recommended by Colarusso and approved by the Planning Board will not protect against intensification of truck volume in the future.

The City's **zoning laws** clearly prohibit the intensification of nonconforming industrial uses without a variance, and any expansion of such activity directly contradicts both the letter and spirit of those regulations. This is not a judgment on the company's reputation or its past contributions. Rather, it's about how industrial operations can exist responsibly within a city that values its waterfront, its residents, and its future.

The continued dock operations must be carefully managed to ensure they do not conflict with the neighboring park, the livelihood of other waterfront businesses, or the health and safety of our community. To this end, it is vital that a strict **annual** truck trip limit be implemented—alongside any daily or operational day caps—to prevent unchecked industrial traffic. Without this safeguard, our city could face tens of thousands of gravel truck trips annually, which would be detrimental to the waterfront's character and development goals, and to public safety. Our community deserves a waterfront that is safe, vibrant, and welcoming—not one overrun by industrial traffic. We urge you to uphold the principles of our zoning code and require responsible, sustainable operation standards.

WHY CONDITIONS ARE NEEDED – The Planning Board's decisions on the dock permit will apply to current and future owners of the dock. Without volume safeguards, the city risks a surge of industrial truck traffic—akin to the St. Lawrence Cement Plant threat. We do not oppose dock use itself, but urge that the dock C.U.P. include meaningful limits that preserve the balance between industrial operations and waterfront goals, and protect public safety. It's important to also consider that intensified truck volume will increase barge activity creating more hazardous risks to our beloved Hudson Athens Lighthouse.

The following is provided to assist the Planning Board in shaping **truck volume conditions** that can achieve compliance with the City Zoning Code and support harmony and balance between the industrial dock operation (current and future owners), and the adjacent public park, key Core-Riverfront District businesses, residents and the public.

CITY OF HUDSON ZONING CODE

There are several ordinances in the City Zoning Code that regulate the **intensity** of operations:

- **§325-34.A(3)(a)** "The location and size of such use, the **nature and intensity of operations** involved in or conducted in connection therewith, its site layout and its relation to access streets shall be such that both pedestrian and vehicular traffic to and from the use and the assembly of persons in connection therewith **will not be hazardous or inconvenient to, or incongruous** with, or conflict with the normal traffic of the neighborhood."

- **§325-34.A (2)** "That the proposed use shall be of such location, **size** and character that, in general, it **will be in harmony with** the appropriate and orderly development of the district in which it is proposed to be situated and will **not be detrimental to the orderly development of adjacent properties** in accordance with the zoning classification of such properties."

- **§325-17.1.D(1)** "**Continuation of existing commercial dock operations** for the transport and shipment of goods and raw materials, including loading and unloading facilities, and storage of such goods and raw materials, and associated private roads providing ingress and egress to or from such commercial dock operations, **as such uses existed on the effective date of this L.L. No. 5-2011.** Any existing commercial dock operation may continue to operate as a nonconforming use until such time as one or more of the actions or events…,the Planning Board shall impose additional conditions on such use as may be necessary to **protect the health, safety and welfare of residents living in close proximity to commercial docks and the public while recreating and using public facilities adjacent to commercial docks** as authorized in the Local Waterfront Revitalization Program."

IMPORTANT HISTORY REGARDING INTENSITY OF OPERATIONS AND ZONING CODE

In its evaluation, it is critical that the Planning Board consider the historical record, including the following:

The **2021 Planning Board** identified the following issues regarding intensity of operations, that are relevant to the City Zoning Code assessment *[source: Planning Board comments included in 11/28/21 Environmental Assessment Form (EAF) Part 3 (**bold** emphasis added)]:*

- *"The Planning Board also finds that the **intensification of the use is inconsistent with the City's 1995-1996 Vision Plan,** continuing with the **2000 Comprehensive Plan** and **LWRP**, in which city residents have made clear their desire for a greener, more sustainable waterfront. Public access, recreational opportunities, habitat restoration, environmental quality, and appropriate commercial development are consistently listed as top priorities."*

- *"The LWRP sought to create 'a vision which will serve the City and the State long after those involved today are forgotten**.** Although the **LWRP includes the continuation of uses at the deep port, it does not support a significant intensification of the use.** The 2009 DGEIS for the LWRP was based on significantly less truck traffic, and seasonal use, and the **zoning adopted pursuant to the LWRP specifically authorizes the use as it existed in 2011**."*

- *"The **Hudson Vision Plan**, **Comprehensive Plan**, **2005 Secretary of State's Coastal Consistency** determination on the St. Lawrence proposal, and **Department of State guidance on the draft LWRP**, call for the City to enact a plan that **zones out incompatible, industrial uses at the Waterfront.** Even the recent **Downtown Revitalization Initiative** (DRI) application, which recognizes the Applicant's dock operations, notes that 'Recent organic, entrepreneurial development of the BRIDGE District have primed Hudson for the inevitable next phase of its revitalization which includes re-imagining the waterfront for expanded public use and enjoyment."*

Local Waterfront Revitalization Plan (LWRP) –This City-adopted plan explicitly **discourages industrial intensification** and **encourages elimination** of nonconforming industrial uses. The **legislative intent of the LWRP** was made explicit by **NYS DOS (Department of State) attorney William Sharpe** at the Common Council meeting where it was adopted in 2011. The Valley Alliance has elsewhere provided fuller transcripts of his explanations of that intent; but Sharpe said, inter alia:

> *"There are a number of items that a Conditional Use would have to comply with: things like hours of operation, levels of noise, whether dust and other kinds of noxious or bothersome uses are generated on-site. Those would be prohibited… **They would not be able to enlarge or expand under the City's zoning**. The **existing zoning that you have does not permit expansions** of nonconforming uses."*
>
> ***"**A lot of the requirements which are in the **Conditional Use Permit actually mirror other sections of the City's laws and ordinances**. They may not have been brought to bear before. But now they are actually in as specific conditions to **ensure that the use is a good neighbor.** There's a **recognition that if there is going to be continued dock operations down there, that it try to coexist, and exist well with the other kinds of uses** that are happening in the City of Hudson… The reintroduction of people to its Waterfront. The revitalization of housing stock. The kinds of new vitality that public and private investment has brought to Hudson. And so this zoning attempts to create that kind of a balance."*
>
> *"Again, here is how things will work: Presently, under the Industrial zoning—I'm assuming without deciding that the port use is one that would be permitted under the Industrial zoning—when the zoning changes pursuant to this change of law, if there are no changes on the property, if they continue to operate it the way they've been operating it, they will become a lawful nonconforming use. **They are not permitted under the new zoning as of right**. OK, so they would go from being a use which may be permitted under the ID to a use that is not going to be immediately permitted under the new C-R district. So therefore they are in a netherworld. They are not permitted in the new zoning. They may be permitted under the existing zoning. And if indeed they are lawful under the existing zoning, they would become a lawful nonconforming use. **They would not be able to enlarge or expand under the City's zoning**. **The existing zoning that you have does not permit expansions of nonconforming uses**, my guess is **unless perhaps if there is variance granted by the Zoning Board of Appeals**."*

In addition to the 2011 LWRP, the 1996 Hudson Vision Plan, 2002 Comprehensive Plan, 2005 Secretary of State's Coastal Consistency determination on the St. Lawrence Cement proposal and Department of State guidance on the draft LWRP, all have called for the City to sunset and finally **eliminate incompatible heavy industrial uses at the Waterfront**. These all predate Colarusso's 2014 purchase of Holcim's property.

RECOMMENDED CONDITIONS FOR C.U.P. – The City Zoning Code includes the following requirements of the Planning Board:

> **§325-34 Permits for Conditional Uses** (Article VIII … "In approving any such use, the Planning Board shall take into consideration the **public health, safety and welfare**, the comfort and convenience of the public in general and of the residents of the immediate neighborhood in particular, and may **prescribe appropriate conditions and safeguards** as may be required in order that the result of its action may, to the maximum extent possible…"

To align with zoning, public safety, and city planning goals, we recommend the following conditions *(#1 and #3 are included in the Haul Road C.U.P.)*:

1. **Daily Cap**: Limit operations to 284 trips per day (142 in / 142 out).

2. **Annual Cap**: Set an annual limit (e.g., X number of truck trips per year) based on 2011 or 2015 truck volume levels, unless a variance is granted by the Zoning Board of Appeals (ZBA).

3. **Operating Days and hours**: Prohibit operations on weekends and holidays, with a maximum of 250 operating days per year. Limit hours of operation to 7am-6pm Monday through Thursday; 7am-5pm Friday.

4. **Regulatory Compliance**: Require updated permits, NYS DEC, US Army Corp of Engineers and NYS DOT, based on actual and proposed truck volumes.

The property owner and operator shall be required to demonstrate compliance with the conditions upon request of the Code Enforcement Officer.

TRUCK VOLUME BACKGROUND – As noted previously, for over three years Colarusso refused to provide truck traffic data to the Planning Board, only commissioning a truck study by Creighton Manning Engineering (CM) in 2020 at the Board's insistence. The CM Study revealed that:

- Truck trip volume almost tripled from 2015 to 2019, and levels were substantially higher than that disclosed to government agencies for permits. *See charts on next page*

- The **Haul Road C.U.P.** limits recommended by Colarusso and approved by the Planning Board will not protect against intensification of truck traffic in the future:

    - The **284 trips per day** limit is based on a "maximum condition" determined by engineers, and was only reached by Colarusso on 2 days during the 5-year period from 2015-2019.

    - The **operational day** limit to not work weekends and holidays, thus reducing operational days to **250** per year, will not curtail future volume. This is because Colarusso operated at significantly fewer days per year in the past (e.g., 77 days in 2015, 133 days in 2019).

The previously approved two-way Haul Road C.U.P. paves the way (no pun intended) for ramped up intensification of dock operations and inherent truck and barge traffic substantially higher than past levels. We don't know what limits Colarusso will propose for the dock operation. If the same **haul road limits** are applied to the dock permit without an annual limit, it would enable the dock owner to run up to 284 trips per day, up to 250 days a year, or a worst-case scenario of 71,000 trips per year. If **no limits** are applied to the dock permit, the worst-case scenario is up to 103,660 truck trips per year (284 x 365 days), or more.

To this end, it is critical that a strict **annual** truck trip limit be implemented—alongside any daily or operational caps—to prevent unchecked industrial traffic. Without this safeguard, our city could face tens of thousands of gravel truck trips annually, which would be detrimental to the waterfront's character and development goals, and to public safety.

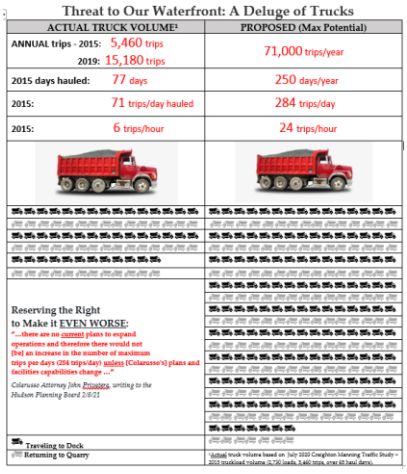
Failure to include an "annual" truck trip safeguard, in addition to any daily or operational day cap, would enable any dock owner to run tens of thousands of trucks to/from our waterfront each year. This is NOT acceptable, and is contrary to the City Zoning Code ordinances cited above and to the City's waterfront development plans.

Additionally, it poses enormous threats and risks to our city, to the waterfront, to other waterfront businesses, and to the public. Our waterfront should not be subject to a "skies the limit" number of gravel trucks traveling to/from the waterfront dock.

The following chart summarizes **information disclosed** by Colarusso's engineers to **government agencies for permits** and evaluations in comparison to **actual** truck volume data determined by the 2020 CM Truck Study:

Government Agency	Truck Volume Reported by Colarusso Engineers	Actual Volume per 2020 CM Truck Study
2016 NYS DEC (Department of Environmental Conservation) and **US Army Corp of Engineers Permits Joint Application** *See Attachment A*	No truck volume numbers noted. Colarusso engineer answered "**NO**" to question 8.a Will the proposed action result in a substantial increase in traffic above present levels?	Truck volume substantially increased over the years (almost **tripled** from 2015 to 2019)
2016 NYS DOT Permit (NYS Department of Transportation) (and 2019 renewal) *See Attachment B*	CM 8/17/16 letter to NYS DOT reported estimated 2,000 truckloads (**4,000 trips**)/year; over 191 weekdays; **10 loads, 20 trips/day**. CM Stated: "***This volume of traffic is very low and will have no discernable impact on roadway capacity*** *at the Route 9G/causeway intersection. No capacity improvements are necessary."*	**2015**: **5,460** truck trips/year; 77 operating days; **71 trips/day**
2017 Greenport Planning Board SEQRA evaluation (State Environmental Quality Review Act) *See 2017 Greenport Haul Road Decision in Planning Board online records*	Approval based on extremely low anticipated truck volume (i.e., **10 loads/20 trips per day**), using data provided by CM. Greenport Planning Board assumed, and stated ***"volume would not increase over time."***	See above
2017 Barton & Loguidice (B&L) letter to Greenport Planning Board Chair *See Attachment D, pages 7-8*	B&L indicated that they did not have information on volume of truck trips. They calculated the average daily one-way trip generation at 48; and a maximum condition of 284, according to a traffic evaluation. B&L stated: *"The evaluation further states that the* ***maximum condition typically occurs twice a year****…"* and that the *"proposed Action may result in a moderate to large impact to transportation systems."*	See above, plus: The origin of the **284 daily trip cap** in the Haul Road C.U.P. is based on a "maximum condition" established in the past. Between 2015-2019, Colarusso only achieved this limit on **two days**, in 2018 (see Attachment C – 2020 CM Truck Study, per Att. B 2015-2019 Loads Delivered Charts).

HISTORICAL AND PROPOSED TRUCK VOLUME – Attachment E (snapshots below) provides a high-level summary of actual truck volume data from the 2020 CM Truck Study and the maximum potential based on the limits Colarusso proposed for the Haul Road C.U.P. It is unknown what limits Colarusso will propose for the dock C.U.P.

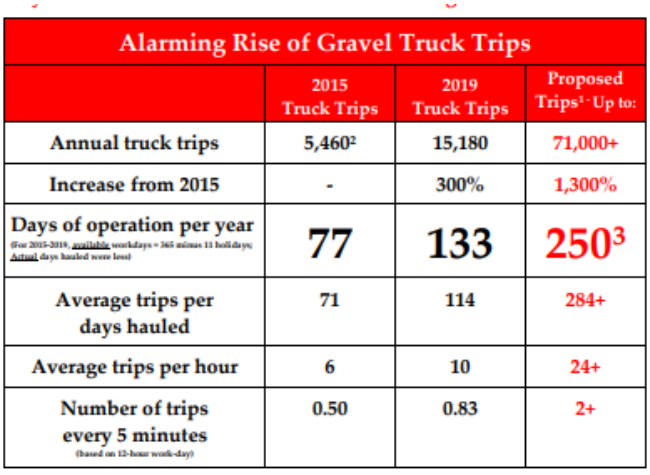

Threat to Our Waterfront: A Deluge of Trucks

ACTUAL TRUCK VOLUME[1]	PROPOSED (Max Potential)
ANNUAL trips - 2015: 5,460 trips 2019: 15,180 trips	71,000 trips/year
2015 days hauled: 77 days	250 days/year
2015: 71 trips/day hauled	284 trips/day
2015: 6 trips/hour	24 trips/hour

Reserving the Right to Make it EVEN WORSE:
"...there are no current plans to expand operations and therefore there would not [be] an increase in the number of maximum trips per days (284 trips/day) unless [Colarusso's] plans and facilities capabilities change ..."
Colarusso Attorney John Privitera, writing to the Hudson Planning Board 2/8/21

Traveling to Dock
Returning to Quarry

[1]Actual truck volume based on July 2020 Creighton Manning Traffic Study – 2019 truckload volume (1,730 loads, 5,460 trips, over 40 haul days).



Alarming Rise of Gravel Truck Trips			
	2015 Truck Trips	2019 Truck Trips	Proposed Trips[1] Up to:
Annual truck trips	5,460[2]	15,180	71,000+
Increase from 2015	-	300%	1,300%
Days of operation per year (For 2015-2019, available workdays = 365 minus 11 holidays; Actual days hauled were less)	77	133	250[3]
Average trips per days hauled	71	114	284+
Average trips per hour	6	10	24+
Number of trips every 5 minutes (based on 12-hour work-day)	0.50	0.83	2+

- Colarusso's truck trip volume from 2015 to 2019 almost **tripled**, and could potentially reach (or exceed) **13 times** the 2015 volume under the limits Colarusso proposed for the Haul Road C.U.P. if an annual cap safeguard is not required.

- Colarusso's proposed mitigation for the Haul Road C.U.P. (we don't know if same will be proposed for the dock) to reduce the number of **operating days from 365 to 250**, is positive, however, will not reduce **annual** truck volume reached in the past. This is because Colarusso's **actual** days hauled were *significantly* lower than the possibly proposed 250 days.

- If no truck volume or operational day limits are applied to the Dock C.U.P., dock owner could operate up to 365 days per year, and run **up to 103,660** truck trips per year, or more (365 x 284 trips).

Now that actual truck volume is known, it is incumbent upon the Planning Board to carefully consider it as it evaluates the dock operation C.U.P. under the 30+ applicable City Zoning Code ordinances.

Please protect our waterfront from becoming downtrodden by intensified gravel truck trips. We again urge you to require daily and annual truck volume safeguards, along with the operating day limit, to ensure truck volume remains in balance with Hudson's zoning laws, public safety, other Core-Riverfront businesses, and waterfront development plans. Thank you for your volunteer service, and for your time and consideration.

Respectfully,

Donna Streitz and David Konigsberg
Our Hudson Waterfront

Cc: *(via email)*
Victoria Polidoro, Esq.; Cristian Bertram, Barton & Loguidice Engineering; Mayor's Office: Mayor Kamal Johnson; Mayoral Aide Justin Weaver; Common Council: Tom DiPietro (President); Jennifer Belton; Vicky Daskaloudi; Dominic Merante; Shershaw Mizan; Margaret Morris; Gary Purnhagen; Lola Roberts; Mohammed Rony; Dewan Sarowar; Rich Volo; Columbia County Board of Supervisors: Michael Chameides; T. Randall Martin; Abdus Miah; Linda Mussman; Richard Scalera

Attachments:
Attachment A – 2016 Colarusso Joint Application for NYS DEC and US Army Corp of Engineers Permits
Attachment B -- 2016 CM Letters Pertaining to Colarusso's 2016 and 2019 NYS DOT Permits
Attachment C – 2020 Creighton Manning Engineering Truck Study and B&L Engineering letter
Attachment D – 4/18/17 Barton & Loguidice Engineering letter to Greenport Planning Board Chair
Attachment E – A Threat to Our Waterfront: A Deluge of Trucks (summary of actual & future potential truck trips)

Attachment A

2016 Colarusso Joint Application for NYS DEC and US Army Corp of Engineers Permits

Patrick J. Prendergast, P.E.

Consulting Engineer

127 Fordham Road
Valatie, New York 12184
(518)758-7500
Fax: (518)758-7501
Email: pprender@nycap.rr.com

April 28, 2016

New York State Dept. of Environmental Conservation
Attention: Ms. Trish Gabriel
1130 North Westcott Road
Schenectady, NY 12306-2014

RE: A. Colarusso & Son, Inc.
Southbay Causeway
Hudson, New York
Project No. 08636

Dear Ms. Gabriel:

Enclosed please find the following for the above referenced project:

1. Joint Application
2. Short Form EAF
3. Two (2) sets of plans

As discussed at our field meeting, Colarusso & Sons, Inc., would like to relocate their access road across the Southbay Causeway to higher ground, more in the middle of the causeway. Attached are plans and cross-sections of the proposed work.

Please let me know if you should need any additional information. Thank you for your time and consideration on this project.

Very truly yours,

Patrick J. Prendergast, P.E.

PJP/dlp

Enc.

CC: J.R. Heffner, Colarusso & Sons, Inc., w/enc.
Brad Sherwood, USACOE, w/enc.

JOINT APPLICATION FORM

For Permits/Determinations to undertake activities affecting streams, waterways, waterbodies, wetlands, coastal areas and sources of water withdrawal.

New York State

You must separately apply for and obtain separate Permits/Determinations from each involved agency prior to proceeding with work. Please read all instructions.

US Army Corps of Engineers (USACE)

APPLICATIONS TO

1. NYS Department of Environmental Conservation

Check all permits that apply:

- ☐ Stream Disturbance
- ☐ Excavation and Fill in Navigable Waters
- ☐ Docks, Moorings or Platforms
- ☐ Dams and Impoundment Structures
- ☐ 401 Water Quality Certification
- ☑ Freshwater Wetlands
- ☐ Tidal Wetlands
- ☐ Coastal Erosion Management
- ☐ Wild, Scenic and Recreational Rivers
- ☐ Water Withdrawal
- ☐ Long Island Well
- ☐ Aquatic Vegetation Control
- ☐ Aquatic Insect Control
- ☐ Fish Control
- ☐ Incidental Take of Endangered/Threatened Species

☑ I am sending this application to this agency.

2. US Army Corps of Engineers

Check all permits that apply:

- ☐ Section 404 Clean Water Act
- ☐ Section 10 Rivers and Harbors Act
- ☑ Nationwide Permit(s) - Identify Number(s): No 3, Maintenence

Preconstruction Notification - ☐ Y / ☑ N

☑ I am sending this application to this agency.

3. NYS Office of General Services

Check all permits that apply:

- ☐ State Owned Lands Under Water
- ☐ Utility Easement (pipelines, conduits, cables, etc.)
- ☐ Docks, Moorings or Platforms

☐ I am sending this application to this agency.

4. NYS Department of State

Check if this applies:

- ☐ Coastal Consistency Concurrence

☐ I am sending this application to this agency.

5. Name of Applicant (use full name)

A. Colarusso and Son, Inc

Mailing Address: 91 Newman Road

Post Office City: Hudson

State: NY Zip Code: 12534

Telephone (daytime): 518-828-1531

Email: jrh@acolarusso.com

Applicant must be:

- ☑ Owner
- ☐ Operator
- ☐ Lessee

(check all that apply)

Taxpayer ID (If applicant is NOT an individual): 14-1424400

6. Name of Facility or Property Owner (if different than Applicant)

Mailing Address

Post Office City

State Zip Code

Telephone (daytime) Email

7. Contact/Agent Name

Patrick Prendergast PE

Company Name

Mailing Address: 127 Fordham Road

Post Office City: Valatie

State: NY Zip Code: 12184

Telephone (daytime): 518-758-7500

Email: pprender@nycap.rr.com

8. Project / Facility Name

SOuthbay Causeway

Property Tax Map Section / Block / Lot Number: 109.15-01-01

Project Location - Provide directions and distances to roads, bridges and bodies of waters:
Project site is the existing railbed also known as the Southbay Causeway

Street Address, if applicable: NYS Route 9G

Post Office City: Hudson State: NY Zip Code: 12534

Town / Village / City: City of Hudson

County: Columbia

Name of USGS Quadrangle Map: Hudson

Stream/Water Body Name: Hudson River

Location Coordinates: Enter NYTMs in kilometers, **OR** Latitude/Longitude

NYTM-E	NYTM-N	Latitude	Longitude
		N 42 14' 52"	W 73 48' 5"

For Agency Use Only DEC Application Number: USACE Number:

9. **Project Description and Purpose:** Provide a complete narrative description of the proposed work and its purpose. Attach additional page(s) if necessary. Include: description of current site conditions and how the site will be modified by the proposed project; structures and fill materials to be installed; type and quantity of materials to be used (i.e., square ft of coverage and cubic yds of fill material and/or structures below ordinary/mean high water) area of excavation or dredging, volumes of material to be removed and location of dredged material disposal or use; work methods and type of equipment to be used; pollution control methods and mitigation activities proposed to compensate for resource impacts; and where applicable, the phasing of activities. **ATTACH PLANS ON SEPARATE PAGES.**

A. Colarusso and Sons inc is the current owner of the Southbay causeway in the City of Hudson NY. It crosses through NYSDEC Wetland HS-2. The causeway was constructed approximately 75 years ago to allow train cars to travel from the cement plant in Greenport to the waterfront in Hudson. It is currently used for trucks hauling stone to the Hudson waterfront. Colarusso and Sons would like to move the existing roadway from the eastern edge of the causeway to the middle of the causeway. This would provide more separation to the wetlands from the road. It would also move the road higher in elevation which will help with road maintenance . The proposed road location would be in an area where a railroad bed exists . The new location would also provide for a grass buffer strip between the road and the wetland.

Proposed Use: ☑ Private ☐ Public ☑ Commercial	Proposed Start Date: July 2016	Estimated Completion Date: September 2016

Has Work Begun on Project? ☐ Yes ☑ No If Yes, explain.

Will Project Occupy Federal, State or Municipal Land? ☐ Yes ☑ No If Yes, please specify.

10. List Previous Permit / Application Numbers (if any) and Dates:
none

11. Will this project require additional Federal, State, or Local Permits including zoning changes? ☐ Yes ☑ No If yes, please list:

12. **Signatures.** If applicant is not the owner, both must sign the application.
I hereby affirm that information provided on this form and all attachments submitted herewith is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law. Further, the applicant accepts full responsibility for all damage, direct or indirect, of whatever nature, and by whomever suffered, arising out of the project described herein and agrees to indemnify and save harmless the State from suits, actions, damages and costs of every name and description resulting from said project. In addition, Federal Law, 18 U.S.C., Section 1001 provides for a fine of not more than $10,000 or imprisonment for not more than 5 years, or both where an applicant knowingly and willingly falsifies, conceals, or covers up a material fact; or knowingly makes or uses a false, fictitious or fraudulent statement.

Signature of Applicant	Printed Name	Title	Date
	J.R. Heffner	VP Operations	
Signature of Owner	Printed Name	Title	Date
Signature of Agent	Printed Name	Title	Date
	Patrick Prendergast PE	Project engineer	4/27/16

For Agency Use Only **DETERMINATION OF NO PERMIT REQUIRED**

_____ (Agency Name) has determined that No Permit is required from this Agency for the project described in this application. Agency Project Number _____

Agency Representative: Name (printed) _____ Title _____

Signature _____ Date _____

Short Environmental Assessment Form
Part 1 - Project Information

Instructions for Completing

Part 1 - Project Information. The applicant or project sponsor is responsible for the completion of Part 1. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification. Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information.

Complete all items in Part 1. You may also provide any additional information which you believe will be needed by or useful to the lead agency; attach additional pages as necessary to supplement any item.

Part 1 - Project and Sponsor Information

A. Colarusso and Son Inc.

Name of Action or Project:
Relocation of an existing roadway

Project Location (describe, and attach a location map):
Southbay Causeway between NYS Route 9G and South Front Street.

Brief Description of Proposed Action:
Project consists of the relocation of an existing roadway across the South Bay Causeway . The path would be centered in an existing rail road bed. The existing path would be topsoiled and seeded.

Name of Applicant or Sponsor:	Telephone: 518-828-1531
A. Colarusso and Son inc.	E-Mail: jrh@acolarusso.com

Address:
91 Newman Road

City/PO:	State:	Zip Code:
Hudson	NY	12534

	NO	YES
1. Does the proposed action only involve the legislative adoption of a plan, local law, ordinance, administrative rule, or regulation? If Yes, attach a narrative description of the intent of the proposed action and the environmental resources that may be affected in the municipality and proceed to Part 2. If no, continue to question 2.	☑	☐
2. Does the proposed action require a permit, approval or funding from any other governmental Agency? If Yes, list agency(s) name and permit or approval:	☑	☐

3.a. Total acreage of the site of the proposed action? 200 acres
b. Total acreage to be physically disturbed? 1 acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 500+ acres

4. Check all land uses that occur on, adjoining and near the proposed action.
☑ Urban ☐ Rural (non-agriculture) ☑ Industrial ☐ Commercial ☐ Residential (suburban)
☐ Forest ☐ Agriculture ☑ Aquatic ☐ Other (specify): _____
☐ Parkland

	NO	YES	N/A
5. Is the proposed action, a. A permitted use under the zoning regulations?	☐	☑	☐
b. Consistent with the adopted comprehensive plan?	☐	☑	☐
6. Is the proposed action consistent with the predominant character of the existing built or natural landscape?	NO	YES	
	☐	☑	
7. Is the site of the proposed action located in, or does it adjoin, a state listed Critical Environmental Area? If Yes, identify: _____	NO	YES	
	☑	☐	
8. a. Will the proposed action result in a substantial increase in traffic above present levels?	NO	YES	
	☑	☐	
b. Are public transportation service(s) available at or near the site of the proposed action?	☑	☐	
c. Are any pedestrian accommodations or bicycle routes available on or near site of the proposed action?	☑	☐	
9. Does the proposed action meet or exceed the state energy code requirements? If the proposed action will exceed requirements, describe design features and technologies:	NO	YES	
	☑	☐	
10. Will the proposed action connect to an existing public/private water supply?	NO	YES	
If No, describe method for providing potable water: _____	☑	☐	
11. Will the proposed action connect to existing wastewater utilities?	NO	YES	
If No, describe method for providing wastewater treatment: _____	☑	☐	
12. a. Does the site contain a structure that is listed on either the State or National Register of Historic Places?	NO	YES	
	☑	☐	
b. Is the proposed action located in an archeological sensitive area?	☐	☑	
13. a. Does any portion of the site of the proposed action, or lands adjoining the proposed action, contain wetlands or other waterbodies regulated by a federal, state or local agency?	NO	YES	
	☐	☑	
b. Would the proposed action physically alter, or encroach into, any existing wetland or waterbody?	☑	☐	
If Yes, identify the wetland or waterbody and extent of alterations in square feet or acres: _____			

14. Identify the typical habitat types that occur on, or are likely to be found on the project site. Check all that apply:
☑ Shoreline ☐ Forest ☐ Agricultural/grasslands ☐ Early mid-successional
☑ Wetland ☐ Urban ☐ Suburban

	NO	YES
15. Does the site of the proposed action contain any species of animal, or associated habitats, listed by the State or Federal government as threatened or endangered?	☑	☐
16. Is the project site located in the 100 year flood plain?	☐	☑
17. Will the proposed action create storm water discharge, either from point or non-point sources? If Yes, a. Will storm water discharges flow to adjacent properties? ☐ NO ☐ YES	☑	☐
b. Will storm water discharges be directed to established conveyance systems (runoff and storm drains)? If Yes, briefly describe: ☐ NO ☐ YES		

	NO	YES
18. Does the proposed action include construction or other activities that result in the impoundment of water or other liquids (e.g. retention pond, waste lagoon, dam)? If Yes, explain purpose and size: _____	☑	☐
19. Has the site of the proposed action or an adjoining property been the location of an active or closed solid waste management facility? If Yes, describe: _____	☑	☐
20. Has the site of the proposed action or an adjoining property been the subject of remediation (ongoing or completed) for hazardous waste? If Yes, describe: _____	☑	☐

I AFFIRM THAT THE INFORMATION PROVIDED ABOVE IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE

Applicant/sponsor name: Patrick Prendergast PE Date: April 27,2016

Signature: _____

PRINT FORM

Patrick J. Prendergast, P.E.

Consulting Engineer

127 Fordham Road
Valatie, New York 12184
(518)758-7500
Fax: (518)758-7501
Email: pprender@nycap.rr.com

July 26, 2016

New York State Dept. of Environmental Conservation
Region 4
Attention: Mr. Jamie Malcolm, P.E.
1130 North Westcott Road
Schenectady, NY 12306-2014

RE: A. Colarusso & Son, Inc.
Haul Road Project
Greenport/Hudson, New York
Project No. 08636

Dear Mr. Malcolm:

A. Colarusso & Son, Inc., has a permitted gravel mine in the town of Greenport. Much of their crushed rock products are shipped out of their Hudson dock on barges. The rock is delivered to the dock via 18-wheeled trucks through the city streets of Hudson.

In an effort to reduce the truck traffic through Hudson, Colarusso is seeking permission to use an existing gravel road that crosses over Holcim-Lafarge property (formerly St. Lawrence Cement). This road was originally built for railroad access to the river from the cement plant. In recent years, it has been used for some minor truck traffic and also some off-road vehicles. The section from Route 9G across the Southbay Causeway is in use most of the time.

During the review process a question was raised by the town engineer regarding the need for a stormwater permit. As I see it, there are four distinct sections of roadway:

1. The first section is from the existing truck scales on Newman Road through the quarry to the western ridge of the quarry overlooking Route 9 section of road will be entirely located within the mine itself. All runoff from this section will be contained in the various impoundments in the mine, with no runoff off site. This section should not be subject to any special stormwater treatment.

2. The next section is from the western edge of the quarry to Route 9 (Sta 1+00 to Sta 15+00). This area of roadwork cannot be contained in the mine. With new earth disturbance of over one acre, a SWPPP will need to be prepared to address runoff from this area.

3. The next section starts on the western edge of Route 9 on an easement from Holcim U.S. This is an existing gravel road from Sta 17+00 to Sta 96+00 at Route 9G. This section is an existing gravel road that previously supported two sets of railroad tracks and a truck road. It is only currently in need of some erosion control work and drainage repair. As an existing gravel road, any work on this section falls under "Routine Maintenance Activity" as defined on page 41 of the General Stormwater Permit (copy attached).

4. The last section of roadway (Sta 97+00 to Sta 119+55) crosses the Southbay Causeway to Front Street. This section of roadway is currently located on the north edge of the causeway. The plan is to relocate it to the center of the causeway. The existing roadway would then be topsoiled and seeded. The new location of the roadway would still be within the area previously used for a railroad bed. In discussions with Dave Gasper, P.E. (Central Office), it was stated that if the new area was just as impervious as the existing roadway, that a stormwater permit would not be needed for this section.

In summary, I believe that a Stormwater Permit with permanent controls is needed for item #2 above (quarry to Route 9). The remainder of the project does not need permit coverage. Please let me know if you agree with my evaluation.

Please let me know if you should need any additional information. Thank you for your time and consideration on this project.

Very truly yours,

Patrick J. Prendergast, P.E.

PJP/dlp

CC: J.R. Heffner, Colarusso & Son, Inc.

Routine Maintenance Activity - means *construction activity* that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility, including, but not limited to:

- Re-grading of gravel roads or parking lots,
- Stream bank restoration projects (does not include the placement of spoil material),
- Cleaning and shaping of existing roadside ditches and culverts that maintains the approximate original line and grade, and hydraulic capacity of the ditch,
- Cleaning and shaping of existing roadside ditches that does not maintain the approximate original grade, hydraulic capacity and purpose of the ditch if the changes to the line and grade, hydraulic capacity or purpose of the ditch are installed to improve water quality and quantity controls (e.g. installing grass lined ditch),
- Placement of aggregate shoulder backing that makes the transition between the road shoulder and the ditch or embankment,
- Full depth milling and filling of existing asphalt pavements, replacement of concrete pavement slabs, and similar work that does not expose soil or disturb the bottom six (6) inches of subbase material,
- Long-term use of equipment storage areas at or near highway maintenance facilities,
- Removal of sediment from the edge of the highway to restore a previously existing sheet-flow drainage connection from the highway surface to the highway ditch or embankment,
- Existing use of Canal Corp owned upland disposal sites for the canal, and
- Replacement of curbs, gutters, sidewalks and guide rail posts.

Site limitations – means site conditions that prevent the use of an infiltration technique and or infiltration of the total WQv. Typical site limitations include: seasonal high groundwater, shallow depth to bedrock, and soils with an infiltration rate less than 0.5 inches/hour. The existence of site limitations shall be confirmed and documented using actual field testing (i.e. test pits, soil borings, and infiltration test) or using information from the most current United States Department of Agriculture (USDA) Soil Survey for the County where the project is located.

Sizing Criteria – means the criteria included in Part I.C.2 of the permit that are used to size post-construction stormwater management control practices. The criteria include; Water Quality Volume (WQv), Runoff Reduction Volume (RRv), Channel Protection Volume (Cpv), Overbank Flood (Qp), and Extreme Flood (Qf).

State Pollutant Discharge Elimination System (SPDES) - means the system established pursuant to Article 17 of the ECL and 6 NYCRR Part 750 for issuance of permits authorizing discharges to the waters of the state.

Steep Slope – means land area with a Soil Slope Phase that is identified as an E or F, or

Attachment B

2016 Creighton Manning Letters Pertaining to Colarusso's 2016 and 2019 NYS DOT Permits

ENGINEERS
PLANNERS
SURVEYORS

Creighton Manning

August 17, 2016

Mr. JR Hefner
Colarusso & Sons, Inc.
91 Newman Road
Hudson, NY 12534

RE: Traffic Evaluation Update, Colarusso Quarry to Dock Truck Route, City of Hudson and Town of Greenport, Columbia County, New York; CM Project No. 115-337

Dear Mr. Hefner:

Creighton Manning Engineering, LLP (CM) has updated three components of the previous traffic analysis based on proposed changes in the quarry to dock operations. The change includes the potential use of the west end of the causeway for trucks leaving the dock and entering Route 9G, destined for points to the south of Hudson. The results of this proposal were analyzed and discussed below.

A. Driveway Movements

The proposed change would allow for trucks to pick up/drop off material at the dock and travel to/from Route 9G and points south of Hudson. Table 1 describes the **updated** movements proposed at each of the crossings.

Table 1 – Driveway Movement Matrix

Location	Route 9	Route 9G
East Drwy	-Quarry trucks crossing -Retail trucks turning left/right in, left/right out -Quarry/retail cars turning left/right in, left/right out	-Quarry trucks crossing
West Drwy	-Quarry trucks crossing*	-Quarry trucks crossing **-Retail trucks turning right out, left in**

*The existing business at 4283 Route 9 would share this driveway and utilize it for car and truck access, as it exists today.

B. Trip Generation

Trip generation determines the quantity of traffic expected to travel to and from a given site. The number of truck trips made during the peak hour for typical conditions was estimated using data supplied by the Applicant. An estimated 2,000 truckloads per year may be generated between the dock and the Route 9G access point. Assuming operations occur from March to December, and traffic is spread out over an estimated 191 weekdays (excluding holidays), approximately 10 loads per day are expected. Quarry operations are estimated to occur over a 12-hour period, but if the dock-to-Route 9G operations conservatively occur within a 10-hour period, one truck load per hour is expected which equates to one trip entering, one trip exiting per hour. This volume of traffic is very low and will have no discernable impact on roadway capacity at the Route 9G/causeway intersection. Therefore, no capacity improvements are necessary.

2 Winners Circle
Albany, NY 12205
518.446.0396 (p)
518.446.0397 (f)
www.cmellp.com

C. Sight Distance

A sight distance evaluation was completed at the two proposed intersections on the truck route with Route 9 & Route 9G and summarized in the response to comment letter dated June 8, 2016. The following expands that analysis to include the right turn out and left turn in movements at the Route 9G/west driveway intersection.

The posted speed limit on Route 9G near the proposed truck route intersection is 30-mph. The average speeds observed was 38-mph with an 85th percentile speed (the speed at which 85% of drivers were observed traveling at or below) of 44-mph. The sight distances measured in the field were compared to the guidelines presented in the American Association of State Highway and Transportation Officials (AASHTO) *A Policy on Geometric Design of Highways and Streets* for 85th percentile speeds on Route 9G. The results of the sight distance analysis are summarized in Table 2 and Table 3.

Table 2 – Truck Crossing Sight Distance Summary (feet)

Intersection		Intersection Sight Distance[1]		Stopping Sight Distance[2]	
		Looking Left (D_L)	Looking Right (D_R)	SSD_{NB}	SSD_{SB}
NY Route 9G/East Drwy	Available	925	>1,015	950	>1,015
	Recommended[3]	695	695	360	360
NY Route 9G/West Drwy	Available	900	800	950	>1,015
	Recommended[3]	695	695	360	360

[1] Intersection sight distance is measured at 14.5 feet back from the travel way at an eye height of 7.6 feet (truck driver) and object height of 3.5 feet.
[2] $SSD_{NB,SB}$ = Stopping sight distance measured for a 2-foot object located in the path of vehicles on the major road.
[3] The sight distances measured are compared to the recommended guidelines for tractor-trailers crossing traffic traveling at the 85th-percentile speeds observed on Route 9G (45 mph).

Table 3 – Route 9G/West Driveway Sight Distance Evaluation (feet)

Intersection	Intersection Sight Distance[1]				Stopping Sight Distance[2]	
	Right-turn from Drwy (looking left)	Left-turn from West Side Approach		Left-turn from Rt 9G NB (looking straight)	NB	SB
		Looking left	Looking right			
Trucks (Tractor Trailer)						
Available	900	900	800	>1,015	950	>1,015
Recommended[3]	695	765	765	500	360	360

[1] Intersection sight distance is measured at 14.5 feet back from the travel way at an eye height of 3.5 feet for passenger cars and 7.6 feet for heavy vehicles, and object height of 3.5 feet.
[2] Stopping sight distance is measured at an eye height of 3.5 feet for a 2-foot object located in the path of northbound and southbound vehicles on US Route 9G.
[3] The sight distances measured are compared to the recommended guidelines for tractor-trailers crossing traffic traveling at the 85th-percentile speeds observed on Route 9G (45 mph).

The analysis confirms that the available sight distance turning into and out of the west driveway on Route 9G, exceed the recommended distances for trucks. Therefore, no sight distance mitigation is necessary.

D. Summary

The traffic expected to turn left off Route 9G into the causeway, and right out of the causeway onto Route 9G from the west driveway will be very low (one trip each per hour) and will have no significant impact on the operations of the intersection. Further, the existing available sight distances are more than adequate to accommodate the proposed maneuvers. No improvements are necessary to accommodate the addition of the proposed truck maneuvers to the quarry-to-dock proposal.

If you have any questions regarding the above analysis, please feel free to contact our office.

Respectfully submitted,
Creighton Manning Engineering, LLP

Kenneth Wersted, P.E., PTOE
Associate/Project Manager

C: Pat Prendergast, P.E.

N:\Projects\2015\115-337 Quarry to Dock\documents\115-337_Supplemental Traffic Assessment_20160802.docx

Attachment A
Posted Speed Sight Distance Tables

Colarusso Quarry to Dock Truck Route
City of Hudson and Town of Greenport, New York

Sight Distance Tables Using Posted Speeds

Table 2B – Truck Crossing Sight Distance Summary (feet)

Intersection		Intersection Sight Distance[1]		Stopping Sight Distance[2]	
		Looking Left (D_L)	Looking Right (D_R)	SSD_{NB}	SSD_{SB}
US Route 9/East Drwy	Available	>1,015	850	>1,015	795
	Recommended[3]	850	695	520[4]	360
US Route 9/West Drwy	Available	675	790	>1,015	765
	Recommended[3]	695	850	520[4]	360
NY Route 9G/East Drwy	Available	925	>1,015	950	>1,015
	Recommended[3]	465	465	200	200
NY Route 9G/West Drwy	Available	900	800	950	>1,015
	Recommended[3]	465	465	200	200

[1] Intersection sight distance is measured at 14.5 feet back from the travel way at an eye height of 7.6 feet (truck driver) and object height of 3.5 feet.
[2] Stopping sight distance measured at an eye height of 7.6 feet for a 2-foot object located in the path of northbound and southbound vehicles on US Route 9.
[3] The sight distances measured are compared to the recommended guidelines for tractor-trailers crossing traffic traveling at the posted speeds on Route 9 (55 mph NB and 45 mph SB) and Route 9G (30 mph NB and SB) respectively.
[4] The northbound stopping sight distances is adjusted for a 3% downgrade.

Table 3B – Route 9/East Driveway Sight Distance Evaluation (feet)

Intersection	Intersection Sight Distance[1]				Stopping Sight Distance[2]	
	Right-turn from Drwy (looking left)	Left-turn from East Side Approach		Left-turn from Rt 9 SB (looking straight)	NB	SB
		Looking left	Looking right			
Passenger Cars						
Available	>1,015	>1,015	850	>1,015	>1,015	795
Recommended[3]	530	610	500	445	520[4]	360
Trucks (Tractor Trailer)						
Available	>1,015	>1,015	850	>1,015	>1,015	795
Recommended[3]	850	930	765	500	520[4]	360

[1] Intersection sight distance is measured at 14.5 feet back from the travel way at an eye height of 3.5 feet for passenger cars and 7.6 feet for heavy vehicles, and object height of 3.5 feet.
[2] Stopping sight distance is measured at an eye height of 3.5 feet for passenger cars and 7.6 feet for trucks for a 2-foot object located in the path of northbound and southbound vehicles on US Route 9.
[3] The sight distances measured are compared to the recommended guidelines for tractor-trailers crossing traffic traveling at the posted speed on Route 9 (55 mph NB and 45 mph SB).
[4] The northbound stopping sight distances is adjusted for a 3% downgrade.

Attachment A
Posted Speed Sight Distance Tables

Colarusso Quarry to Dock Truck Route
City of Hudson and Town of Greenport, New York

Sight Distance Tables Using Posted Speeds

Table 2B – Truck Crossing Sight Distance Summary (feet)

Intersection		Intersection Sight Distance[1]		Stopping Sight Distance[2]	
		Looking Left (D_L)	Looking Right (D_R)	SSD_{NB}	SSD_{SB}
US Route 9/East Drwy	Available	>1,015	850	>1,015	795
	Recommended[3]	850	695	520[4]	360
US Route 9/West Drwy	Available	675	790	>1,015	765
	Recommended[3]	695	850	520[4]	360
NY Route 9G/East Drwy	Available	925	>1,015	950	>1,015
	Recommended[3]	465	465	200	200
NY Route 9G/West Drwy	Available	900	800	950	>1,015
	Recommended[3]	465	465	200	200

[1] Intersection sight distance is measured at 14.5 feet back from the travel way at an eye height of 7.6 feet (truck driver) and object height of 3.5 feet.
[2] Stopping sight distance measured at an eye height of 7.6 feet for a 2-foot object located in the path of northbound and southbound vehicles on US Route 9.
[3] The sight distances measured are compared to the recommended guidelines for tractor-trailers crossing traffic traveling at the posted speeds on Route 9 (55 mph NB and 45 mph SB) and Route 9G (30 mph NB and SB) respectively.
[4] The northbound stopping sight distances is adjusted for a 3% downgrade.

Table 3B – Route 9/East Driveway Sight Distance Evaluation (feet)

Intersection	Intersection Sight Distance[1]				Stopping Sight Distance[2]	
	Right-turn from Drwy (looking left)	Left-turn from East Side Approach		Left-turn from Rt 9 SB (looking straight)	NB	SB
		Looking left	Looking right			
Passenger Cars						
Available	>1,015	>1,015	850	>1,015	>1,015	795
Recommended[3]	530	610	500	445	520[4]	360
Trucks (Tractor Trailer)						
Available	>1,015	>1,015	850	>1,015	>1,015	795
Recommended[3]	850	930	765	500	520[4]	360

[1] Intersection sight distance is measured at 14.5 feet back from the travel way at an eye height of 3.5 feet for passenger cars and 7.6 feet for heavy vehicles, and object height of 3.5 feet.
[2] Stopping sight distance is measured at an eye height of 3.5 feet for passenger cars and 7.6 feet for trucks for a 2-foot object located in the path of northbound and southbound vehicles on US Route 9.
[3] The sight distances measured are compared to the recommended guidelines for tractor-trailers crossing traffic traveling at the posted speed on Route 9 (55 mph NB and 45 mph SB).
[4] The northbound stopping sight distances is adjusted for a 3% downgrade.

Patrick J. Prendergast, P.E.

Consulting Engineer

127 Fordham Road
Valatie, New York 12184
(518)758-7500
Fax: (518)758-7501
Email: pprender@nycap.rr.com

June 9, 2016

NYS Dept. of Transportation
Attention: Mr. Joseph Visconti
307 Route 66
Hudson, NY 12534

RE: A. Colarusso & Son, Inc.
Hudson/Greenport
Quarry to dock road
Project No. 14841

Dear Joe:

Enclosed please find two (2) sets of design plans for the above referenced project. Also enclosed is a detailed traffic study by Creighton Manning which is provided to address your request for additional information dated March 7, 2016. Electronic copies of both documents are on the enclosed CD. Please let us know if you should need any additional information.

Thank you for your time and consideration on this project.

Very truly yours,

Patrick J. Prendergast, P.E.

PJPdlp

Enc.

CC: J.R. Heffner, Colarusso & Sons, Inc
Ed Stiffler Town of Greenport, w/enc.

ENGINEERS
PLANNERS
SURVEYORS

Creighton Manning

June 8, 2016

Mr. JR Hefner
Colarusso & Sons, Inc.
91 Newman Road
Hudson, NY 12534

RE: Traffic Evaluation Update, Colarusso Quarry to Dock Truck Route, City of Hudson and Town of Greenport, Columbia County, New York; CM Project No. 115-337

Dear Mr. Hefner:

Creighton Manning Engineering, LLP (CM) is in receipt of the March 7, 2016 NYSDOT review letter on the subject project. We have reviewed the comments and offer the following responses:

1. **Comment: The plans should more clearly show what is proposed. Please refer to the PERM 33-COM, section 1.5. More detailed information is needed as listed (proposed driveways, type of driveway, distances from other driveways, etc.).**
   Response: Acknowledged. Updated plans are being provided by Patrick Prendergast.

2. **Comment: More clearly define the proposed use at each of the four access points. For example, is the proposed access full movement, cross movement only, restricted movement, quarry traffic only, quarry plus retail, etc.? A matrix submission would communicate this most clearly.**
   Response: Table 1 describes the allowed movements proposed at each of the crossings.

Table 1 – Driveway Movement Matrix

Location	Route 9	Route 9G
East Drwy	-Quarry trucks crossing -Retail trucks turning left/right in, left/right out -Quarry/retail cars turning left/right in, left/right out	-Quarry trucks crossing
West Drwy	-Quarry trucks crossing*	-Quarry trucks crossing

*The existing business at 4283 Route 9 would share this driveway and utilize it for car and truck access, as it exists today.

3. **Comment: Sight distance is shown on the plans although not required until Stage II. However, it is best to submit a matrix noting posted speed, operating speed, design vehicle, required sight distance for each movement, available sight distance for each movement, variance (if any), and improvements to achieve required sight distance.**
   Response: A sight distance evaluation was completed at the two proposed intersections on the truck route with Route 9 & Route 9G. The available *intersection* sight distance was measured from the perspective of a driver exiting the driveway and crossing the major road at Route 9 and Route 9G, and for drivers turning in and

2 Winners Circle
Albany, NY 12205
518.446.0396 (p)
518.446.0397 (f)
www.cmeilp.com

out of the east driveway on Route 9 according to the maneuvers summarized in Table 1. *Stopping* sight distance was also measured along each major road approaching the driveway intersections.

The posted speed limits near the proposed truck route intersections are 45-mph on Route 9 and 30-mph on Route 9G. The average speeds observed at the intersections were 49-mph and 38-mph respectively. However, to account for most drivers, the 85th percentile speed (the speed at which 85% of drivers were observed traveling at or below) is used in the sight distance analysis. The 85th percentile speed on Route 9 was observed to be 53-mph northbound and 55-mph southbound. The 85th percentile speed on Route 9G was observed to be 44-mph northbound and southbound. The sight distances measured in the field were compared to the guidelines presented in the American Association of State Highway and Transportation Officials (AASHTO) *A Policy on Geometric Design of Highways and Streets* for 85th percentile speeds on Route 9 and Route 9G. The results of the sight distance analysis are summarized in Table 2 and Table 3.

Table 2 – Truck Crossing Sight Distance Summary (feet)

Intersection		Intersection Sight Distance[1]		Stopping Sight Distance[2]	
		Looking Left (D_L)	Looking Right (D_R)	SSD_{NB}	SSD_{SB}
US Route 9/East Drwy	Available	>1,015	850	>1,015	795
	Recommended[3]	850	850	520[4]	495
US Route 9/West Drwy	Available	675	790	>1,015	765
	Recommended[3]	850	850	520[4]	495
NY Route 9G/East Drwy	Available	925	>1,015	950	>1,015
	Recommended[3]	695	695	360	360
NY Route 9G/West Drwy	Available	900	800	950	>1,015
	Recommended[3]	695	695	360	360

[1] Intersection sight distance is measured at 14.5 feet back from the travel way at an eye height of 7.6 feet (truck driver) and object height of 3.5 feet.
[2] $SSD_{NB, SB}$ = Stopping sight distance measured for a 2-foot object located in the path of vehicles on the major road.
[3] The sight distances measured are compared to the recommended guidelines for tractor-trailers crossing traffic traveling at the 85th-percentile speeds observed on Route 9 (55 mph) and Route 9G (45 mph) respectively.
[4] The northbound stopping sight distances is adjusted for a 3% downgrade.

Table 3 – Route 9/East Driveway Sight Distance Evaluation (feet)

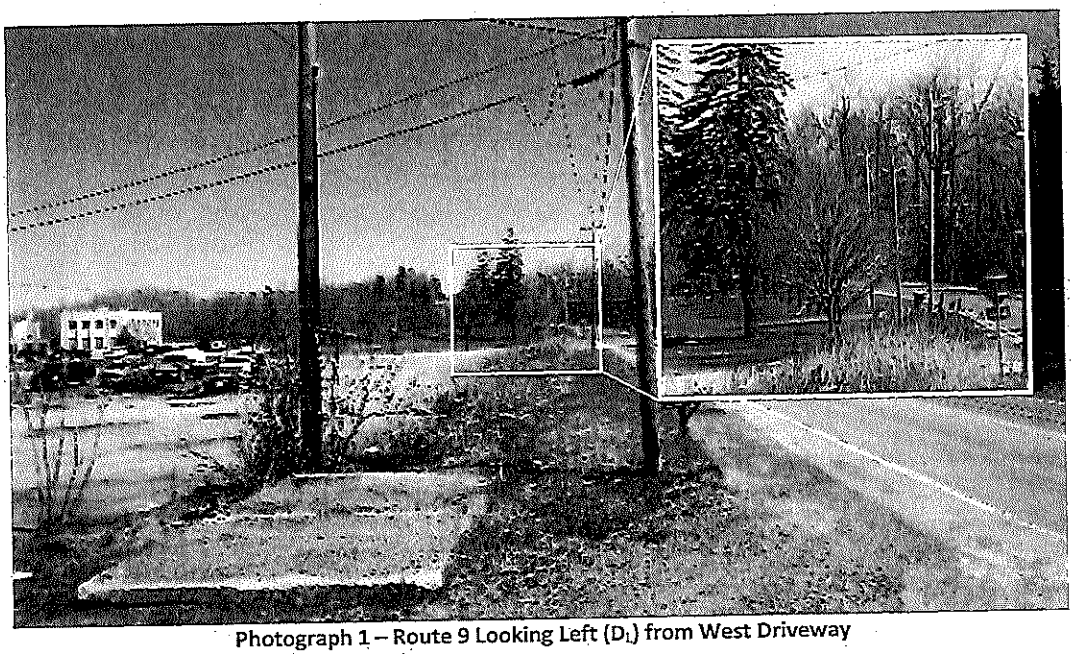
Intersection	Intersection Sight Distance[1]				Stopping Sight Distance[2]	
	Right-turn from Drwy (looking left)	Left-turn from East Side Approach		Left-turn from Rt 9 SB (looking straight)	NB	SB
		Looking left	Looking right			
Passenger Cars						
Available	>1,015	>1,015	850	>1,015	>1,015	795
Recommended[3]	530	610	610	445	520[4]	495
Trucks (Tractor Trailer)						
Available	>1,015	>1,015	850	>1,015	>1,015	795
Recommended[3]	850	930	930	610	520[4]	495

[1] Intersection sight distance is measured at 14.5 feet back from the travel way at an eye height of 3.5 feet for passenger cars and 7.6 feet for heavy vehicles, and object height of 3.5 feet.
[2] Stopping sight distance is measured at an eye height of 3.5 feet for a 2-foot object located in the path of northbound and southbound vehicles on US Route 9.
[3] The sight distances measured are compared to the recommended guidelines for tractor-trailers crossing traffic traveling at the 85th-percentile speeds observed on Route 9 (55 mph) and Route 9G (45 mph) respectively.
[4] The northbound stopping sight distances is adjusted for a 3% downgrade.

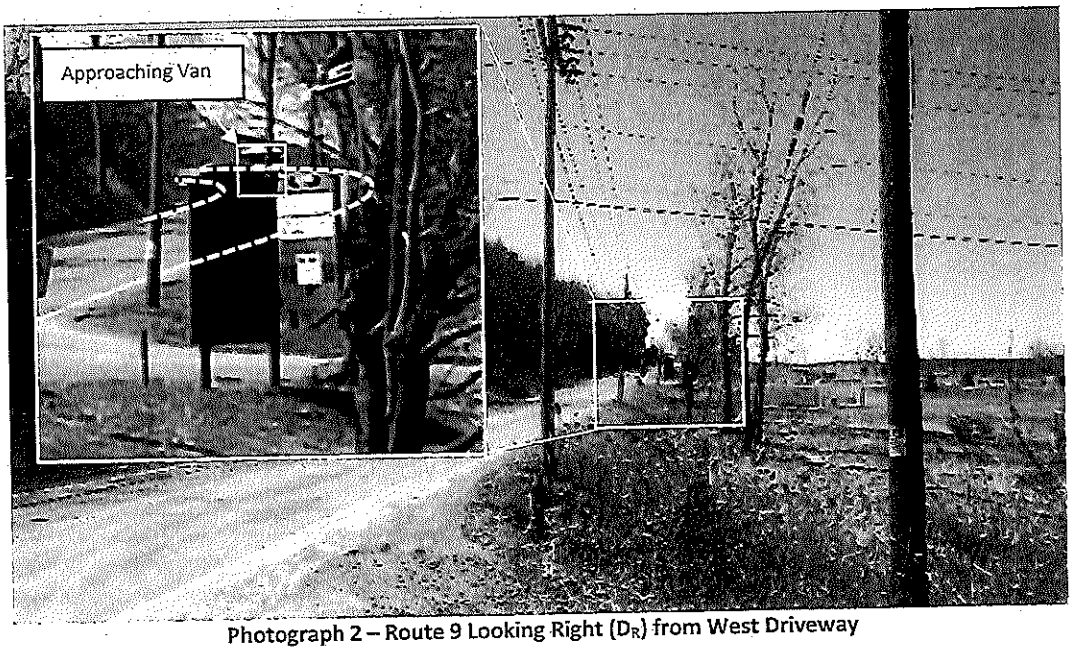
The following observations are evident from this analysis:

- US Route 9/East Driveway – Table 3 shows that the available sight distance for trucks looking right to turn left out of the east driveway is below the recommended guidelines due to vegetation (maple trees) along the west side of Route 9 north of the truck route intersection. Clearing of these trees is necessary to achieve the recommended sight distances. Although the sight distance looking right falls short of the recommended distance by 80 feet, it is not critically limited according to the MUTCD NYS Supplement (2C.46 and Figure 2C-101) because it is greater than the recommended stopping sight distance for drivers on Route 9. In the absence of clearing the vegetation, the Supplement says that an "intersection warning sign may be used where other factors indicate a need." All other turning and crossing movements for trucks and passenger cars and stopping sight distances meet or exceed the guidelines.

- US Route 9/West Driveway – Table 2 shows that the available sight distance for trucks looking left and right to cross Route 9 from the west falls short of the AASHTO recommended guidelines. Sight distance looking left is limited by trees along the west side of Route 9, north of the crossing as seen in Photograph 1. The sight distance looking right is obscured by signage south of the driveway on the west side of Route 9, as seen in Photograph 2. Although the sight distance looking left falls short of the recommended distance by 175 feet, it is not critically limited according to the NYS Supplement but an intersection warning sign may be installed.



Photograph 1 – Route 9 Looking Left (D_L) from West Driveway

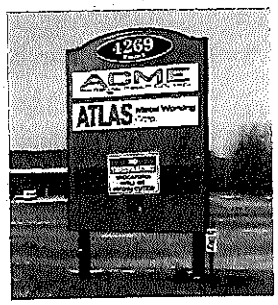


Photograph 2 – Route 9 Looking Right (D_R) from West Driveway

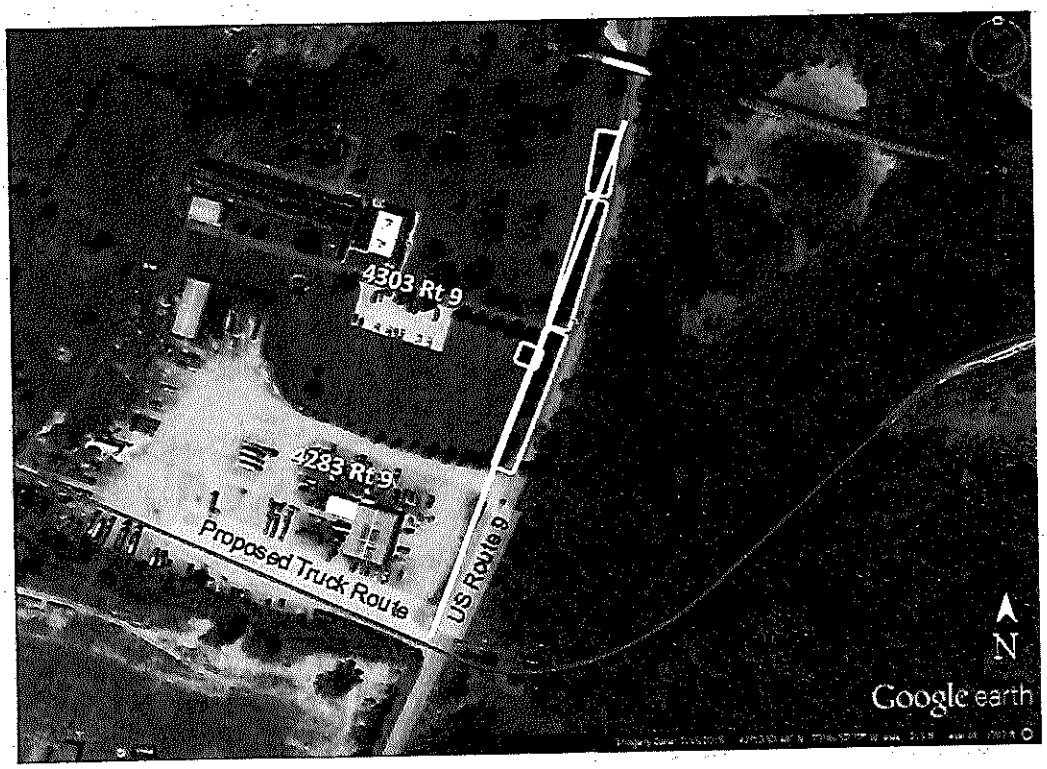
- NY Route 9G/East Driveway – Table 2 shows that the available sight distances for trucks crossing Route 9G and the stopping sight distances all exceed the AASHTO recommended guidelines.

- NY Route 9G/West Driveway – Table 2 shows that the available sight distances for trucks crossing Route 9G and the stopping sight distances all exceed the AASHTO recommended guidelines.

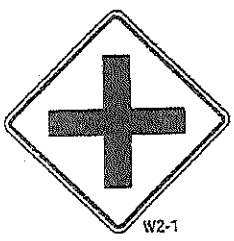
In summary, the sight distances looking north and south along Route 9 are the only distances that are less than desirable according to AASHTO and the NYS Supplement. Although mitigation is not required, in order to improve sight distance looking south on Route 9 from the west driveway, the business signs for 4269 Route 9 (see photo right) would need to be relocated or lowered. Moving these signs back is estimated to increase the available sight distance up to 400 feet.



The sight distances looking north are limited by the trees along the property of 4303 Route 9. Removal of approximately 18 trees (circled in white below) is necessary to accommodate the sight line (shown in yellow). Clearing these trees is estimated to increase the available sight distance by up to 300 feet.



In the absence of improving the sight lines, intersection/driveway warning signs (right) may be installed. Although the signs are not required based on the guidance, NYSDOT approval is necessary so their review of the conditions is recommended to identify the appropriate improvements.



TRUCKS

W11-10

A sight distance evaluation was completed assuming that vehicles travel at the posted speed limit. The detailed sight distance tables are included in Attachment A. The analysis shows that when compared to the posted speed limits the following is noted compared to results presented in Tables 2 and 3 using the operating speed:

- The intersection sight distance looking left to complete a crossing maneuver from the West Driveway on US Route 9 is 20 feet short of the recommended guideline.
- The intersection sight distance looking right to complete a crossing maneuver from the West Driveway on US Route 9 is 60 feet short of the recommended guideline.
- The intersection sight distance looking right to complete a left-turn from the East Driveway on US Route 9 meets the recommended guideline.
- All other field measurements continue to meet the recommended intersection and stopping sight guidelines.

4. **Comment: The volumes noted from 2009 need to be updated.**
Response: The traffic volumes on Route 9 and Route 9G were collected between Thursday, April 14, 2016 and Thursday, April 21, 2016 (Attachment A). The volumes on Route 9 were found to be 8,837 vpd, with 615 vehicles (two-way volume) during the AM peak hour and 728 vehicles (two-way) during the PM peak hour. The volumes on Route 9G were found to be 9,288 vpd, with 631 vehicles (two-way volume) during the AM peak hour and 819 vehicles (two-way) during the PM peak hour. Figure 1 highlights the existing traffic volumes by direction. Although the Route 9 volumes were updated, no counts of the business at 4283 Route 9 were collected. It is estimated that any traffic generated by this business is low and is otherwise negligible.

5. **Comment: Peak hour distribution figures are needed.**
Response: The distribution of the proposed traffic is shown on Figure 1. The retail portion of the trips expected to and from the south is estimated to be about 33% of the total site trips. With the new Route 9 driveway, those trips result in a decrease in traffic on Route 9 entering/exiting the City of Hudson and using the Newman Road entrance. This results in approximately 4 trips turning right into the Route 9 driveway and 4 trips turning left out of the driveway. Quarry traffic destined for the dock, is estimated at 4 trips crossing Route 9 and Route 9G (2 trips in each direction) during the AM and PM peak hours, with a maximum of 24 trips (12 trips in each direction).

6. **Comment: The AADT volumes on RTE 9 and RTE 9G are low. However, the peak hour volumes are moderate. Given the proposed mix of quarry and retail truck traffic, the applicant should review the trip distribution for safety benefits of highway improvements (e.g. turn lanes, etc.).**
Response: Intersection Level of Service (LOS) and capacity analysis were made using the procedures contained in the *2010 Highway Capacity Manual* (HCM) as well as the latest highway capacity software (HCS 2010 Version 680), which automates the procedures contained in the HCM. Levels of service range from A to F with LOS A conditions considered excellent with very little delay while LOS F generally

represents conditions with very long delays. Attachment B contains further detailed descriptions of LOS criteria for unsignalized intersections and copies of the detailed HCS level of service reports. Table 4 summarizes the results of the LOS calculations for the peak hour.

Table 4 – Unsignalized Level of Service Summary

Intersection		AM Peak Hour		PM Peak Hour	
		Average	Maximum	Average	Maximum
US Route 9/Truck Crossing					
Truck Route WB	LT	C (18.9)[2%]	C (19.3)[6%]	C (22.2)[3%]	C (22.7)[8%]
Truck Route EB	T	C (18.2)[1%]	C (18.8)[5%]	C (21.0)[1%]	C (21.9)[6%]
NY Route 9G/Truck Crossing					
Truck Route WB	T	C (18.7)[1%]	C (19.3)[2%]	C (23.9)[1%]	D (25.0)[7%]
Truck Route EB	T	C (18.7)[1%]	C (19.3)[2%]	C (23.9)[1%]	D (25.0)[7%]

EB, WB = Eastbound and Westbound intersection approaches
L, T, R = Left-turn, Through, and/or Right-turn vehicle movements
X (Y.Y) = Level of Service (Average delay in seconds per vehicle)[volume to capacity ratio]

Table 4 shows that the truck route intersections with US Route 9 and NY Route 9G will both operate generally well, at LOS C and D on the side (haul) roads, meaning trucks attempting to cross Route 9 and Route 9G will experience average delays of approximately 19 seconds per truck during the AM peak hour and 22 to 25 seconds during the PM peak hour. The table also illustrates that the proposed traffic volumes will utilize only 1 to 8% of the capacity of the intersection. This means that even with the increase from an average of 4 trips crossing the roads to 24 trips (a 600% increase) delays will increase by about 1 second or less. Drivers on Route 9 or Route 9G will experience little or no delay as they have the right-of-way. The vehicle delays on the truck route crossings will be relatively short and are considered acceptable. Therefore, no level of service mitigation is necessary at these proposed intersections. Further, the volume of traffic expected to turn into and out of the east Route 9 driveway will be very low and does not warrant the need for a northbound right turn lane or southbound left turn lane.

7. **Comment: Cross access locations will need to be aligned and perpendicular to the state highway.**
   Response: The plans reflect adjustments made in the haul road alignment to provide approaches 90° to Route 9 and 9G.

8. **Comment: Paved segments of the private drives will be required of sufficient length to eliminate tracking of debris.**
   Response: The first 200 feet of each driveway will be paved to eliminate the tracking of debris onto the state highway.

9. **Comment: Truck turning templates will be needed at the appropriate time.**
   Response: Tractor trailer (WB-40) turning templates are provided on Figures 2 through 4. Figure 2 and 3 demonstrate the trucks path turning left/right out and left/right in. Although lefts in and rights out are not expected, they can be accommodated. Figure 4 demonstrates the paths of trucks crossing Route 9G.

10. **Comment: Transverse rutting of RTE 9 and RTE 9G is a concern and should be considered at the appropriate time.**
    Response: Acknowledged.

11. **Comment: The applicant would be responsible for access and cross access highway maintenance.**
    Response: Acknowledged.

12. **Comment: Access geometry and details will need to meet state standards.**
    Response: Acknowledged. Pat Prendergast will coordinate the design details with NYSDOT.

13. **Comment: More detailed comments will follow more advanced submissions.**
    Response: Acknowledged.

14. **Comment: Lead agency approval is required in advance of permitting.**
    Response: Acknowledged. The plans have been submitted to the City of Hudson and the Town of Greenport for review and approval.

If you have any questions regarding the above analysis, please feel free to contact our office.

Respectfully submitted,
Creighton Manning Engineering, LLP

Kenneth Wersted, P.E., PTOE
Associate/Project Manager

C: Pat Prendergast, P.E.

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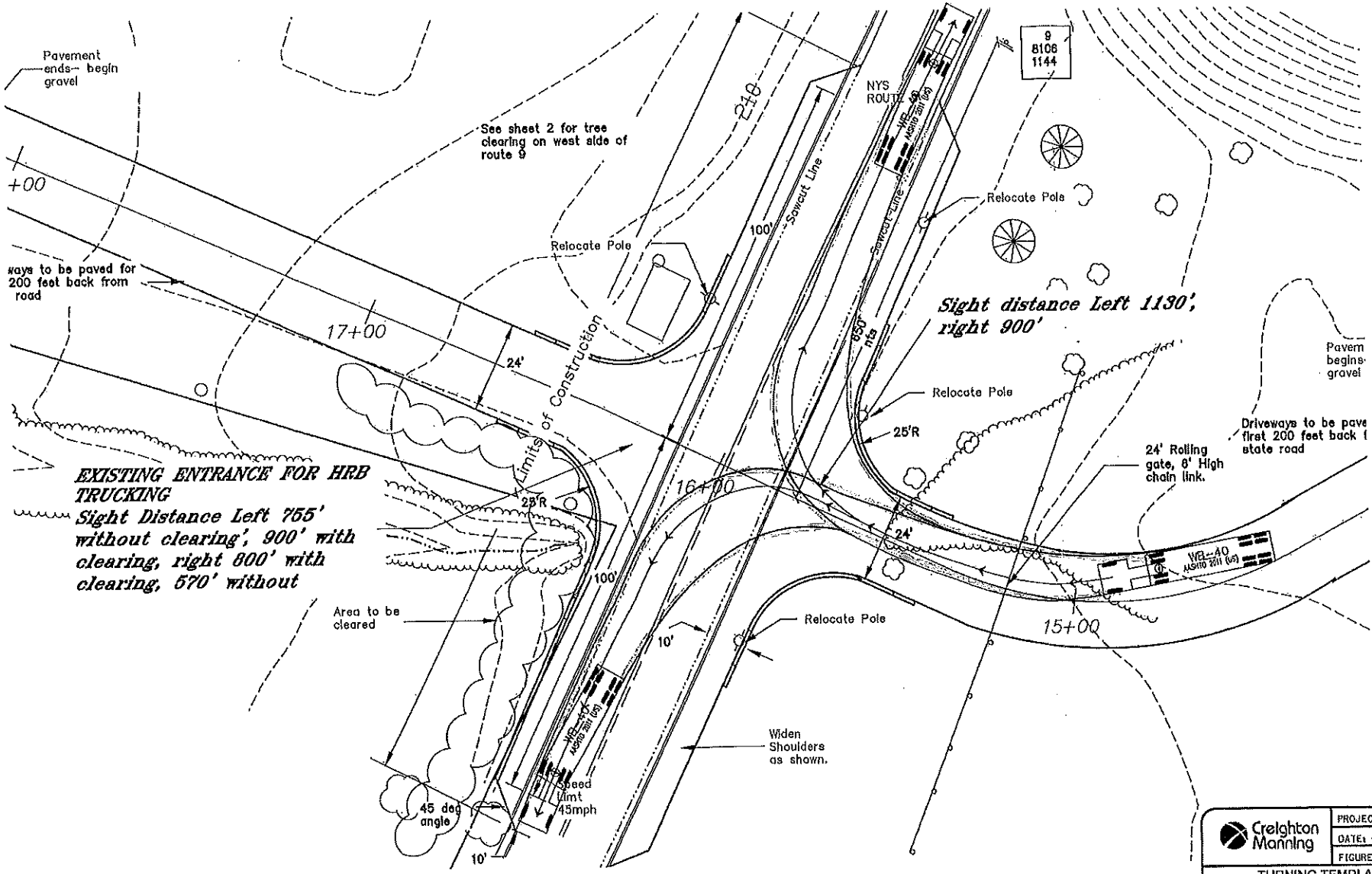


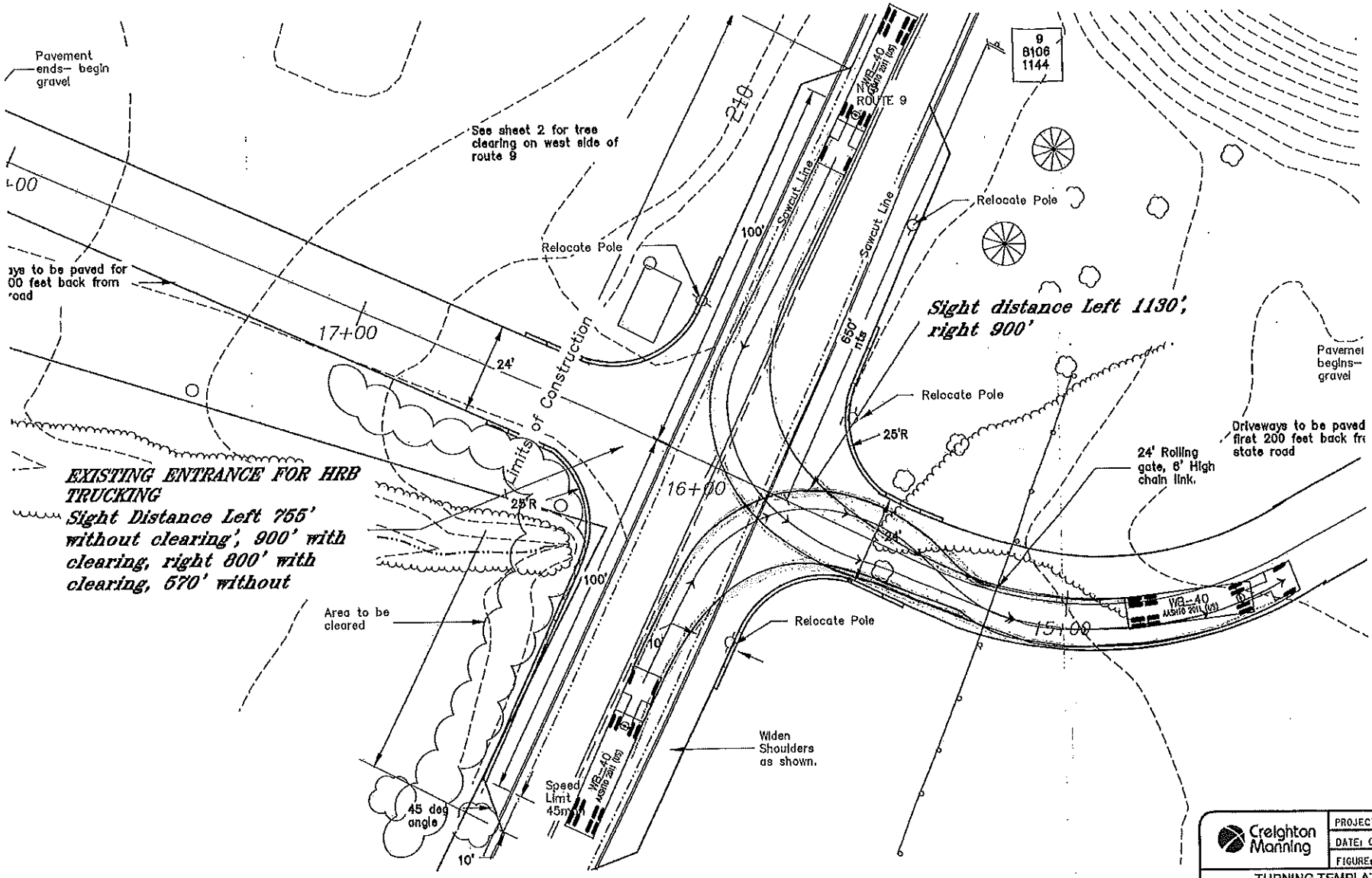
Creighton Manning

PROJECT: 115-337

DATE: 05/2016

FIGURE: 2

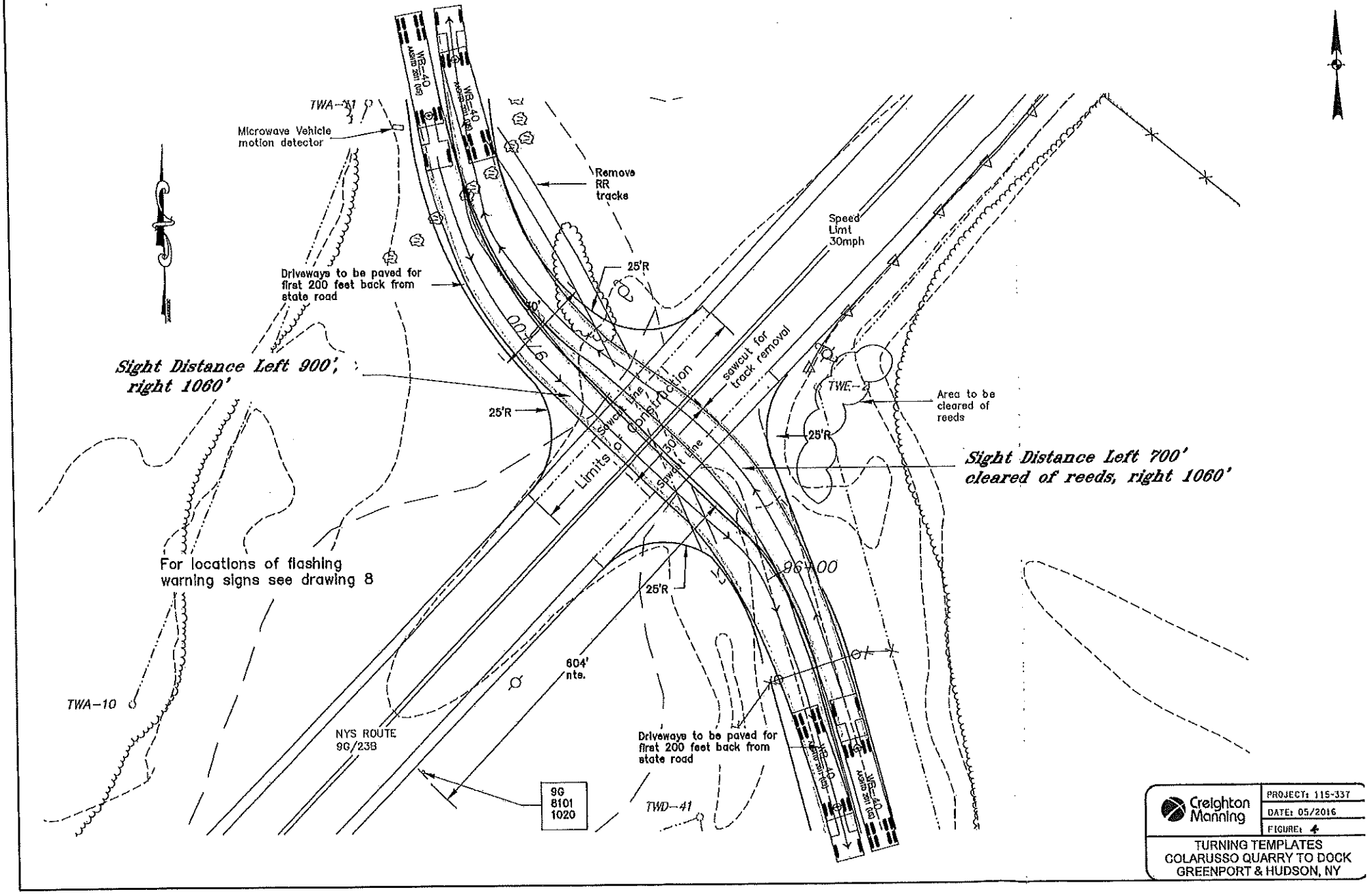
TURNING TEMPLATES
COLARUSSO QUARRY TO DOCK
GREENPORT & HUDSON, NY



Creighton Manning

PROJECT:	115-337
DATE:	05/2016
FIGURE:	3

TURNING TEMPLATES
COLARUSSO QUARRY TO DOCK
GREENPORT & HUDSON, NY



Creighton Manning

PROJECT: 115-337
DATE: 05/2016
FIGURE: 4

TURNING TEMPLATES
COLARUSSO QUARRY TO DOCK
GREENPORT & HUDSON, NY

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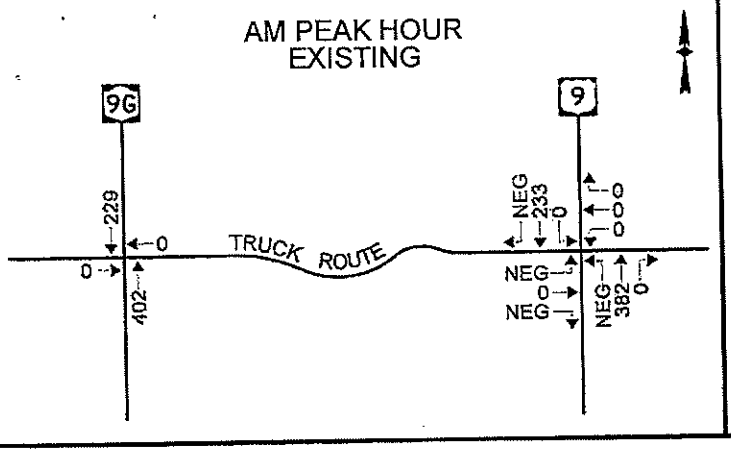
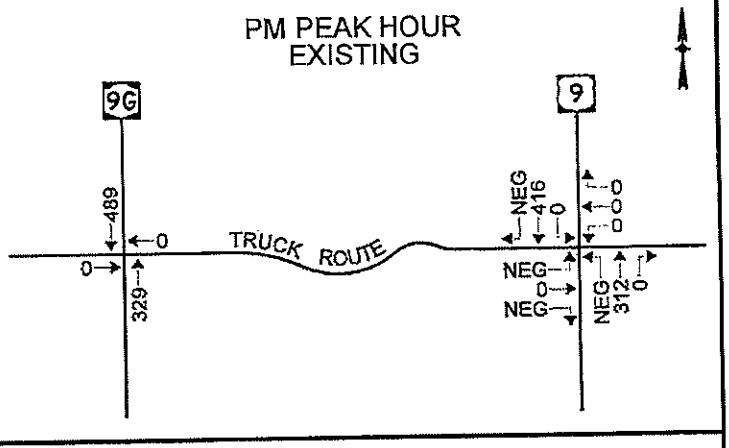
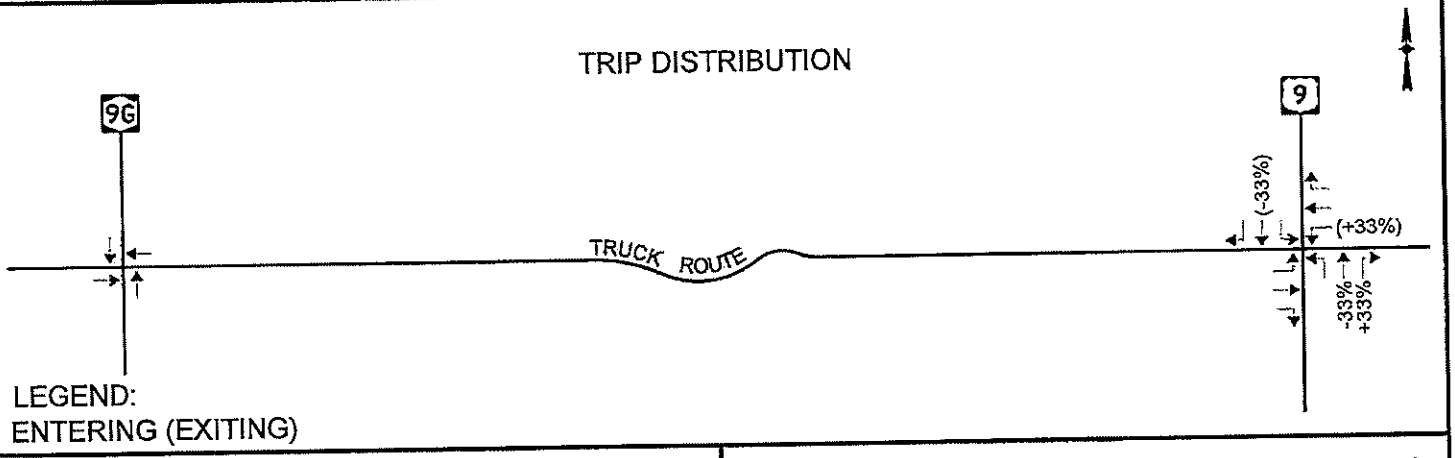
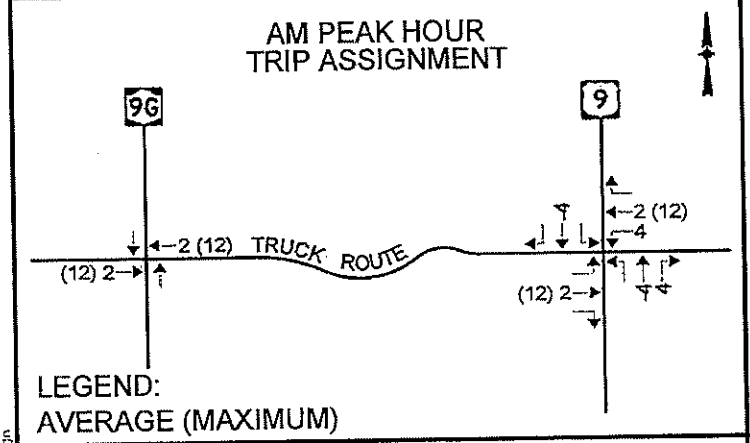
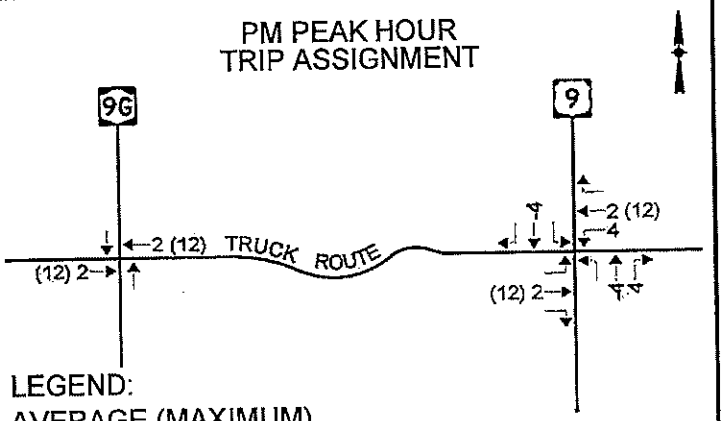
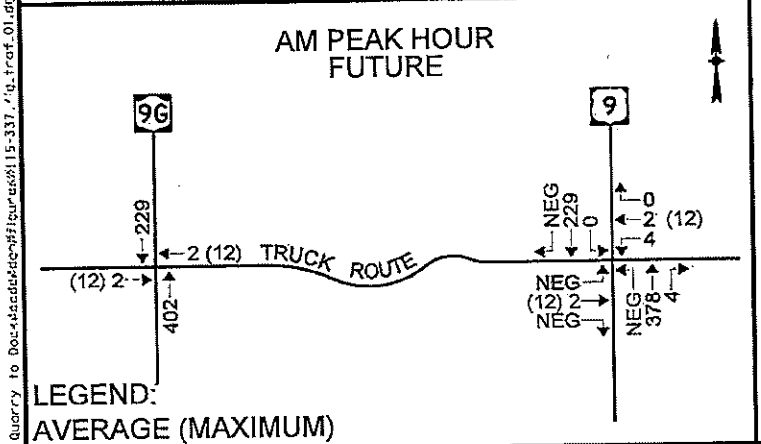


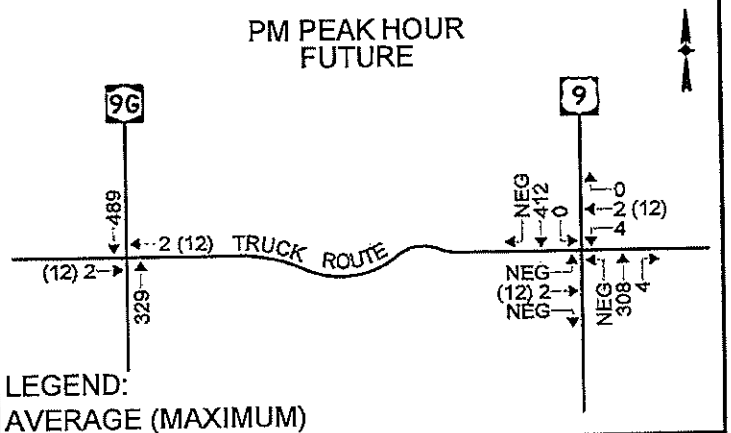












TRAFFIC VOLUMES

COLARUSSO QUARRY TO DOCK TRUCK ROUTE
CITY OF HUDSON & TOWN OF GREENPORT, NEW YORK

Creighton Manning

PROJECT: 115-337	DATE: 05/2016	FIGURE: 1

Attachment C

Creighton Manning July 9, 2020 (updated October 30, 2020)
Traffic Evaluation letter to Colarusso & Sons

Barton & Loguidice August 7, 2020 technical review of
Creighton Manning Traffic Evaluations sent to the Planning Board Chair

July 9, 2020
(Updated October 30, 2020)

Mr. JR Heffner
Colarusso & Son, Inc.
91 Newman Road
Hudson, NY 12534

RE: Traffic Evaluation, Colarusso Gate to Gate Truck Route, City of Hudson and Town of Greenport, Columbia County, New York; CM Project No. 115-337

Dear Mr. Heffner:

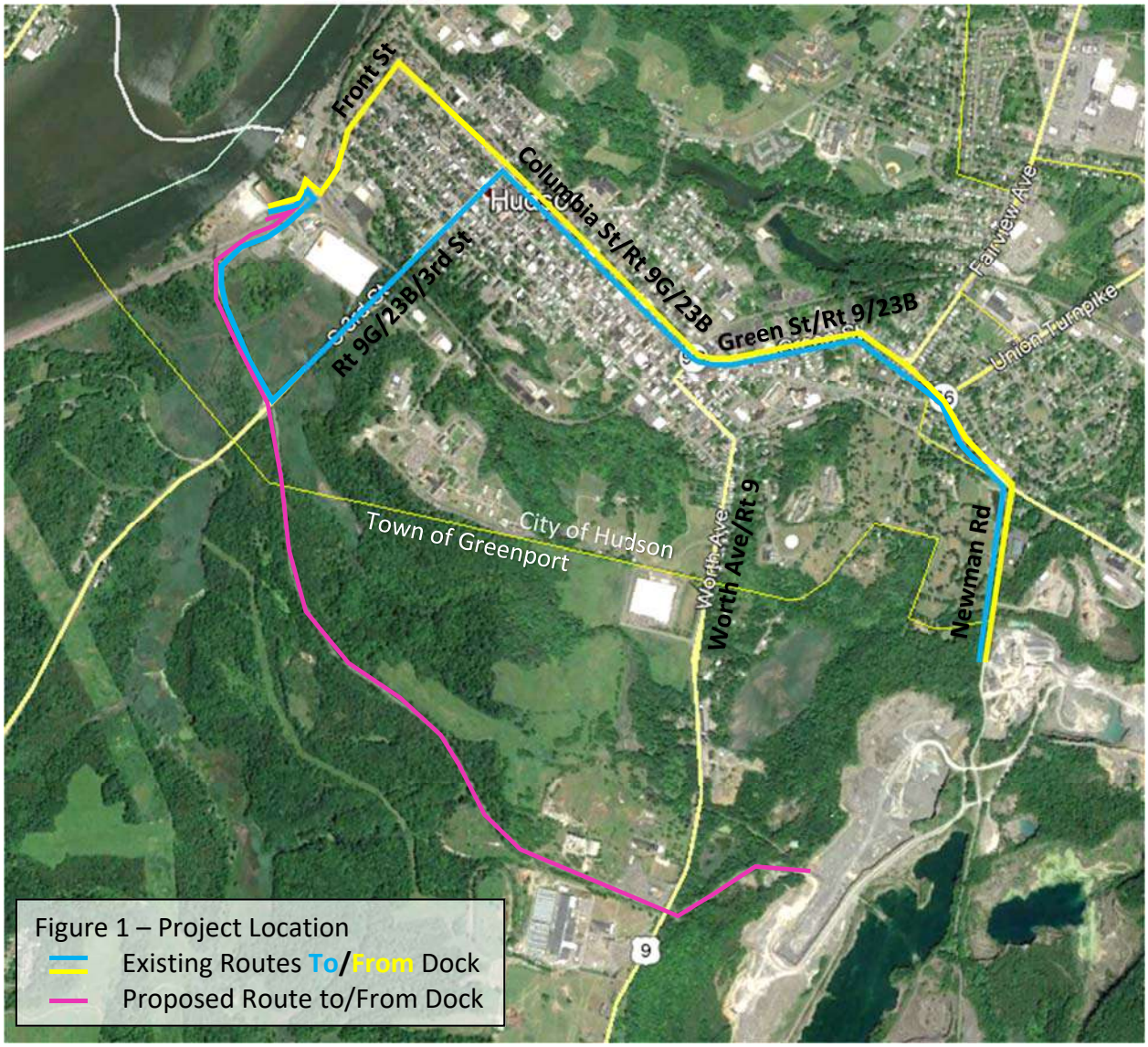
Creighton Manning Engineering, LLP (CM) has updated the previous traffic analysis conducted in 2016 to reflect current operations, existing use of part of the haul road, and the proposed use of the remainder of the road through the City of Hudson and the Town of Greenport. **The July 9, 2020 report was further updated to included traffic count data collected in August 2020.**

A. Background

A. Colarusso & Son has been operating quarries on Newman Road since the early 1900's, and purchased the Holcim quarry and dock from Holcim in fall of 2014. Some of the material removed is hauled to a dock on Broad Street in the City of Hudson, where it is loaded onto barges and shipped up or down river. Current trucking of aggregate to the dock occurs primarily through the public streets of the City of Hudson and in the Town of Greenport. The routes to and from the dock are shown on Figure 1 below. Presently, hauling is allowed seven days a week, including major holidays, from 7 a.m. to 7 p.m.

B. Proposal

The proposed change in operations would remove Colarusso trucks from the City's and Town streets by improving and utilizing a former rail bed that connects to the dock area from the quarry. This eliminates trucks traveling through 25 to 26 City intersections, and adds a crossing of US Route 9 in the Town of Greenport and NY Route 9G/23B in the City of Hudson. In addition, the intersection with US Route 9 would accommodate retail customer access to the quarry, eliminating additional truck trips through the City/Town.



C. Existing Traffic Volumes

Data Collection

Automatic Traffic Recorders (ATR's) were installed on Route 9G and Route 9 on Wednesday, June 10, 2020. The traffic volumes collected during the weekday AM and PM peak hours were found to be 12 to 35% lower when compared to volumes collected by NYSDOT in 2014 (for Route 9G) and 2015 (for Route 9). This decrease is expected to primarily be associated with the nationwide reduction in travel due to the pandemic. Since it is not possible to get accurate existing traffic observations due to phased business closings/openings implemented by the State to combat the coronavirus, historical traffic data was obtained for the 2019 calendar year (April through October) from a company that processes anonymized location records from smart phones and navigation devices and develops matrices that show origins/destinations (O/D) of traffic in an area. The AADT metrics have been validated by 6,000+ permanent counts across the U.S. with an R^2 of 0.96. The absolute and root mean square error exceed industry targets. This data represents the volume of traffic turning through the study area intersections as an average of weekdays (Tuesday through Thursdays) between April 1 and October 31, 2019.

The historical data was collected for the intersections of Broad Street/Front Street and Columbia

Street/North Third Street, since these are the intersections representative of conditions on the existing haul route. Traffic volumes on Route 9G and Route 9 were sourced from NYSDOT's 2014 and 2015 records and an annual growth rate of 1.05% per year was applied to the Route 9G volumes, and 0.55% per year to the Route 9 volumes. These growth rates were determined through a regression analysis of historical NYSDOT volumes. Applying the growth rates to the 2014/2015 data yield 2019 data.

The analysis focuses on the weekday morning peak period from 7:00 to 9:00 a.m. and the afternoon peak period from 4:00 to 6:00 p.m., which corresponds to peak commute times for the public and the beginning and ending of the aggregate-hauling period. The raw traffic volume data is included under Attachment A. The existing 2019 traffic volumes at the study area intersections are summarized on Figure 2-1 and form the basis for all traffic forecasts.

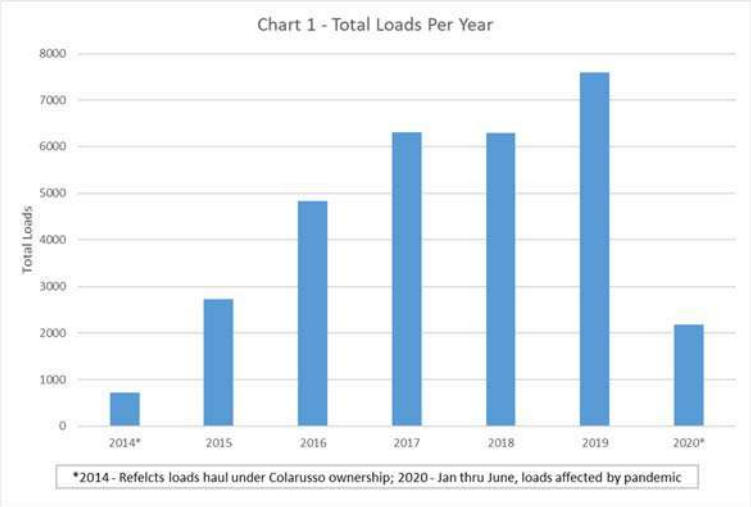
August Counts

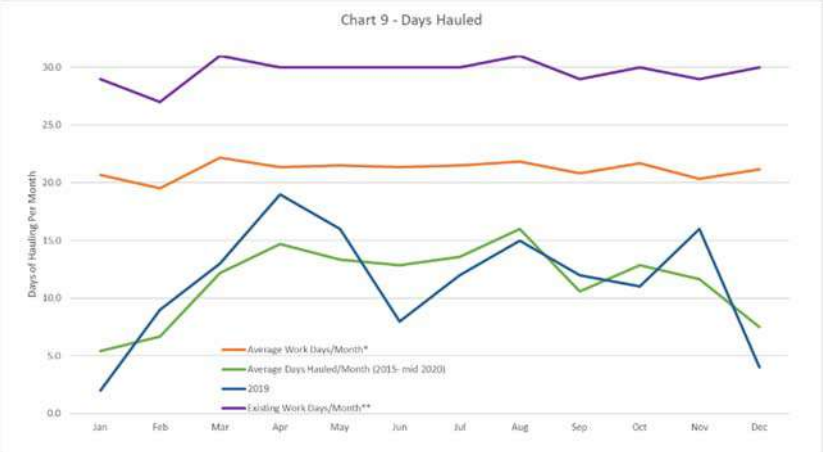
Traffic counts were conducted at the intersections of Broad Street/Front Street and Columbia Street/North Third Street on Tuesday, August 25, 2020 from 7:00 a.m. to 7:00 p.m., which coincided with the delivery of gravel to the dock. The counts were compared to the gravel load ticket data and the percentage of gravel trucks was determined. At the Front Street/Broad Street intersection, 1,846 vehicles were observed, with 207 trucks (11%) observed over the course of 12 hours. Of the trucks observed through the intersection, 184 (89%) truck trips were associated with movements heading to/from the dock. This represents a 98.9% accuracy in the traffic count data given that the load ticket data indicated 182 truck trips (91 loads) were sent/received by the quarry. At the Columbia Street/Third Street intersection, 7,774 vehicles were observed over 12 hours, with 419 truck trips (5%). The gravel trucks represent 184 trips (44%) of trucks observed. With the existing Colarusso truck route being a westbound left turn from Columbia Street to Third Street going to the dock and an eastbound through movement on Columbia Street leaving the dock, the Colarusso gravel trucks make up 40% to 100% of the trucks observed each hour on the westbound left movement, and 60% to 100% on the eastbound through movement. The detailed summary is included under Attachment D.

D. Trip Generation

Trip generation determines the quantity of traffic expected to travel to and from a given site. The number of truckloads between the gate at the quarry and the gate at the dock made since October 2014 through June 2020 were summarized based on load tickets collected by the operator. Chart 1 (below) summarizes the number of truckloads for this period. Total loads for the year varied from about 2,730 (2015) to 7,590 (2019), while 2014 only includes the three months of Colarusso operations and does not account for Holcim business handled in 2014 or earlier years, and 2020 has been affected by the pandemic. This data includes recycled asphalt pavement (RAP) hauled from the dock to the quarry, which accounted for 8% of the loads in 2016, 1% in 2018, and 3% in 2019.

The subsequent charts (2-8 in Appendix B) illustrate the truckloads per day for their respective years. These charts indicate peak months and days but also reveal that deliveries to the dock do not happen every day of the year. As summarized on Chart 9, the number of available workdays during each month under present conditions, varies from 27 to 31 days (excluding major holidays), while the average number of weekdays (excluding weekend and major holidays) varies from about 20 to 22 days per month. Chart 9 also depicts the days hauled per month for 2019 and the average for the last five years, which indicates the days hauled is typically less than half the maximum potential.





The number of truckloads generated in 2019 was 7,591, with an average of 57 loads per day and the 85th-percentile was 91 loads, while the peak was 132 loads. The 85th-percentile represents the threshold in which 85% of the truckloads per day were less than 91 loads, and 15% were higher. This threshold is often used to represent most conditions but not the most extreme. The 2019 truckloads equated to 16 truck trips in the peak hours.

It was previously identified that 142 truckloads per day was a <u>maximum</u> condition, which equated to 24 trips in the peak hours.[1] This means there would be 12 truckloads going to the dock and 12 empty trucks returning to the quarry in the peak hours.

In addition, there were about 12,000 truckloads of aggregate sold to retail customers that originated to the south. These customers currently use Route 9 northbound into the city and use Warren Street, Park Place, Columbia Street, and Green Street to access Newman Road. These trips would arrive via the haul road access from Route 9 into the quarry if complete, avoiding all city streets. The 12,000 truckloads per year equates to an 85th-percentile of 12 truckloads in the peak hours, or 24 trips, (12 trips entering, 12 trips exiting the quarry site), which would make a right turn into the quarry from Route 9 and a left turn onto Route 9 from the quarry. These trips do not contribute to truck traffic traveling through the city to

1 January 25, 2016 Traffic Evaluation prepared by Creighton Manning Engineering

the dock but are included to provide a complete analysis of the expected traffic volumes at the Route 9 driveway.

E. Trip Assignment

The trips generated by the maximum operations were distributed onto the local transportation network according to the existing haul routes – Green Street westbound to Columbia Street westbound to Third Street southbound, then through the South Bay along the haul road to Front Street/Broad Street, and the return trip via Front Street northbound to Columbia Street-Green Street eastbound. The trip assignment of the maximum condition is illustrated on Figure 2-2, and when added to the 2019 traffic volumes, yield the 2019 Maximum Volumes, shown on Figure 3-1.

With construction of the haul road, the section from Broad Street to Route 9G would be widened for two-way traffic and paved, and the section from Route 9G to Route 9 and into the quarry would be widened for two-way traffic and paved 200 feet from the state highway. Under these conditions, the quarry trucks would be relocated from the Columbia Street route to the haul road, resulting in a decrease in traffic at approximately 25 intersections, and an increase on the private haul road. The change in traffic volumes is summarized on Figure 3-2, and 2019 Build traffic volumes are reflected on Figure 4-1.

F. Intersection Operations

Intersection Level of Service (LOS) and capacity analysis were made using the procedures contained in the *Highway Capacity Manual, 6th edition* (HCM) as well as the Synchro Software (Version 10), which automates the procedures contained in the HCM. Levels of service range from A to F with LOS A conditions considered excellent with very little delay while LOS F generally represents conditions with very long delays. Attachment C contains further detailed descriptions of LOS criteria for signalized and unsignalized intersections and copies of the detailed HCS level of service reports. Table 1 summarizes the results of the LOS calculations for the peak hour.

Table 1 – Level of Service Summary

Intersection		Control	AM Peak Hour			PM Peak Hour		
			Existing	Existing Route Maximum Trucks	Haul Road Maximum Trucks	Existing	Existing Route Maximum Trucks	Haul Road Maximum Trucks
Broad St/Front St		U						
Broad St. EB	LT		A (9.8)	A (9.9)	A (9.4)	A (8.4)	A (8.4)	A (8.4)
Front St. NB	T		A (4.7)	A (5.5)	A (5.5)	A (9.6)	A (9.8)	A (9.4)
Columbia St/Third St		S						
Columbia St. EB	LTR		B (14.4)	B (14.6)	B (14.2)	B (14.4)	B (14.4)	B (14.2)
Columbia St. WB	LTR		B (17.3)	B (17.4)	B (16.7)	C (23.1)	C (23.4)	C (22.6)
S. 3rd St. NB	LTR		A (9.4)	A (9.4)	A (9.4)	B (10.0)	B (10.0)	B (10.0)
S. 3rd St. SB	LTR		A (8.3)	A (8.3)	A (8.3)	B (10.1)	B (10.1)	B (10.1)
Overall			B (12.4)	B (12.5)	B (12.1)	B (14.9)	B (15.0)	B (14.7)
NY Route 9G/Truck Crossing		U						
Truck Route WB	T		--	--	C (18.2)	--	--	C (22.6)
Truck Route EB	T				C (18.2)			C (22.6)
US Route 9/Truck Crossing		U						
Truck Route EB	T		--	--	C (19.8)	--	--	C (22.8)
Truck Route WB	T				C (21.4)			D (25.4)

NB, SB, EB, WB = North, South, East and Westbound intersection approaches
L, T, R = Left-turn, Through, and/or Right-turn vehicle movements
X (Y.Y) = Level of Service (Average delay in seconds per vehicle)

Table 1 shows that the Columbia Street/N. Third Street intersection operates at an overall LOS B during the AM and PM peak hours and will continue to remain unchanged if the maximum volume of trucks is reached, indicating that the minor increase in hourly truck trips will not have a substantial impact on intersection capacity.

If the haul road is completed, there will be reduction in truck trips along Front Street, N/S. Third Street, Columbia Street, and Green Street, which will result in a marginal decrease in delays (about half a second per vehicle) during the AM and PM peak hours. The haul road crossings will generally operate at LOS C during the peak hours with 18 to 23 seconds of average delay. The westbound movement exiting the quarry at Route 9 will experience LOS D with 26 seconds delay due to the presence of trucks turning left out of the driveway.

G. Sight Distance

A sight distance evaluation was completed at the two proposed intersections on the truck route with Route 9 and Route 9G as part of the June 8, 2016 Traffic Evaluation Update. Sight distances were re-verified in June 2020 as part of this update and found to be consistent with the earlier findings. The analysis found that the Route 9G haul road driveways exceeded the guidelines presented in the American Association of State Highway and Transportation Officials (AASHTO) *A Policy on Geometric Design of Highways and Streets* for 85th percentile speeds of 42 mph on Route 9G. The analysis also reaffirmed that the driveways on Route 9 were less than desirable for 55 mph due to vegetation and signage, but were not critically limited given that the stopping sight distances were well exceeded. As such, clearing of this vegetation on the west side of Route 9, north and south of the haul road would improve these conditions.

H. Mitigation

The traffic analysis methodologies indicate that the presence of trucks through the City and Town do not appear to have a significant impact on intersection capacity; however, these methodologies are not capable of measuring quality of life impacts. Although trucks have a legal right to traverse the designated streets, the applicant's primary means to mitigate the impact of their hauling operations is to improve the existing one lane haul road between the quarry and the dock by widening and paving the road to accommodate two-way travel. At current conditions, this would remove approximately 7,000 to 8,000 truckloads (14,000 to 16,000 truck trips) annually traveling between the quarry and the dock from City and Town streets. **Based on the August 2020 counts, this would reduce the percentage of trucks through the Columbia Street/Third Street intersection from 5% to 3% over 12 hours. On the west end of Columbia Street (west of Third St), trucks volumes would be reduced by 60% to 100% each hour, while the east end of Columbia Street (east of Third St) could be reduced by 40% to 100% each hour between the hours of 7:00 a.m. to 7:00 p.m.**

In addition, the applicant proposes to restrict the hauling hours from 7 a.m. to 7 p.m., Monday through Sunday, to 7 a.m. to 6 p.m., Monday through Thursday, and 7 a.m. to 5 p.m. on Friday, and no hauling on weekends or major holidays.

We further recommend that the applicant improve the sight distances at the Route 9 crossings by adjusting the industrial park sign and clearing vegetation. We also recommend the installation of advance warning signs at each of the crossings, similar to those to the right.

I. Summary

The use of city and town streets by Colarusso trucks has little to no significant impact on intersection capacity according to this analysis. However, it is acknowledged that there are other unmeasured quality of life impacts. The applicant proposes to improve the existing haul road between the quarry and the dock to accommodate two-way truck traffic, which will remove an estimated 14,000 to 16,000 truck trips, annually at current conditions, traveling between the quarry and the dock from city and town streets. In addition, hauling hours will be reduced to 7 a.m. to 6 p.m., Monday through Thursday, and 7 a.m. to 5 p.m. on Friday, and no hauling on weekends or major holidays. We recommend sight distance improvements to the Route 9 haul road crossing and that advance intersection warning signs be installed at the Route 9G and Route 9 crossings.

If you have any questions regarding the above analysis, please feel free to contact our office.

Respectfully submitted,
Creighton Manning Engineering, LLP

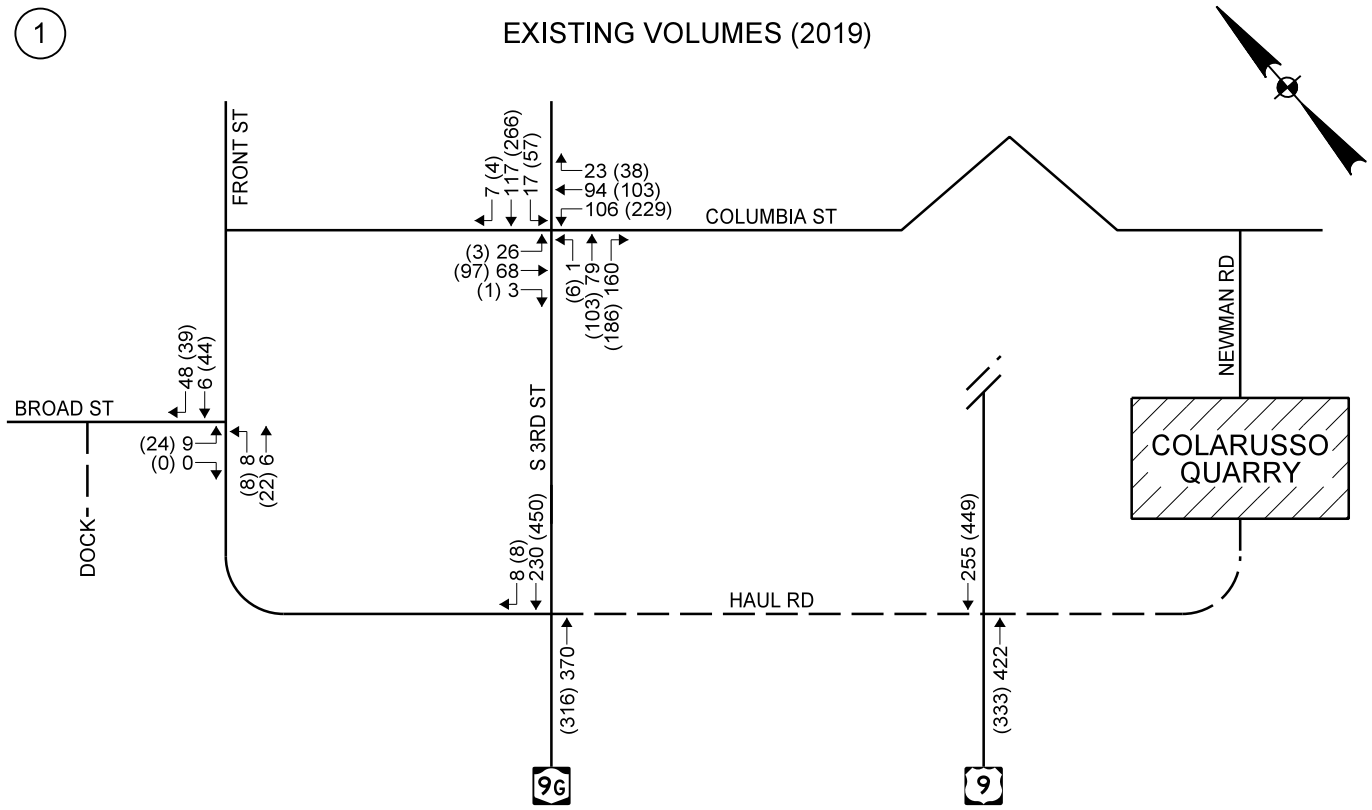
Kenneth Wersted, P.E., PTOE
Associate

C: Pat Prendergast, P.E.
John Privitera, Esq

N:\Projects\2015\115-337 Quarry to Dock\documents\115337_Ltr Rpt update_2020-10-30.docx

1

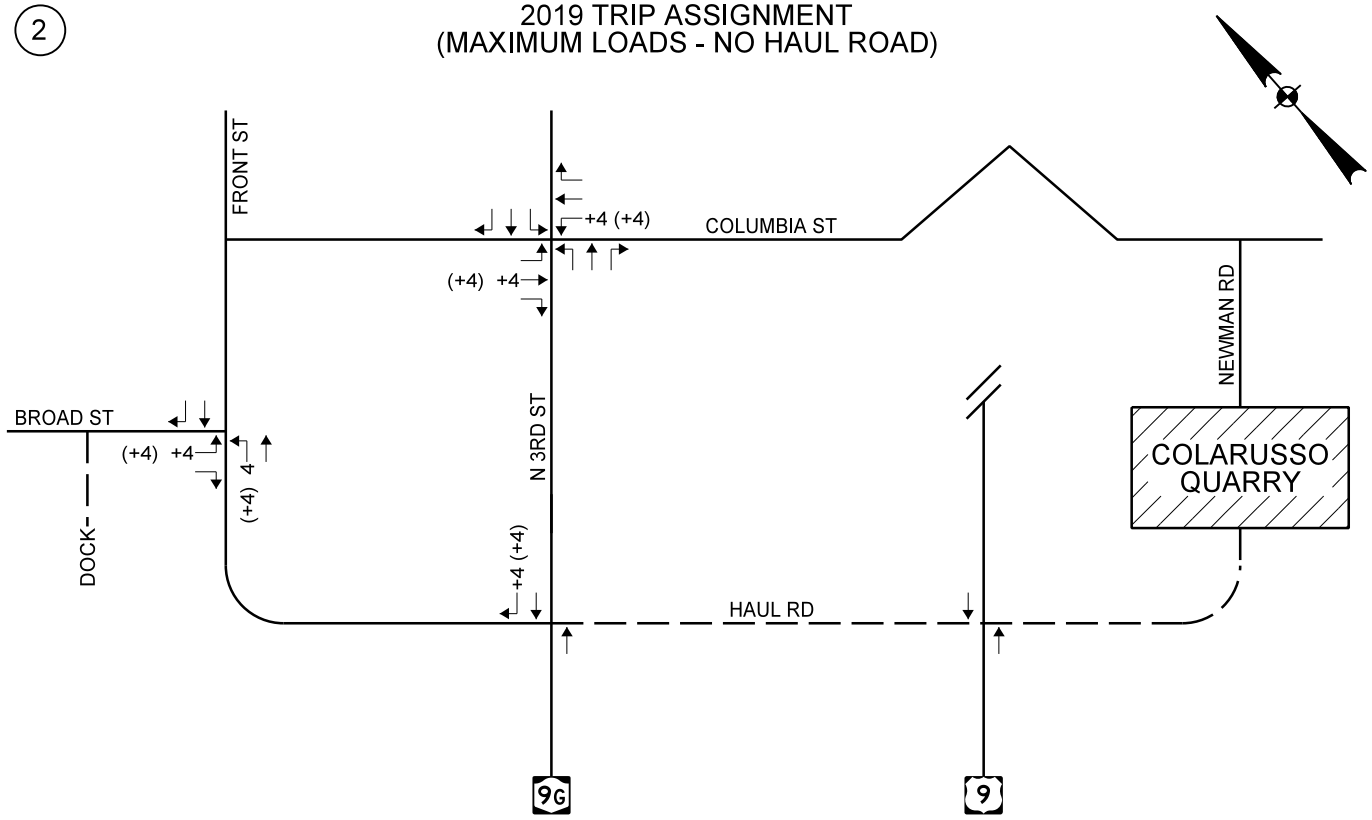
EXISTING VOLUMES (2019)



AM PEAK HOUR (PM PEAK HOUR)

2

2019 TRIP ASSIGNMENT (MAXIMUM LOADS - NO HAUL ROAD)



AM PEAK HOUR (PM PEAK HOUR)

TRAFFIC VOLUMES

COLARUSSO GATE TO GATE
CITY OF HUDSON AND TOWN OF GREENPORT
NEW YORK

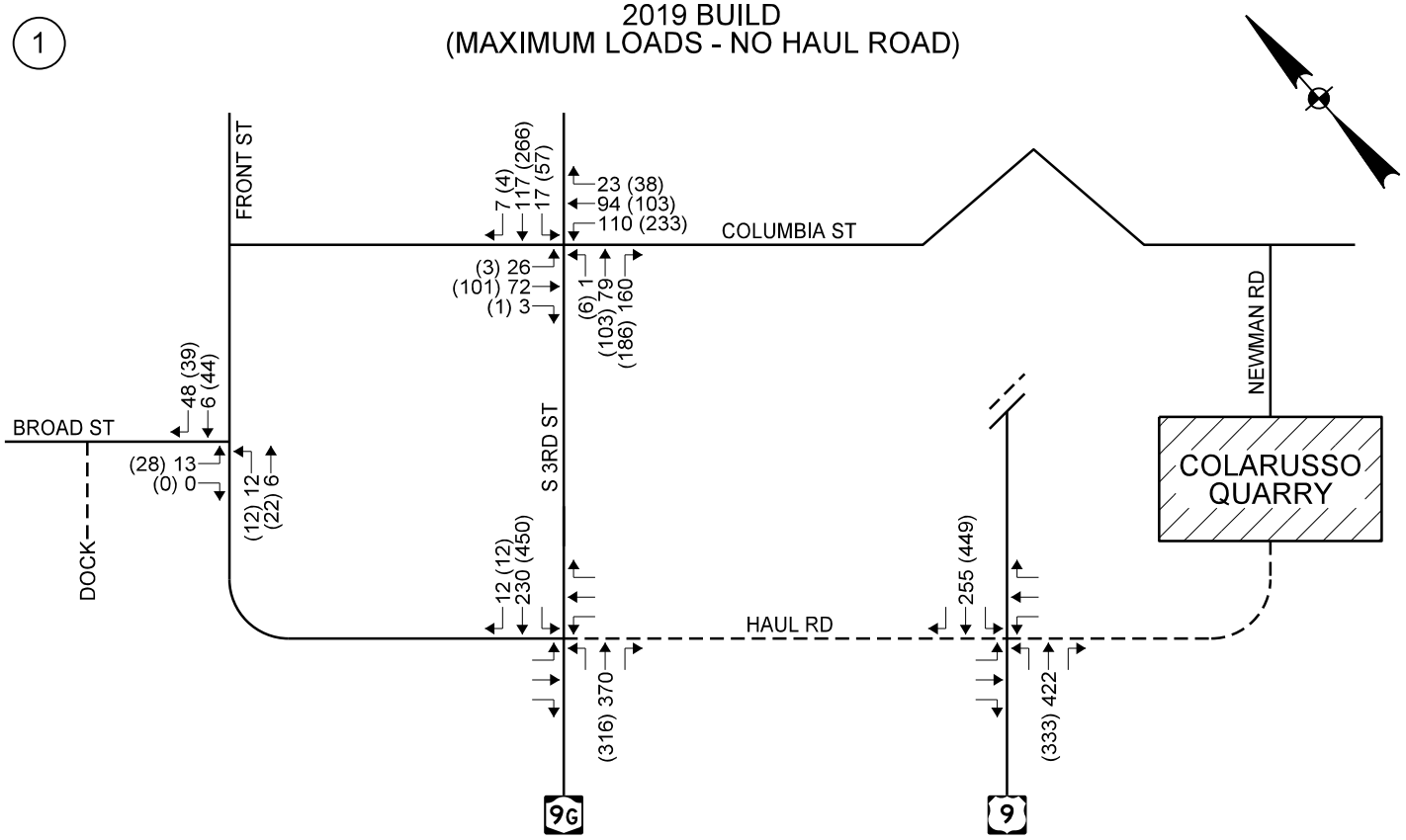
Creighton Manning

PROJECT: 115-337	DATE: 07/2020	FIGURE: 2

N:\Projects\2015\115-337 Quarry to Dock\cadd\dgn\figures\115-337_fig_traf_02.dgn

1

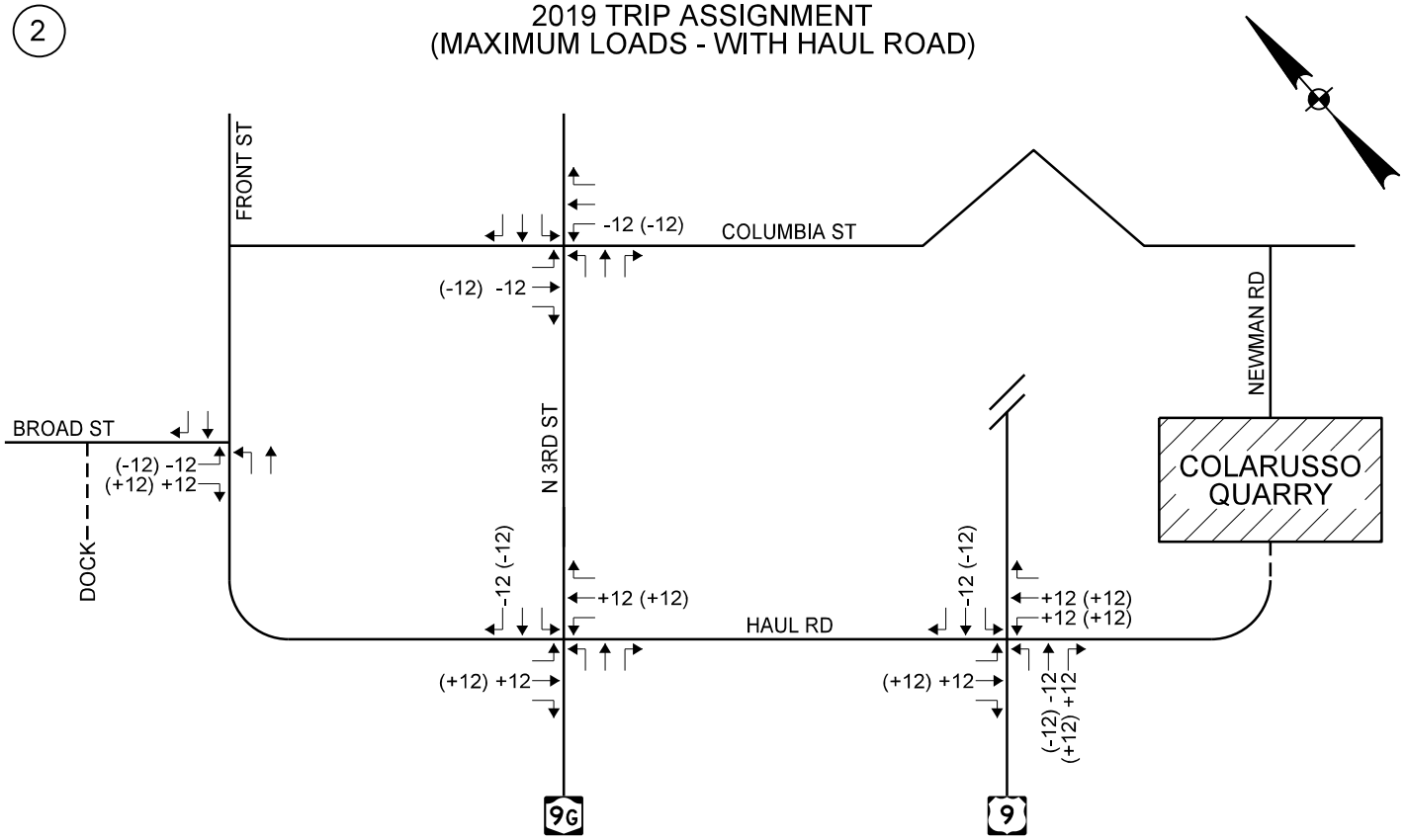
2019 BUILD
(MAXIMUM LOADS - NO HAUL ROAD)



AM PEAK HOUR (PM PEAK HOUR)

2

2019 TRIP ASSIGNMENT
(MAXIMUM LOADS - WITH HAUL ROAD)



AM PEAK HOUR (PM PEAK HOUR)

TRAFFIC VOLUMES

GATE TO GATE
CITY OF HUDSON AND TOWN OF GREENPORT
NEW YORK

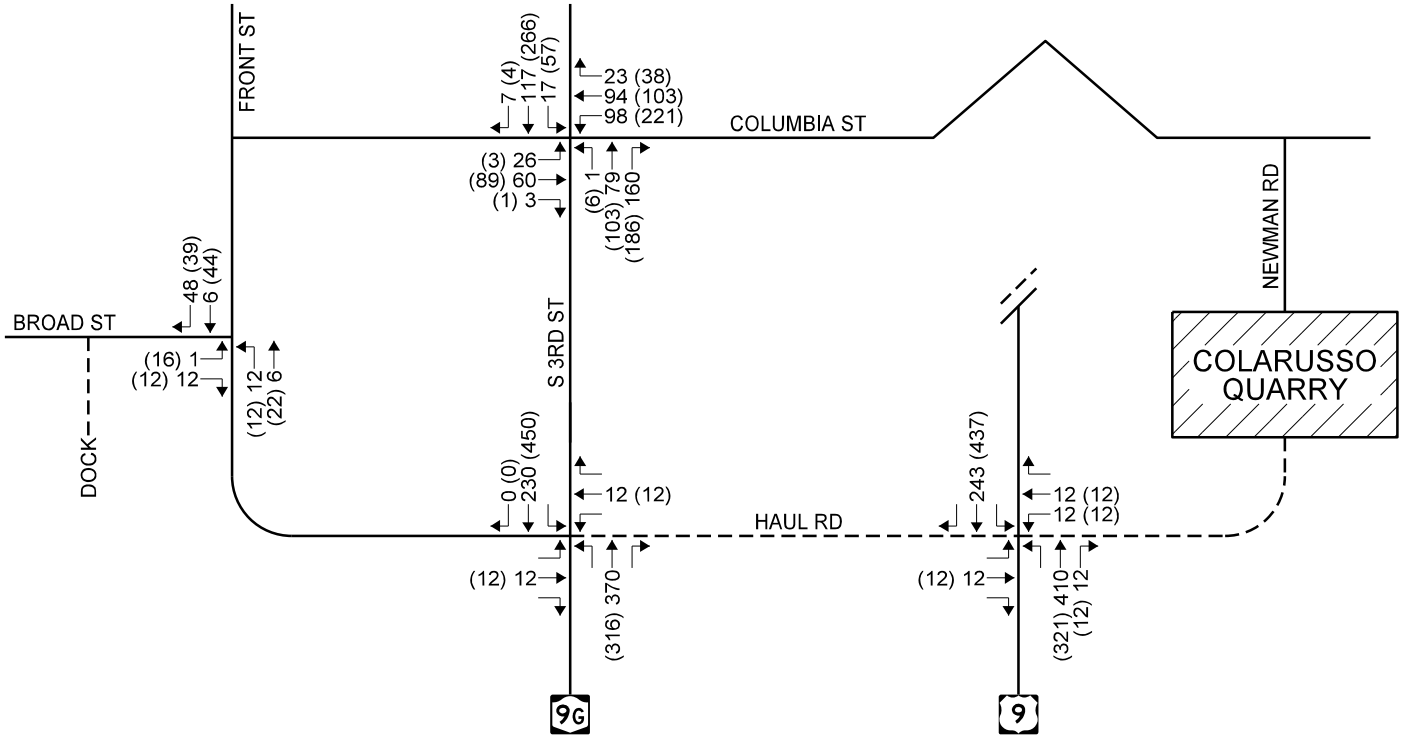
Creighton Manning

PROJECT:	115-337	DATE:	07/2020	FIGURE:	3

N:\Projects\2015\115-337 Quarry to Dock\cadd\dgn\Figures\115-337_fig_traf_03.dgn

1

2019 BUILD
(MAXIMUM LOADS - WITH HAUL ROAD)



AM PEAK HOUR (PM PEAK HOUR)

TRAFFIC VOLUMES

GATE TO GATE
CITY OF HUDSON AND TOWN OF GREENPORT
NEW YORK

Creighton Manning

PROJECT:	115-337	DATE:	07/2020	FIGURE:	4

N:\Projects\2015\115-337 Quarry to Dock\cadd\dgn\Figures\115-337_fig_traf_04.dgn

Attachment A
Traffic Counts

Gate to Gate Truck Route
City of Hudson and Town of Greenport, NY

Day Type	1: Weekday (Tu-Th)
Day Part	2: AM 2 (8am-9am)

Sum of Average Daily O-D Traffic (StL Volume)	**Column Labels**			
Row Labels	**Broad Street West Leg**	**Front Street North Leg**	**Front Street South Leg**	**Grand Total**
Broad Street West Leg		9	0	9
Front Street North Leg	48		6	54
Front Street South Leg		6		6
Grand Total	**48**	**15**	**6**	**69**

Day Type	1: Weekday (Tu-Th)
Day Part	3: PM 1 (4pm-5pm)

Sum of Average Daily O-D Traffic (StL Volume)	**Column Labels**			
Row Labels	**Broad Street West Leg**	**Front Street North Leg**	**Front Street South Leg**	**Grand Total**
Broad Street West Leg		24	0	24
Front Street North Leg	39		44	83
Front Street South Leg		22		22
Grand Total	**39**	**46**	**44**	**129**

Day Type	1: Weekday (Tu-Th)
Day Part	1: AM 1 (7am-8am)

Sum of Average Daily O-D Traffic (StL Volume)	**Column Labels**				
Row Labels	**Columbia Street East Leg**	**Columbia Street West Leg**	**N. 3rd Street North Leg**	**N. 3rd Street South Leg**	**Grand Total**
Columbia Street East Leg		94	23	106	223
Columbia Street West Leg	68		26	3	97
N. 3rd Street North Leg	17	7		117	141
N. 3rd Street South Leg	160	1	79		240
Grand Total	**245**	**102**	**128**	**226**	**701**

Day Type	1: Weekday (Tu-Th)
Day Part	3: PM 1 (4pm-5pm)

Sum of Average Daily O-D Traffic (StL Volume)	**Column Labels**				
Row Labels	**Columbia Street East Leg**	**Columbia Street West Leg**	**N. 3rd Street North Leg**	**N. 3rd Street South Leg**	**Grand Total**
Columbia Street East Leg		103	38	229	370
Columbia Street West Leg	97		3	1	101
N. 3rd Street North Leg	57	4		266	327
N. 3rd Street South Leg	186	6	103		295
Grand Total	**340**	**113**	**144**	**496**	**1093**

STATION: 810158

New York State Department of Transportation
Roadway Traffic Count Hourly Report

ROUTE/ROAD:	NY9G	FROM:	END 9G/23 OLAP	TO:	COLUMBIA ST	REGION-COUNTY:	8-COLUMBIA
FED DIR CODE:	1, 5	REF. MARKER:	9G81011015	FUNC. CLASS:	16 - U Minor Arterial	MUNI:	Greenport-Town-0346
ST DIR CODE:	6	END MILEPOST:	14.24	FACTOR GROUP:	30	BIN:	2006470
DOT ID:	100506	LANES BY DIR:	1 North 1 South	CC STN:		RR CROSSING:	
BEGIN DATE:	7/8/2014	WEEK OF YEAR:	27	ADDL DATA:	CLS SPD	HPMS SAMPLE:	
NOTES 1:	NB travel lane	PLACEMENT:	at Ref Marker 9G 8101 1015	JURISDICTION:	01-NYSDOT	1 WAY CODE:	
NOTES 2:	SB travel lane					COUNT TYPE:	Vehicle
TAKEN BY:	TST-BEK	PROCESSED BY:	DOT-CEL	BATCH ID:	DOT-R8WW28A C	SPEED LIMIT:	55

DATE	00-01	01-02	02-03	03-04	04-05	05-06	06-07	07-08	08-09	09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	DAILY TOTAL	HIGH COUNT	HIGH HOUR
7/08, Tue											**427**	**508**	**546**	**569**	**578**	**652**	**716**	**691**	**392**	**339**	**297**	**246**	**157**	**131**	6249		
7/09, Wed	**36**	**22**	**28**	**33**	**59**	**159**	**327**	**573**	**668**	**519**	**516**	**575**	**538**	**603**	**578**	**654**	**772**	**672**	**511**	**390**	**334**	**279**	**218**	**124**	9188	772	16-17
7/10, Thu	**52**	**35**	**19**	**35**	**49**	**107**	**304**	**545**	**549**	**512**	**492**	**521**	**568**	**584**	**654**	**687**	**721**	**676**	**543**	**390**	**325**	**281**	**211**	**152**	9012	721	16-17
7/11, Fri	**80**	**45**	**19**	**41**	**49**	**103**	**267**	**475**	**567**	**538**	**534**	**570**	**622**	**627**	**714**	**757**	**831**	**746**	**588**	**468**	**445**	**290**	**275**	**224**	9875	831	16-17
7/12, Sat	**128**	**61**	**43**	**42**	**31**	**48**	**156**	**225**	**333**	**387**	**505**	**557**	**600**	**629**	**582**	**579**	**527**	**558**	**467**	**420**	**362**	**255**	**318**	**206**	8019	629	13-14
7/13, Sun	**118**	**76**	**42**	**37**	**27**	**38**	**83**	**111**	**247**	**274**	**375**	**487**	**522**	**541**	**511**	**539**	**422**	**468**	**414**	**349**	**282**	**236**	**179**	**121**	6499	541	13-14
7/14, Mon	**52**	**18**	**26**	**25**	**49**	**141**	**317**	**497**	**528**	**482**	**470**	**493**	**516**	**590**	**574**	**622**	**699**	**655**	**401**	**272**	**285**	**192**	**154**	**95**	8153	699	16-17
7/15, Tue	**47**	**30**	**19**	**27**	**61**	**117**	**295**	**503**	**529**	**467**	**459**														2554		
AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6 AM to Fri Noon)																									**AWDT**		
	54	**33**	**21**	**34**	**55**	**122**	**302**	**519**	**568**	**504**	**483**	**533**	**542**	**587**	**596**	**654**	**727**	**674**	**462**	**348**	**310**	**250**	**185**	**126**	8685		

DAYS Counted	HOURS Counted	WEEKDAYS Counted	WEEKDAY Hours	AVERAGE WEEKDAY Roadway High Hour	Roadway % of day	North High Hour	North % of day	South High Hour	South % of day	ESTIMATED AADT Roadway	North	South
7	169	4	103	727	8.4	351	8.1	427	9.8	7990	3918	3846

FACTOR

Month	Seasonal	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Axl
7	1.09	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

STATION: 810158

New York State Department of Transportation
NB Traffic Count Hourly Report

ROUTE/ROAD:	NY9G	FROM:	END 9G/23 OLAP	TO:	COLUMBIA ST	REGION-COUNTY:	8-COLUMBIA
FED DIR CODE:	1	REF. MARKER:	9G81011015	FUNC. CLASS:	16 - U Minor Arterial	MUNI:	Greenport-Town-0346
ST DIR CODE:	6	END MILEPOST:	14.24	FACTOR GROUP:	30	BIN:	2006470
DOT ID:	100506	LANES BY DIR:	1 North	CC STN:		RR CROSSING:	
BEGIN DATE:	7/8/2014	WEEK OF YEAR:	27	ADDL DATA:	CLS SPD	HPMS SAMPLE:	
NOTES 1:	NB travel lane	PLACEMENT:	at Ref Marker 9G 8101 1015	JURISDICTION:	01-NYSDOT	1 WAY CODE:	
NOTES 2:	SB travel lane					COUNT TYPE:	Vehicle
TAKEN BY:	TST-BEK	PROCESSED BY:	DOT-CEL	BATCH ID:	DOT-R8WW28A C	SPEED LIMIT:	55

DATE	00-01	01-02	02-03	03-04	04-05	05-06	06-07	07-08	08-09	09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	DAILY TOTAL	HIGH COUNT	HIGH HOUR
7/08, Tue											**215**	**258**	**274**	**275**	**253**	**293**	**316**	**284**	**182**	**182**	**114**	**89**	**69**	**66**	2870		
7/09, Wed	**18**	**12**	**16**	**18**	**31**	**92**	**208**	**391**	**448**	**295**	**292**	**295**	**267**	**283**	**252**	**312**	**312**	**313**	**246**	**145**	**176**	**141**	**115**	**65**	4743	448	08-09
7/10, Thu	**22**	**16**	**9**	**16**	**24**	**46**	**191**	**349**	**335**	**277**	**276**	**283**	**298**	**270**	**294**	**312**	**289**	**294**	**233**	**187**	**147**	**119**	**92**	**70**	4449	349	07-08
7/11, Fri	**39**	**21**	**8**	**18**	**23**	**45**	**172**	**302**	**341**	**312**	**266**	**316**	**319**	**316**	**341**	**356**	**366**	**328**	**275**	**226**	**217**	**134**	**135**	**95**	4971	366	16-17
7/12, Sat	**62**	**31**	**19**	**16**	**15**	**23**	**97**	**125**	**203**	**223**	**275**	**312**	**326**	**286**	**289**	**260**	**276**	**240**	**226**	**192**	**158**	**111**	**155**	**100**	4020	326	12-13
7/13, Sun	**77**	**40**	**20**	**14**	**14**	**19**	**52**	**62**	**163**	**154**	**200**	**273**	**258**	**270**	**261**	**259**	**190**	**228**	**247**	**187**	**156**	**119**	**94**	**75**	3432	273	11-12
7/14, Mon	**35**	**10**	**15**	**14**	**29**	**88**	**202**	**319**	**322**	**279**	**241**	**257**	**276**	**296**	**269**	**261**	**284**	**269**	**192**	**110**	**125**	**76**	**72**	**45**	4086	322	08-09
7/15, Tue	**21**	**13**	**11**	**13**	**32**	**58**	**184**	**323**	**307**	**282**	**247**														1491		
AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6 AM to Fri Noon)																									**AWDT**		
	25	**16**	**11**	**16**	**28**	**60**	**191**	**337**	**351**	**289**	**256**	**282**	**279**	**281**	**267**	**295**	**300**	**290**	**213**	**156**	**141**	**106**	**87**	**62**	4337		

DAYS Counted	HOURS Counted	WEEKDAYS Counted	WEEKDAY Hours	AVERAGE WEEKDAY Roadway High Hour	Roadway % of day	North High Hour	North % of day	South High Hour	South % of day	ESTIMATED AADT Roadway	North	South
7	169	4	103	727	8.4	351	8.1	427	9.8	7990	3918	3846

FACTOR

Month	Seasonal	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Axl
7	1.09	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

STATION: 810158

New York State Department of Transportation
SB Traffic Count Hourly Report

ROUTE/ROAD:	NY9G	FROM:	END 9G/23 OLAP	TO:	COLUMBIA ST	REGION-COUNTY:	8-COLUMBIA
FED DIR CODE:	5	REF. MARKER:	9G81011015	FUNC. CLASS:	16 - U Minor Arterial	MUNI:	Greenport-Town-0346
ST DIR CODE:	6	END MILEPOST:	14.24	FACTOR GROUP:	30	BIN:	2006470
DOT ID:	100506	LANES BY DIR:	1 South	CC STN:		RR CROSSING:	
BEGIN DATE:	7/8/2014	WEEK OF YEAR:	27	ADDL DATA:	CLS SPD	HPMS SAMPLE:	
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DATE	00-01	01-02	02-03	03-04	04-05	05-06	06-07	07-08	08-09	09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	DAILY TOTAL	HIGH COUNT	HIGH HOUR
7/08, Tue											**212**	**250**	**272**	**294**	**325**	**359**	**400**	**407**	**210**	**157**	**183**	**157**	**88**	**65**	3379		
7/09, Wed	**18**	**10**	**12**	**15**	**28**	**67**	**119**	**182**	**220**	**224**	**224**	**280**	**271**	**320**	**326**	**342**	**460**	**359**	**265**	**245**	**158**	**138**	**103**	**59**	4445	460	16-17
7/10, Thu	**30**	**19**	**10**	**19**	**25**	**61**	**113**	**196**	**214**	**235**	**216**	**238**	**270**	**314**	**360**	**375**	**432**	**382**	**310**	**203**	**178**	**162**	**119**	**82**	4563	432	16-17
7/11, Fri	**41**	**24**	**11**	**23**	**26**	**58**	**95**	**173**	**226**	**226**	**268**	**254**	**303**	**311**	**373**	**401**	**465**	**418**	**313**	**242**	**228**	**156**	**140**	**129**	4904	465	16-17
7/12, Sat	**66**	**30**	**24**	**26**	**16**	**25**	**59**	**100**	**130**	**164**	**230**	**245**	**274**	**343**	**293**	**319**	**251**	**318**	**241**	**228**	**204**	**144**	**163**	**106**	3999	343	13-14
7/13, Sun	**41**	**36**	**22**	**23**	**13**	**19**	**31**	**49**	**84**	**120**	**175**	**214**	**264**	**271**	**250**	**280**	**232**	**240**	**167**	**162**	**126**	**117**	**85**	**46**	3067	280	15-16
7/14, Mon	**17**	**8**	**11**	**11**	**20**	**53**	**115**	**178**	**206**	**203**	**229**	**236**	**240**	**294**	**305**	**361**	**415**	**386**	**209**	**162**	**160**	**116**	**82**	**50**	4067	415	16-17
7/15, Tue	**26**	**17**	**8**	**14**	**29**	**59**	**111**	**180**	**222**	**185**	**212**														1063		
AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6 AM to Fri Noon)																									**AWDT**		
	29	**18**	**10**	**18**	**27**	**61**	**111**	**182**	**218**	**215**	**227**	**252**	**263**	**306**	**329**	**359**	**427**	**384**	**249**	**192**	**170**	**143**	**98**	**64**	4348		

DAYS Counted	HOURS Counted	WEEKDAYS Counted	WEEKDAY Hours	AVERAGE WEEKDAY Roadway High Hour	Roadway % of day	North High Hour	North % of day	South High Hour	South % of day	ESTIMATED AADT Roadway	ESTIMATED AADT North	ESTIMATED AADT South
7	169	4	103	727	8.4	351	8.1	427	9.8	7990	3918	3846

FACTOR

Month	Seasonal	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Axl
7	1.09	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

New York State Department of Transportation

Traffic Count Hourly Report

ROUTE #: **US 9** ROAD NAME:
DIRECTION: Northbound FACTOR GROUP: 30
STATE DIR CODE: 6 WK OF YR: 20
DATE OF COUNT: 05/12/2015
NOTES LANE 1: NB travel lane

FROM: **END 9/23 OLAP BUCKLY COR**
REC. SERIAL #: AP48
PLACEMENT: .55 Mi S of Ten Broeck Ln
@ REF MARKER:
ADDL DATA:
COUNT TYPE: AXLE PAIRS

TO: **RT 9G START 9/23B OLAP**
FUNC. CLASS: 16
NHS: no
JURIS: City
CC Stn:
BATCH ID: DOT-R08V20aTST5112

COUNTY: **Columbia**
TOWN: **GREENPORT**
LION#:
BIN:
RR CROSSING:
HPMS SAMPLE:

COUNT TAKEN BY: ORG CODE: TST INITIALS: BEK
PROCESSED BY: ORG CODE: DOT INITIALS: jh

DATE	DAY	12 TO 1 AM	1 TO 2 AM	2 TO 3 AM	3 TO 4 AM	4 TO 5 AM	5 TO 6 AM	6 TO 7 AM	7 TO 8 AM	8 TO 9 AM	9 TO 10 AM	10 TO 11 AM	11 TO 12 AM	12 TO 1 PM	1 TO 2 PM	2 TO 3 PM	3 TO 4 PM	4 TO 5 PM	5 TO 6 PM	6 TO 7 PM	7 TO 8 PM	8 TO 9 PM	9 TO 10 PM	10 TO 11 PM	11 TO 12 PM	DAILY TOTAL	DAILY HIGH COUNT	DAILY HIGH HOUR
1	F																											
2	S																											
3	S																											
4	M																											
5	T																											
6	W																											
7	T																											
8	F																											
9	S																											
10	S																											
11	M																											
12	T																			**203**	**128**	**85**	**75**	**63**	**22**			
13	W	**9**	**9**	**4**	**9**	**32**	**90**	**216**	**402**	**460**	**319**	**289**	**323**	**282**	**294**	**312**	**305**	**348**	**249**	**203**	**104**	**100**	**61**	**73**	**32**	4525	460	8
14	T	**13**	**9**	**4**	**16**	**26**	**91**	**229**	**410**	**411**	**312**	**268**	**315**	**301**	**320**	**315**	**355**	**337**	**295**	**267**	**180**	**101**	**83**	**66**	**26**	4750	411	8
15	F	**13**	**9**	**5**	**13**	**27**	**92**	**170**	**405**	**386**	**311**	**294**	**314**	**302**	**307**	**349**	**403**	**388**	**371**	**237**	**179**	**125**	**88**	**105**	**31**	4924	405	7
16	S	**19**	**13**	**3**	**8**	**9**	**27**	**94**	**108**	**171**	**231**	**276**	**299**	**487**	**293**	**264**	**256**	**210**	**174**	**191**	**135**	**105**	**97**	**69**	**35**	3574	487	12
17	S	**33**	**12**	**3**	**2**	**7**	**17**	**80**	**105**	**147**	**199**	**243**	**273**	**283**	**237**	**202**	**196**	**203**	**158**	**180**	**133**	**89**	**55**	**68**	**27**	2952	283	12
18	M	**16**	**6**	**8**	**10**	**28**	**98**	**216**	**432**	**407**	**340**	**279**	**283**	**268**	**293**	**311**	**329**	**292**	**276**	**207**	**124**	**84**	**59**	**51**	**34**	4451	432	7
19	T	**10**	**6**	**12**	**13**	**27**	**94**	**223**	**423**	**400**	**320**	**323**	**295**	**359**	**292**													
20	W																											
21	T																											
22	F																											
23	S																											
24	S																											
25	M																											
26	T																											
27	W																											
28	T																											
29	F																											
30	S																											
31	S																											

AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6AM to Fri Noon)

12 TO 1 AM	1 TO 2 AM	2 TO 3 AM	3 TO 4 AM	4 TO 5 AM	5 TO 6 AM	6 TO 7 AM	7 TO 8 AM	8 TO 9 AM	9 TO 10 AM	10 TO 11 AM	11 TO 12 AM	12 TO 1 PM	1 TO 2 PM	2 TO 3 PM	3 TO 4 PM	4 TO 5 PM	5 TO 6 PM	6 TO 7 PM	7 TO 8 PM	8 TO 9 PM	9 TO 10 PM	10 TO 11 PM	11 TO 12 PM	ADT
11	**8**	**6**	**13**	**28**	**92**	**211**	**414**	**413**	**320**	**291**	**306**	**302**	**300**	**313**	**330**	**326**	**273**	**220**	**134**	**92**	**70**	**63**	**28**	**4564**

DAYS Counted	HOURS Counted	WEEKDAYS Counted	WEEKDAY Hours	AVERAGE WEEKDAY High Hour	AVERAGE WEEKDAY % of day	Axle Adj. Factor	Seasonal/Weekday Adjustment Factor
8	164	5	98	414	9%	1.000	1.077

ESTIMATED

AADT
4238

New York State Department of Transportation

Traffic Count Hourly Report

ROUTE #: **US 9** ROAD NAME:
DIRECTION: Southbound FACTOR GROUP: 30
STATE DIR CODE: 7 WK OF YR: 20
DATE OF COUNT: 05/12/2015
NOTES LANE 1: SB travel lane

COUNT TAKEN BY: ORG CODE: TST INITIALS: BEK

FROM: **END 9/23 OLAP BUCKLY COR**
REC. SERIAL #: AP48
PLACEMENT: .55 Mi S of Ten Broeck Ln
@ REF MARKER:
ADDL DATA:
COUNT TYPE: AXLE PAIRS

PROCESSED BY: ORG CODE: DOT INITIALS: jh

TO: **RT 9G START 9/23B OLAP**
FUNC. CLASS: 16
NHS: no
JURIS: City
CC Stn:
BATCH ID: DOT-R08V20aTST5112

COUNTY: **Columbia**
TOWN: **GREENPORT**
LION#:
BIN:
RR CROSSING:
HPMS SAMPLE:

DATE	DAY	12 TO 1 AM	1 TO 2 AM	2 TO 3 AM	3 TO 4 AM	4 TO 5 AM	5 TO 6 AM	6 TO 7 AM	7 TO 8 AM	8 TO 9 AM	9 TO 10 AM	10 TO 11 AM	11 TO 12 AM	12 TO 1 PM	1 TO 2 PM	2 TO 3 PM	3 TO 4 PM	4 TO 5 PM	5 TO 6 PM	6 TO 7 PM	7 TO 8 PM	8 TO 9 PM	9 TO 10 PM	10 TO 11 PM	11 TO 12 PM	DAILY TOTAL	DAILY HIGH COUNT	DAILY HIGH HOUR
1	F																											
2	S																											
3	S																											
4	M																											
5	T																											
6	W																											
7	T																											
8	F																											
9	S																											
10	S																											
11	M																											
12	T																			**250**	**182**	**137**	**103**	**58**	**46**			
13	W	**31**	**16**	**10**	**7**	**16**	**65**	**126**	**237**	**235**	**237**	**217**	**244**	**257**	**317**	**358**	**355**	**434**	**425**	**235**	**212**	**133**	**91**	**52**	**60**	4370	434	16
14	T	**22**	**10**	**11**	**14**	**17**	**65**	**139**	**241**	**229**	**213**	**226**	**259**	**293**	**332**	**329**	**407**	**444**	**384**	**298**	**225**	**173**	**107**	**72**	**55**	4565	444	16
15	F	**26**	**11**	**13**	**15**	**17**	**56**	**123**	**209**	**220**	**239**	**240**	**255**	**285**	**376**	**357**	**391**	**424**	**382**	**265**	**231**	**212**	**134**	**111**	**99**	4691	424	16
16	S	**32**	**12**	**13**	**10**	**10**	**18**	**56**	**92**	**189**	**248**	**200**	**227**	**257**	**290**	**302**	**273**	**252**	**210**	**188**	**151**	**125**	**122**	**74**	**89**	3440	302	14
17	S	**34**	**12**	**3**	**5**	**8**	**25**	**40**	**96**	**92**	**130**	**173**	**212**	**233**	**276**	**241**	**282**	**263**	**236**	**207**	**198**	**111**	**82**	**43**	**43**	3045	282	15
18	M	**15**	**15**	**4**	**15**	**20**	**71**	**129**	**225**	**248**	**239**	**254**	**269**	**266**	**318**	**335**	**374**	**438**	**386**	**211**	**177**	**133**	**79**	**65**	**54**	4340	438	16
19	T	**24**	**12**	**12**	**5**	**20**	**76**	**131**	**256**	**311**	**228**	**259**	**281**	**308**	**307**													
20	W																											
21	T																											
22	F																											
23	S																											
24	S																											
25	M																											
26	T																											
27	W																											
28	T																											
29	F																											
30	S																											
31	S																											

AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6AM to Fri Noon)

12 TO 1 AM	1 TO 2 AM	2 TO 3 AM	3 TO 4 AM	4 TO 5 AM	5 TO 6 AM	6 TO 7 AM	7 TO 8 AM	8 TO 9 AM	9 TO 10 AM	10 TO 11 AM	11 TO 12 AM	12 TO 1 PM	1 TO 2 PM	2 TO 3 PM	3 TO 4 PM	4 TO 5 PM	5 TO 6 PM	6 TO 7 PM	7 TO 8 PM	8 TO 9 PM	9 TO 10 PM	10 TO 11 PM	11 TO 12 PM	ADT
26	**12**	**12**	**10**	**18**	**66**	**130**	**234**	**249**	**231**	**239**	**262**	**281**	**318**	**341**	**379**	**439**	**398**	**248**	**199**	**144**	**95**	**62**	**54**	**4447**

DAYS Counted	HOURS Counted	WEEKDAYS Counted	WEEKDAY Hours	AVERAGE WEEKDAY High Hour	AVERAGE WEEKDAY % of day	Axle Adj. Factor	Seasonal/Weekday Adjustment Factor
8	164	5	98	439	10%	1.000	1.077

ESTIMATED

AADT
4129

MetroCount Traffic Executive
Speed Statistics

SpeedStat-37 -- English (ENU)

Datasets:

Site:	**[115-337] ATR 2 - NY Route 9G, 900 ft South of Power Ave, Hudson, NY**
Attribute:	Quarry to Dock
Direction:	7 - North bound A>B, South bound B>A. **Lane:** 1
Survey Duration:	11:02 Wednesday, June 10, 2020 => 16:23 Wednesday, June 17, 2020,
Zone:	
File:	115-337 0 2020-06-17 1623.EC1 (Plus)
Identifier:	R519M98M MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm:	Factory default axle (v5.02)
Data type:	Axle sensors - Paired (Class/Speed/Count)

Profile:

Filter time:	**16:00 Wednesday, June 10, 2020 => 8:00 Thursday, June 11, 2020 (0.666667)**
Included classes:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
Speed range:	6 - 99 mph.
Direction:	North, East, South, West (bound), P = North, Lane = 0-16
Separation:	Headway > 0 sec, Span 0 - 328.084 ft
Name:	Default Profile
Scheme:	Vehicle classification (Scheme F3)
Units:	Non metric (ft, mi, ft/s, mph, lb, ton)
In profile:	Vehicles = 2846 / 3476 (81.88%)

Speed Statistics

SpeedStat-37
Site: 115-337.1.2NS
Description: **ATR 2 - NY Route 9G, 900 ft South of Power Ave, Hudson, NY**
Filter time: **16:00 Wednesday, June 10, 2020 => 8:00 Thursday, June 11, 2020**
Scheme: Vehicle classification (Scheme F3)
Filter: Cls(1-13) Dir(NESW) Sp(6,99) Headway(>0) Span(0 - 328.084) Lane(0-16)

Vehicles = 2846
Posted speed limit = 30 mph, Exceeding = 2514 (88.33%), Mean Exceeding = 37.52 mph
Maximum = 74.6 mph, **Minimum** = 12.3 mph, **Mean** = 36.4 mph
85% Speed = 42.28 mph, **95% Speed** = 46.75 mph, **Median** = 35.68 mph
12 mph Pace = 29 - 41, **Number in Pace** = 2067 (72.63%)
Variance = 34.54, **Standard Deviation** = 5.88 mph

Speed Bins (Partial days)

Speed	Bin	Below	Above	Energy	vMult	n * vMult
0 - **6**	0 0.000%	0 0.000%	2846 100.0%	0.00	0.00	0.00
6 - **12**	1 0.035%	1 0.035%	2845 99.96%	0.00	0.00	0.00
12 - **19**	2 0.070%	3 0.105%	2843 99.89%	0.00	0.00	0.00
19 - **25**	24 0.843%	27 0.949%	2819 99.05%	0.00	0.00	0.00
25 - **31**	465 16.34%	492 17.29%	2354 82.71%	0.00	0.00	0.00
31 - **37**	1215 42.69%	1707 59.98%	1139 40.02%	0.00	0.00	0.00
37 - **43**	821 28.85%	2528 88.83%	318 11.17%	0.00	0.00	0.00
43 - **50**	250 8.784%	2778 97.61%	68 2.389%	0.00	0.00	0.00
50 - **56**	57 2.003%	2835 99.61%	11 0.387%	0.00	0.00	0.00
56 - **62**	7 0.246%	2842 99.86%	4 0.141%	0.00	0.00	0.00
62 - **68**	2 0.070%	2844 99.93%	2 0.070%	0.00	0.00	0.00
68 - **75**	1 0.035%	2845 99.96%	1 0.035%	0.00	0.00	0.00
75 - **81**	1 0.035%	2846 100.0%	0 0.000%	0.00	0.00	0.00
81 - **87**	0 0.000%	2846 100.0%	0 0.000%	0.00	0.00	0.00
87 - **93**	0 0.000%	2846 100.0%	0 0.000%	0.00	0.00	0.00
93 - **99**	0 0.000%	2846 100.0%	0 0.000%	0.00	0.00	0.00
99 - **106**	0 0.000%	2846 100.0%	0 0.000%	0.00	0.00	0.00
106 - **112**	0 0.000%	2846 100.0%	0 0.000%	0.00	0.00	0.00
112 - **118**	0 0.000%	2846 100.0%	0 0.000%	0.00	0.00	0.00
118 - **124**	0 0.000%	2846 100.0%	0 0.000%	0.00	0.00	0.00

Total Speed Rating = 0.00
Total Moving Energy (Estimated) = 0.00

Speed limit fields (Partial days)

	Limit	Below	Above
0	30 (PSL)	332 11.7%	2514 88.3%

MetroCount Traffic Executive
Speed Statistics

SpeedStat-38 -- English (ENU)

Datasets:

Site:	**[115-337] ATR 2 - NY Route 9G, 900 ft South of Power Ave, Hudson, NY**
Attribute:	Quarry to Dock
Direction:	7 - North bound A>B, South bound B>A. **Lane:** 1
Survey Duration:	11:02 Wednesday, June 10, 2020 => 16:23 Wednesday, June 17, 2020,
Zone:	
File:	115-337 0 2020-06-17 1623.EC1 (Plus)
Identifier:	R519M98M MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm:	Factory default axle (v5.02)
Data type:	Axle sensors - Paired (Class/Speed/Count)

Profile:

Filter time:	**16:00 Wednesday, June 10, 2020 => 8:00 Thursday, June 11, 2020 (0.666667)**
Included classes:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
Speed range:	6 - 99 mph.
Direction:	AB , Lane = 0-16
Separation:	Headway > 0 sec, Span 0 - 328.084 ft
Name:	Default Profile
Scheme:	Vehicle classification (Scheme F3)
Units:	Non metric (ft, mi, ft/s, mph, lb, ton)
In profile:	Vehicles = 1411 / 3476 (40.59%)

Speed Statistics

SpeedStat-38
Site: 115-337.1.2NS
Description: **ATR 2 - NY Route 9G, 900 ft South of Power Ave, Hudson, NY**
Filter time: **16:00 Wednesday, June 10, 2020 => 8:00 Thursday, June 11, 2020**
Scheme: Vehicle classification (Scheme F3)
Filter: Cls(1-13) Dir(NB) Sp(6,99) Headway(>0) Span(0 - 328.084) Lane(0-16)

Vehicles = 1411
Posted speed limit = 30 mph, Exceeding = 1260 (89.30%), Mean Exceeding = 36.77 mph
Maximum = 57.9 mph, **Minimum** = 12.3 mph, **Mean** = 35.8 mph
85% Speed = 41.28 mph, **95% Speed** = 44.93 mph, **Median** = 35.23 mph
12 mph Pace = 29 - 41, **Number in Pace** = 1101 (78.03%)
Variance = 26.41, **Standard Deviation** = 5.14 mph

Speed Bins (Partial days)

Speed	Bin	Below	Above	Energy	vMult	n * vMult
0 - **6**	0 0.000%	0 0.000%	1411 100.0%	0.00	0.00	0.00
6 - **12**	1 0.071%	1 0.071%	1410 99.93%	0.00	0.00	0.00
12 - **19**	1 0.071%	2 0.142%	1409 99.86%	0.00	0.00	0.00
19 - **25**	10 0.709%	12 0.850%	1399 99.15%	0.00	0.00	0.00
25 - **31**	225 15.95%	237 16.80%	1174 83.20%	0.00	0.00	0.00
31 - **37**	666 47.20%	903 64.00%	508 36.00%	0.00	0.00	0.00
37 - **43**	402 28.49%	1305 92.49%	106 7.512%	0.00	0.00	0.00
43 - **50**	93 6.591%	1398 99.08%	13 0.921%	0.00	0.00	0.00
50 - **56**	11 0.780%	1409 99.86%	2 0.142%	0.00	0.00	0.00
56 - **62**	2 0.142%	1411 100.0%	0 0.000%	0.00	0.00	0.00
62 - **68**	0 0.000%	1411 100.0%	0 0.000%	0.00	0.00	0.00
68 - **75**	0 0.000%	1411 100.0%	0 0.000%	0.00	0.00	0.00
75 - **81**	0 0.000%	1411 100.0%	0 0.000%	0.00	0.00	0.00
81 - **87**	0 0.000%	1411 100.0%	0 0.000%	0.00	0.00	0.00
87 - **93**	0 0.000%	1411 100.0%	0 0.000%	0.00	0.00	0.00
93 - **99**	0 0.000%	1411 100.0%	0 0.000%	0.00	0.00	0.00
99 - **106**	0 0.000%	1411 100.0%	0 0.000%	0.00	0.00	0.00
106 - **112**	0 0.000%	1411 100.0%	0 0.000%	0.00	0.00	0.00
112 - **118**	0 0.000%	1411 100.0%	0 0.000%	0.00	0.00	0.00
118 - **124**	0 0.000%	1411 100.0%	0 0.000%	0.00	0.00	0.00

Total Speed Rating = 0.00
Total Moving Energy (Estimated) = 0.00

Speed limit fields (Partial days)

	Limit	Below	Above
0	30 (PSL)	151 10.7%	1260 89.3%

MetroCount Traffic Executive
Speed Statistics

SpeedStat-39 -- English (ENU)

Datasets:

Site:	**[115-337] ATR 2 - NY Route 9G, 900 ft South of Power Ave, Hudson, NY**
Attribute:	Quarry to Dock
Direction:	7 - North bound A>B, South bound B>A. **Lane:** 1
Survey Duration:	11:02 Wednesday, June 10, 2020 => 16:23 Wednesday, June 17, 2020,
Zone:	
File:	115-337 0 2020-06-17 1623.EC1 (Plus)
Identifier:	R519M98M MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm:	Factory default axle (v5.02)
Data type:	Axle sensors - Paired (Class/Speed/Count)

Profile:

Filter time:	**16:00 Wednesday, June 10, 2020 => 8:00 Thursday, June 11, 2020 (0.666667)**
Included classes:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
Speed range:	6 - 99 mph.
Direction:	BA , Lane = 0-16
Separation:	Headway > 0 sec, Span 0 - 328.084 ft
Name:	Default Profile
Scheme:	Vehicle classification (Scheme F3)
Units:	Non metric (ft, mi, ft/s, mph, lb, ton)
In profile:	Vehicles = 1435 / 3476 (41.28%)

Speed Statistics

SpeedStat-39
Site: 115-337.1.2NS
Description: **ATR 2 - NY Route 9G, 900 ft South of Power Ave, Hudson, NY**
Filter time: **16:00 Wednesday, June 10, 2020 => 8:00 Thursday, June 11, 2020**
Scheme: Vehicle classification (Scheme F3)
Filter: Cls(1-13) Dir(SB) Sp(6,99) Headway(>0) Span(0 - 328.084) Lane(0-16)

Vehicles = 1435
Posted speed limit = 30 mph, Exceeding = 1254 (87.39%), Mean Exceeding = 38.29 mph
Maximum = 74.6 mph, **Minimum** = 17.7 mph, **Mean** = 37.0 mph
85% Speed = 43.43 mph, **95% Speed** = 48.50 mph, **Median** = 36.18 mph
12 mph Pace = 29 - 41, **Number in Pace** = 977 (68.08%)
Variance = 41.90, **Standard Deviation** = 6.47 mph

Speed Bins (Partial days)

Speed	Bin	Below	Above	Energy	vMult	n * vMult
0 - **6**	0 0.000%	0 0.000%	1435 100.0%	0.00	0.00	0.00
6 - **12**	0 0.000%	0 0.000%	1435 100.0%	0.00	0.00	0.00
12 - **19**	1 0.070%	1 0.070%	1434 99.93%	0.00	0.00	0.00
19 - **25**	14 0.976%	15 1.045%	1420 98.95%	0.00	0.00	0.00
25 - **31**	240 16.72%	255 17.77%	1180 82.23%	0.00	0.00	0.00
31 - **37**	549 38.26%	804 56.03%	631 43.97%	0.00	0.00	0.00
37 - **43**	419 29.20%	1223 85.23%	212 14.77%	0.00	0.00	0.00
43 - **50**	157 10.94%	1380 96.17%	55 3.833%	0.00	0.00	0.00
50 - **56**	46 3.206%	1426 99.37%	9 0.627%	0.00	0.00	0.00
56 - **62**	5 0.348%	1431 99.72%	4 0.279%	0.00	0.00	0.00
62 - **68**	2 0.139%	1433 99.86%	2 0.139%	0.00	0.00	0.00
68 - **75**	1 0.070%	1434 99.93%	1 0.070%	0.00	0.00	0.00
75 - **81**	1 0.070%	1435 100.0%	0 0.000%	0.00	0.00	0.00
81 - **87**	0 0.000%	1435 100.0%	0 0.000%	0.00	0.00	0.00
87 - **93**	0 0.000%	1435 100.0%	0 0.000%	0.00	0.00	0.00
93 - **99**	0 0.000%	1435 100.0%	0 0.000%	0.00	0.00	0.00
99 - **106**	0 0.000%	1435 100.0%	0 0.000%	0.00	0.00	0.00
106 - **112**	0 0.000%	1435 100.0%	0 0.000%	0.00	0.00	0.00
112 - **118**	0 0.000%	1435 100.0%	0 0.000%	0.00	0.00	0.00
118 - **124**	0 0.000%	1435 100.0%	0 0.000%	0.00	0.00	0.00

Total Speed Rating = 0.00
Total Moving Energy (Estimated) = 0.00

Speed limit fields (Partial days)

	Limit	Below	Above
0	30 (PSL)	181 12.6%	1254 87.4%

MetroCount Traffic Executive
Weekly Vehicle Counts (Virtual Week)

VirtWeeklyVehicle-31 -- English (ENU)

Datasets:

Site:	**[115-337] ATR 2 - NY Route 9G, 900 ft South of Power Ave, Hudson, NY**
Attribute:	Quarry to Dock
Direction:	7 - North bound A>B, South bound B>A. **Lane:** 1
Survey Duration:	11:02 Wednesday, June 10, 2020 => 16:23 Wednesday, June 17, 2020,
Zone:	
File:	115-337 0 2020-06-17 1623.EC1 (Plus)
Identifier:	R519M98M MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm:	Factory default axle (v5.02)
Data type:	Axle sensors - Paired (Class/Speed/Count)

Profile:

Filter time:	**16:00 Wednesday, June 10, 2020 => 8:00 Thursday, June 11, 2020 (0.666667)**
Included classes:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
Speed range:	6 - 99 mph.
Direction:	AB , Lane = 0-16
Separation:	Headway > 0 sec, Span 0 - 328.084 ft
Name:	Default Profile
Scheme:	Vehicle classification (Scheme F3)
Units:	Non metric (ft, mi, ft/s, mph, lb, ton)
In profile:	Vehicles = 1411 / 3476 (40.59%)

Weekly Vehicle Counts (Virtual Week)

VirtWeeklyVehicle-31
Site: 115-337.1.2NS
Description: **ATR 2 - NY Route 9G, 900 ft South of Power Ave, Hudson, NY**
Filter time: **16:00 Wednesday, June 10, 2020 => 8:00 Thursday, June 11, 2020**
Scheme: Vehicle classification (Scheme F3)
Filter: Cls(1-13) Dir(NB) Sp(6,99) Headway(>0) Span(0 - 328.084) Lane(0-16)

	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Averages 1 - 5	Averages 1 - 7
Hour									
0000-0100	*	*	*	12.0	*	*	*	12.0	12.0
0100-0200	*	*	*	14.0	*	*	*	14.0	14.0
0200-0300	*	*	*	8.0	*	*	*	8.0	8.0
0300-0400	*	*	*	9.0	*	*	*	9.0	9.0
0400-0500	*	*	*	18.0	*	*	*	18.0	18.0
0500-0600	*	*	*	43.0	*	*	*	43.0	43.0
0600-0700	*	*	*	123.0	*	*	*	123.0	123.0
0700-0800	*	*	*	244.0	*	*	*	244.0	244.0
0800-0900	*	*	*	*	*	*	*	*	*
0900-1000	*	*	*	*	*	*	*	*	*
1000-1100	*	*	*	*	*	*	*	*	*
1100-1200	*	*	*	*	*	*	*	*	*
1200-1300	*	*	*	*	*	*	*	*	*
1300-1400	*	*	*	*	*	*	*	*	*
1400-1500	*	*	*	*	*	*	*	*	*
1500-1600	*	*	*	*	*	*	*	*	*
1600-1700	*	*	250.0	*	*	*	*	250.0	250.0
1700-1800	*	*	201.0	*	*	*	*	201.0	201.0
1800-1900	*	*	185.0	*	*	*	*	185.0	185.0
1900-2000	*	*	106.0	*	*	*	*	106.0	106.0
2000-2100	*	*	57.0	*	*	*	*	57.0	57.0
2100-2200	*	*	63.0	*	*	*	*	63.0	63.0
2200-2300	*	*	38.0	*	*	*	*	38.0	38.0
2300-2400	*	*	40.0	*	*	*	*	40.0	40.0
Totals									
0700-1900	*	*	*	*	*	*	*	*	*
0600-2200	*	*	*	*	*	*	*	*	*
0600-0000	*	*	*	*	*	*	*	*	*
0000-0000	*	*	*	*	*	*	*	*	*
AM Peak	*	*	*	*	*	*	*		
	*	*	*	*	*	*	*		
PM Peak	*	*	*	*	*	*	*		
	*	*	*	*	*	*	*		

*** - No data.**

MetroCount Traffic Executive
Weekly Vehicle Counts (Virtual Week)

VirtWeeklyVehicle-32 -- English (ENU)

Datasets:

Site:	**[115-337] ATR 2 - NY Route 9G, 900 ft South of Power Ave, Hudson, NY**
Attribute:	Quarry to Dock
Direction:	7 - North bound A>B, South bound B>A. **Lane:** 1
Survey Duration:	11:02 Wednesday, June 10, 2020 => 16:23 Wednesday, June 17, 2020,
Zone:	
File:	115-337 0 2020-06-17 1623.EC1 (Plus)
Identifier:	R519M98M MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm:	Factory default axle (v5.02)
Data type:	Axle sensors - Paired (Class/Speed/Count)

Profile:

Filter time:	**16:00 Wednesday, June 10, 2020 => 8:00 Thursday, June 11, 2020 (0.666667)**
Included classes:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
Speed range:	6 - 99 mph.
Direction:	BA , Lane = 0-16
Separation:	Headway > 0 sec, Span 0 - 328.084 ft
Name:	Default Profile
Scheme:	Vehicle classification (Scheme F3)
Units:	Non metric (ft, mi, ft/s, mph, lb, ton)
In profile:	Vehicles = 1435 / 3476 (41.28%)

Weekly Vehicle Counts (Virtual Week)

VirtWeeklyVehicle-32
Site: 115-337.1.2NS
Description: **ATR 2 - NY Route 9G, 900 ft South of Power Ave, Hudson, NY**
Filter time: **16:00 Wednesday, June 10, 2020 => 8:00 Thursday, June 11, 2020**
Scheme: Vehicle classification (Scheme F3)
Filter: Cls(1-13) Dir(SB) Sp(6,99) Headway(>0) Span(0 - 328.084) Lane(0-16)

	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Averages 1 - 5	Averages 1 - 7
Hour									
0000-0100	*	*	*	19.0	*	*	*	19.0	19.0
0100-0200	*	*	*	10.0	*	*	*	10.0	10.0
0200-0300	*	*	*	6.0	*	*	*	6.0	6.0
0300-0400	*	*	*	10.0	*	*	*	10.0	10.0
0400-0500	*	*	*	20.0	*	*	*	20.0	20.0
0500-0600	*	*	*	47.0	*	*	*	47.0	47.0
0600-0700	*	*	*	95.0	*	*	*	95.0	95.0
0700-0800	*	*	*	130.0	*	*	*	130.0	130.0
0800-0900	*	*	*	*	*	*	*	*	*
0900-1000	*	*	*	*	*	*	*	*	*
1000-1100	*	*	*	*	*	*	*	*	*
1100-1200	*	*	*	*	*	*	*	*	*
1200-1300	*	*	*	*	*	*	*	*	*
1300-1400	*	*	*	*	*	*	*	*	*
1400-1500	*	*	*	*	*	*	*	*	*
1500-1600	*	*	*	*	*	*	*	*	*
1600-1700	*	*	292.0	*	*	*	*	292.0	292.0
1700-1800	*	*	287.0	*	*	*	*	287.0	287.0
1800-1900	*	*	185.0	*	*	*	*	185.0	185.0
1900-2000	*	*	124.0	*	*	*	*	124.0	124.0
2000-2100	*	*	71.0	*	*	*	*	71.0	71.0
2100-2200	*	*	69.0	*	*	*	*	69.0	69.0
2200-2300	*	*	36.0	*	*	*	*	36.0	36.0
2300-2400	*	*	34.0	*	*	*	*	34.0	34.0
Totals									
0700-1900	*	*	*	*	*	*	*	*	*
0600-2200	*	*	*	*	*	*	*	*	*
0600-0000	*	*	*	*	*	*	*	*	*
0000-0000	*	*	*	*	*	*	*	*	*
AM Peak	*	*	*	*	*	*	*		
	*	*	*	*	*	*	*		
PM Peak	*	*	*	*	*	*	*		
	*	*	*	*	*	*	*		

*** - No data.**

MetroCount Traffic Executive
Weekly Vehicle Counts (Virtual Week)

VirtWeeklyVehicle-30 -- English (ENU)

Datasets:

Site:	**[115-337] ATR 2 - NY Route 9G, 900 ft South of Power Ave, Hudson, NY**
Attribute:	Quarry to Dock
Direction:	7 - North bound A>B, South bound B>A. **Lane:** 1
Survey Duration:	11:02 Wednesday, June 10, 2020 => 16:23 Wednesday, June 17, 2020,
Zone:	
File:	115-337 0 2020-06-17 1623.EC1 (Plus)
Identifier:	R519M98M MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm:	Factory default axle (v5.02)
Data type:	Axle sensors - Paired (Class/Speed/Count)

Profile:

Filter time:	**16:00 Wednesday, June 10, 2020 => 8:00 Thursday, June 11, 2020 (0.666667)**
Included classes:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
Speed range:	6 - 99 mph.
Direction:	North, East, South, West (bound), P = North, Lane = 0-16
Separation:	Headway > 0 sec, Span 0 - 328.084 ft
Name:	Default Profile
Scheme:	Vehicle classification (Scheme F3)
Units:	Non metric (ft, mi, ft/s, mph, lb, ton)
In profile:	Vehicles = 2846 / 3476 (81.88%)

Weekly Vehicle Counts (Virtual Week)

VirtWeeklyVehicle-30
Site: 115-337.1.2NS
Description: **ATR 2 - NY Route 9G, 900 ft South of Power Ave, Hudson, NY**
Filter time: **16:00 Wednesday, June 10, 2020 => 8:00 Thursday, June 11, 2020**
Scheme: Vehicle classification (Scheme F3)
Filter: Cls(1-13) Dir(NESW) Sp(6,99) Headway(>0) Span(0 - 328.084) Lane(0-16)

	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Averages 1 - 5	Averages 1 - 7
Hour									
0000-0100	*	*	*	31.0	*	*	*	31.0	31.0
0100-0200	*	*	*	24.0	*	*	*	24.0	24.0
0200-0300	*	*	*	14.0	*	*	*	14.0	14.0
0300-0400	*	*	*	19.0	*	*	*	19.0	19.0
0400-0500	*	*	*	38.0	*	*	*	38.0	38.0
0500-0600	*	*	*	90.0	*	*	*	90.0	90.0
0600-0700	*	*	*	218.0	*	*	*	218.0	218.0
0700-0800	*	*	*	374.0	*	*	*	374.0	374.0
0800-0900	*	*	*	*	*	*	*	*	*
0900-1000	*	*	*	*	*	*	*	*	*
1000-1100	*	*	*	*	*	*	*	*	*
1100-1200	*	*	*	*	*	*	*	*	*
1200-1300	*	*	*	*	*	*	*	*	*
1300-1400	*	*	*	*	*	*	*	*	*
1400-1500	*	*	*	*	*	*	*	*	*
1500-1600	*	*	*	*	*	*	*	*	*
1600-1700	*	*	542.0	*	*	*	*	542.0	542.0
1700-1800	*	*	488.0	*	*	*	*	488.0	488.0
1800-1900	*	*	370.0	*	*	*	*	370.0	370.0
1900-2000	*	*	230.0	*	*	*	*	230.0	230.0
2000-2100	*	*	128.0	*	*	*	*	128.0	128.0
2100-2200	*	*	132.0	*	*	*	*	132.0	132.0
2200-2300	*	*	74.0	*	*	*	*	74.0	74.0
2300-2400	*	*	74.0	*	*	*	*	74.0	74.0
Totals									
0700-1900	*	*	*	*	*	*	*	*	*
0600-2200	*	*	*	*	*	*	*	*	*
0600-0000	*	*	*	*	*	*	*	*	*
0000-0000	*	*	*	*	*	*	*	*	*
AM Peak	*	*	*	*	*	*	*		
	*	*	*	*	*	*	*		
PM Peak	*	*	*	*	*	*	*		
	*	*	*	*	*	*	*		

*** - No data.**

MetroCount Traffic Executive
Speed Statistics

SpeedStat-47 -- English (ENU)

Datasets:

Site:	**[115-337] US Route 9, 0.5 miles south of Ten Broeck Lane, Hudson, NY**
Attribute:	Quarry to Dock
Direction:	7 - North bound A>B, South bound B>A. **Lane:** 1
Survey Duration:	10:58 Wednesday, June 10, 2020 => 16:27 Wednesday, June 17, 2020,
Zone:	
File:	115-337 0 2020-06-17 1628.EC1 (Plus)
Identifier:	BG78EVVB MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm:	Factory default axle (v5.02)
Data type:	Axle sensors - Paired (Class/Speed/Count)

Profile:

Filter time:	**13:00 Wednesday, June 10, 2020 => 7:00 Thursday, June 11, 2020 (0.75)**
Included classes:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
Speed range:	6 - 99 mph.
Direction:	North, East, South, West (bound), P = North, Lane = 0-16
Separation:	Headway > 0 sec, Span 0 - 328.084 ft
Name:	Default Profile
Scheme:	Vehicle classification (Scheme F3)
Units:	Non metric (ft, mi, ft/s, mph, lb, ton)
In profile:	Vehicles = 4596 / 8093 (56.79%)

Speed Statistics

SpeedStat-47
Site: 115-337.1.2NS
Description: **US Route 9, 0.5 miles south of Ten Broeck Lane, Hudson, NY**
Filter time: **13:00 Wednesday, June 10, 2020 => 7:00 Thursday, June 11, 2020**
Scheme: Vehicle classification (Scheme F3)
Filter: Cls(1-13) Dir(NESW) Sp(6,99) Headway(>0) Span(0 - 328.084) Lane(0-16)

Vehicles = 4596
Posted speed limit = 45 mph, Exceeding = 3420 (74.41%), Mean Exceeding = 50.63 mph
Maximum = 78.2 mph, **Minimum** = 16.0 mph, **Mean** = 48.2 mph
85% Speed = 53.63 mph, **95% Speed** = 56.99 mph, **Median** = 48.32 mph
12 mph Pace = 42 - 54, **Number in Pace** = 3436 (74.76%)
Variance = 31.54, **Standard Deviation** = 5.62 mph

Speed Bins (Partial days)

Speed	Bin	Below	Above	Energy	vMult	n * vMult
0 - **6**	0 0.000%	0 0.000%	4596 100.0%	0.00	0.00	0.00
6 - **12**	0 0.000%	0 0.000%	4596 100.0%	0.00	0.00	0.00
12 - **19**	1 0.022%	1 0.022%	4595 99.98%	0.00	0.00	0.00
19 - **25**	4 0.087%	5 0.109%	4591 99.89%	0.00	0.00	0.00
25 - **31**	11 0.239%	16 0.348%	4580 99.65%	0.00	0.00	0.00
31 - **37**	121 2.633%	137 2.981%	4459 97.02%	0.00	0.00	0.00
37 - **43**	684 14.88%	821 17.86%	3775 82.14%	0.00	0.00	0.00
43 - **50**	1980 43.08%	2801 60.94%	1795 39.06%	0.00	0.00	0.00
50 - **56**	1445 31.44%	4246 92.38%	350 7.615%	0.00	0.00	0.00
56 - **62**	311 6.767%	4557 99.15%	39 0.849%	0.00	0.00	0.00
62 - **68**	32 0.696%	4589 99.85%	7 0.152%	0.00	0.00	0.00
68 - **75**	5 0.109%	4594 99.96%	2 0.044%	0.00	0.00	0.00
75 - **81**	2 0.044%	4596 100.0%	0 0.000%	0.00	0.00	0.00
81 - **87**	0 0.000%	4596 100.0%	0 0.000%	0.00	0.00	0.00
87 - **93**	0 0.000%	4596 100.0%	0 0.000%	0.00	0.00	0.00
93 - **99**	0 0.000%	4596 100.0%	0 0.000%	0.00	0.00	0.00
99 - **106**	0 0.000%	4596 100.0%	0 0.000%	0.00	0.00	0.00
106 - **112**	0 0.000%	4596 100.0%	0 0.000%	0.00	0.00	0.00
112 - **118**	0 0.000%	4596 100.0%	0 0.000%	0.00	0.00	0.00
118 - **124**	0 0.000%	4596 100.0%	0 0.000%	0.00	0.00	0.00

Total Speed Rating = 0.00
Total Moving Energy (Estimated) = 0.00

Speed limit fields (Partial days)

	Limit	Below	Above
0	45 (PSL)	1176 25.6%	3420 74.4%

MetroCount Traffic Executive
Speed Statistics

SpeedStat-49 -- English (ENU)

Datasets:

Site:	**[115-337] US Route 9, 0.5 miles south of Ten Broeck Lane, Hudson, NY**
Attribute:	Quarry to Dock
Direction:	7 - North bound A>B, South bound B>A. **Lane:** 1
Survey Duration:	10:58 Wednesday, June 10, 2020 => 16:27 Wednesday, June 17, 2020,
Zone:	
File:	115-337 0 2020-06-17 1628.EC1 (Plus)
Identifier:	BG78EVVB MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm:	Factory default axle (v5.02)
Data type:	Axle sensors - Paired (Class/Speed/Count)

Profile:

Filter time:	**13:00 Wednesday, June 10, 2020 => 7:00 Thursday, June 11, 2020 (0.75)**
Included classes:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
Speed range:	6 - 99 mph.
Direction:	AB , Lane = 0-16
Separation:	Headway > 0 sec, Span 0 - 328.084 ft
Name:	Default Profile
Scheme:	Vehicle classification (Scheme F3)
Units:	Non metric (ft, mi, ft/s, mph, lb, ton)
In profile:	Vehicles = 2134 / 8093 (26.37%)

Speed Statistics

SpeedStat-49
Site: 115-337.1.2NS
Description: **US Route 9, 0.5 miles south of Ten Broeck Lane, Hudson, NY**
Filter time: **13:00 Wednesday, June 10, 2020 => 7:00 Thursday, June 11, 2020**
Scheme: Vehicle classification (Scheme F3)
Filter: Cls(1-13) Dir(NB) Sp(6,99) Headway(>0) Span(0 - 328.084) Lane(0-16)

Vehicles = 2134
Posted speed limit = 45 mph, Exceeding = 1576 (73.85%), Mean Exceeding = 50.50 mph
Maximum = 75.6 mph, **Minimum** = 16.0 mph, **Mean** = 48.1 mph
85% Speed = 53.56 mph, **95% Speed** = 56.93 mph, **Median** = 48.09 mph
12 mph Pace = 43 - 55, **Number in Pace** = 1591 (74.55%)
Variance = 31.85, **Standard Deviation** = 5.64 mph

Speed Bins (Partial days)

Speed	Bin	Below	Above	Energy	vMult	n * vMult
0 - **6**	0 0.000%	0 0.000%	2134 100.0%	0.00	0.00	0.00
6 - **12**	0 0.000%	0 0.000%	2134 100.0%	0.00	0.00	0.00
12 - **19**	1 0.047%	1 0.047%	2133 99.95%	0.00	0.00	0.00
19 - **25**	2 0.094%	3 0.141%	2131 99.86%	0.00	0.00	0.00
25 - **31**	7 0.328%	10 0.469%	2124 99.53%	0.00	0.00	0.00
31 - **37**	60 2.812%	70 3.280%	2064 96.72%	0.00	0.00	0.00
37 - **43**	327 15.32%	397 18.60%	1737 81.40%	0.00	0.00	0.00
43 - **50**	943 44.19%	1340 62.79%	794 37.21%	0.00	0.00	0.00
50 - **56**	642 30.08%	1982 92.88%	152 7.123%	0.00	0.00	0.00
56 - **62**	136 6.373%	2118 99.25%	16 0.750%	0.00	0.00	0.00
62 - **68**	13 0.609%	2131 99.86%	3 0.141%	0.00	0.00	0.00
68 - **75**	2 0.094%	2133 99.95%	1 0.047%	0.00	0.00	0.00
75 - **81**	1 0.047%	2134 100.0%	0 0.000%	0.00	0.00	0.00
81 - **87**	0 0.000%	2134 100.0%	0 0.000%	0.00	0.00	0.00
87 - **93**	0 0.000%	2134 100.0%	0 0.000%	0.00	0.00	0.00
93 - **99**	0 0.000%	2134 100.0%	0 0.000%	0.00	0.00	0.00
99 - **106**	0 0.000%	2134 100.0%	0 0.000%	0.00	0.00	0.00
106 - **112**	0 0.000%	2134 100.0%	0 0.000%	0.00	0.00	0.00
112 - **118**	0 0.000%	2134 100.0%	0 0.000%	0.00	0.00	0.00
118 - **124**	0 0.000%	2134 100.0%	0 0.000%	0.00	0.00	0.00

Total Speed Rating = 0.00
Total Moving Energy (Estimated) = 0.00

Speed limit fields (Partial days)

	Limit	Below	Above
0	45 (PSL)	558 26.1%	1576 73.9%

MetroCount Traffic Executive
Speed Statistics

SpeedStat-50 -- English (ENU)

Datasets:

Site:	**[115-337] US Route 9, 0.5 miles south of Ten Broeck Lane, Hudson, NY**
Attribute:	Quarry to Dock
Direction:	7 - North bound A>B, South bound B>A. **Lane:** 1
Survey Duration:	10:58 Wednesday, June 10, 2020 => 16:27 Wednesday, June 17, 2020,
Zone:	
File:	115-337 0 2020-06-17 1628.EC1 (Plus)
Identifier:	BG78EVVB MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm:	Factory default axle (v5.02)
Data type:	Axle sensors - Paired (Class/Speed/Count)

Profile:

Filter time:	**13:00 Wednesday, June 10, 2020 => 7:00 Thursday, June 11, 2020 (0.75)**
Included classes:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
Speed range:	6 - 99 mph.
Direction:	BA , Lane = 0-16
Separation:	Headway > 0 sec, Span 0 - 328.084 ft
Name:	Default Profile
Scheme:	Vehicle classification (Scheme F3)
Units:	Non metric (ft, mi, ft/s, mph, lb, ton)
In profile:	Vehicles = 2462 / 8093 (30.42%)

Speed Statistics

SpeedStat-50
Site: 115-337.1.2NS
Description: **US Route 9, 0.5 miles south of Ten Broeck Lane, Hudson, NY**
Filter time: **13:00 Wednesday, June 10, 2020 => 7:00 Thursday, June 11, 2020**
Scheme: Vehicle classification (Scheme F3)
Filter: Cls(1-13) Dir(SB) Sp(6,99) Headway(>0) Span(0 - 328.084) Lane(0-16)

Vehicles = 2462
Posted speed limit = 45 mph, Exceeding = 1844 (74.90%), Mean Exceeding = 50.73 mph
Maximum = 78.2 mph, **Minimum** = 23.8 mph, **Mean** = 48.4 mph
85% Speed = 53.69 mph, **95% Speed** = 57.15 mph, **Median** = 48.54 mph
12 mph Pace = 42 - 54, **Number in Pace** = 1849 (75.10%)
Variance = 31.24, **Standard Deviation** = 5.59 mph

Speed Bins (Partial days)

Speed	Bin	Below	Above	Energy	vMult	n * vMult
0 - **6**	0 0.000%	0 0.000%	2462 100.0%	0.00	0.00	0.00
6 - **12**	0 0.000%	0 0.000%	2462 100.0%	0.00	0.00	0.00
12 - **19**	0 0.000%	0 0.000%	2462 100.0%	0.00	0.00	0.00
19 - **25**	2 0.081%	2 0.081%	2460 99.92%	0.00	0.00	0.00
25 - **31**	4 0.162%	6 0.244%	2456 99.76%	0.00	0.00	0.00
31 - **37**	61 2.478%	67 2.721%	2395 97.28%	0.00	0.00	0.00
37 - **43**	357 14.50%	424 17.22%	2038 82.78%	0.00	0.00	0.00
43 - **50**	1037 42.12%	1461 59.34%	1001 40.66%	0.00	0.00	0.00
50 - **56**	803 32.62%	2264 91.96%	198 8.042%	0.00	0.00	0.00
56 - **62**	175 7.108%	2439 99.07%	23 0.934%	0.00	0.00	0.00
62 - **68**	19 0.772%	2458 99.84%	4 0.162%	0.00	0.00	0.00
68 - **75**	3 0.122%	2461 99.96%	1 0.041%	0.00	0.00	0.00
75 - **81**	1 0.041%	2462 100.0%	0 0.000%	0.00	0.00	0.00
81 - **87**	0 0.000%	2462 100.0%	0 0.000%	0.00	0.00	0.00
87 - **93**	0 0.000%	2462 100.0%	0 0.000%	0.00	0.00	0.00
93 - **99**	0 0.000%	2462 100.0%	0 0.000%	0.00	0.00	0.00
99 - **106**	0 0.000%	2462 100.0%	0 0.000%	0.00	0.00	0.00
106 - **112**	0 0.000%	2462 100.0%	0 0.000%	0.00	0.00	0.00
112 - **118**	0 0.000%	2462 100.0%	0 0.000%	0.00	0.00	0.00
118 - **124**	0 0.000%	2462 100.0%	0 0.000%	0.00	0.00	0.00

Total Speed Rating = 0.00
Total Moving Energy (Estimated) = 0.00

Speed limit fields (Partial days)

	Limit	Below	Above
0	45 (PSL)	618 25.1%	1844 74.9%

MetroCount Traffic Executive
Weekly Vehicle Counts (Virtual Week)

VirtWeeklyVehicle-41 -- English (ENU)

Datasets:

Site:	**[115-337] US Route 9, 0.5 miles south of Ten Broeck Lane, Hudson, NY**
Attribute:	Quarry to Dock
Direction:	7 - North bound A>B, South bound B>A. **Lane:** 1
Survey Duration:	10:58 Wednesday, June 10, 2020 => 16:27 Wednesday, June 17, 2020,
Zone:	
File:	115-337 0 2020-06-17 1628.EC1 (Plus)
Identifier:	BG78EVVB MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm:	Factory default axle (v5.02)
Data type:	Axle sensors - Paired (Class/Speed/Count)

Profile:

Filter time:	**13:00 Wednesday, June 10, 2020 => 7:00 Thursday, June 11, 2020 (0.75)**
Included classes:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
Speed range:	6 - 99 mph.
Direction:	North, East, South, West (bound), P = North, Lane = 0-16
Separation:	Headway > 0 sec, Span 0 - 328.084 ft
Name:	Default Profile
Scheme:	Vehicle classification (Scheme F3)
Units:	Non metric (ft, mi, ft/s, mph, lb, ton)
In profile:	Vehicles = 4596 / 8093 (56.79%)

Weekly Vehicle Counts (Virtual Week)

VirtWeeklyVehicle-41
Site: 115-337.1.2NS
Description: **US Route 9, 0.5 miles south of Ten Broeck Lane, Hudson, NY**
Filter time: **13:00 Wednesday, June 10, 2020 => 7:00 Thursday, June 11, 2020**
Scheme: Vehicle classification (Scheme F3)
Filter: Cls(1-13) Dir(NESW) Sp(6,99) Headway(>0) Span(0 - 328.084) Lane(0-16)

	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Averages 1 - 5	Averages 1 - 7
Hour									
0000-0100	*	*	*	28.0	*	*	*	28.0	28.0
0100-0200	*	*	*	10.0	*	*	*	10.0	10.0
0200-0300	*	*	*	13.0	*	*	*	13.0	13.0
0300-0400	*	*	*	16.0	*	*	*	16.0	16.0
0400-0500	*	*	*	30.0	*	*	*	30.0	30.0
0500-0600	*	*	*	136.0	*	*	*	136.0	136.0
0600-0700	*	*	*	281.0	*	*	*	281.0	281.0
0700-0800	*	*	*	*	*	*	*	*	*
0800-0900	*	*	*	*	*	*	*	*	*
0900-1000	*	*	*	*	*	*	*	*	*
1000-1100	*	*	*	*	*	*	*	*	*
1100-1200	*	*	*	*	*	*	*	*	*
1200-1300	*	*	*	*	*	*	*	*	*
1300-1400	*	*	570.0	*	*	*	*	570.0	570.0
1400-1500	*	*	579.0	*	*	*	*	579.0	579.0
1500-1600	*	*	706.0	*	*	*	*	706.0	706.0
1600-1700	*	*	671.0	*	*	*	*	671.0	671.0
1700-1800	*	*	536.0	*	*	*	*	536.0	536.0
1800-1900	*	*	375.0	*	*	*	*	375.0	375.0
1900-2000	*	*	269.0	*	*	*	*	269.0	269.0
2000-2100	*	*	141.0	*	*	*	*	141.0	141.0
2100-2200	*	*	104.0	*	*	*	*	104.0	104.0
2200-2300	*	*	76.0	*	*	*	*	76.0	76.0
2300-2400	*	*	55.0	*	*	*	*	55.0	55.0
Totals									
0700-1900	*	*	*	*	*	*	*	*	*
0600-2200	*	*	*	*	*	*	*	*	*
0600-0000	*	*	*	*	*	*	*	*	*
0000-0000	*	*	*	*	*	*	*	*	*
AM Peak	*	*	*	*	*	*	*		
	*	*	*	*	*	*	*		
PM Peak	*	*	*	*	*	*	*		
	*	*	*	*	*	*	*		

*** - No data.**

MetroCount Traffic Executive
Weekly Vehicle Counts (Virtual Week)

VirtWeeklyVehicle-42 -- English (ENU)

Datasets:

Site:	**[115-337] US Route 9, 0.5 miles south of Ten Broeck Lane, Hudson, NY**
Attribute:	Quarry to Dock
Direction:	7 - North bound A>B, South bound B>A. **Lane:** 1
Survey Duration:	10:58 Wednesday, June 10, 2020 => 16:27 Wednesday, June 17, 2020,
Zone:	
File:	115-337 0 2020-06-17 1628.EC1 (Plus)
Identifier:	BG78EVVB MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm:	Factory default axle (v5.02)
Data type:	Axle sensors - Paired (Class/Speed/Count)

Profile:

Filter time:	**13:00 Wednesday, June 10, 2020 => 7:00 Thursday, June 11, 2020 (0.75)**
Included classes:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
Speed range:	6 - 99 mph.
Direction:	AB , Lane = 0-16
Separation:	Headway > 0 sec, Span 0 - 328.084 ft
Name:	Default Profile
Scheme:	Vehicle classification (Scheme F3)
Units:	Non metric (ft, mi, ft/s, mph, lb, ton)
In profile:	Vehicles = 2134 / 8093 (26.37%)

Weekly Vehicle Counts (Virtual Week)

VirtWeeklyVehicle-42
Site: 115-337.1.2NS
Description: **US Route 9, 0.5 miles south of Ten Broeck Lane, Hudson, NY**
Filter time: **13:00 Wednesday, June 10, 2020 => 7:00 Thursday, June 11, 2020**
Scheme: Vehicle classification (Scheme F3)
Filter: Cls(1-13) Dir(NB) Sp(6,99) Headway(>0) Span(0 - 328.084) Lane(0-16)

	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Averages 1 - 5	Averages 1 - 7
Hour									
0000-0100	*	*	*	8.0	*	*	*	8.0	8.0
0100-0200	*	*	*	3.0	*	*	*	3.0	3.0
0200-0300	*	*	*	8.0	*	*	*	8.0	8.0
0300-0400	*	*	*	7.0	*	*	*	7.0	7.0
0400-0500	*	*	*	14.0	*	*	*	14.0	14.0
0500-0600	*	*	*	79.0	*	*	*	79.0	79.0
0600-0700	*	*	*	182.0	*	*	*	182.0	182.0
0700-0800	*	*	*	*	*	*	*	*	*
0800-0900	*	*	*	*	*	*	*	*	*
0900-1000	*	*	*	*	*	*	*	*	*
1000-1100	*	*	*	*	*	*	*	*	*
1100-1200	*	*	*	*	*	*	*	*	*
1200-1300	*	*	*	*	*	*	*	*	*
1300-1400	*	*	295.0	*	*	*	*	295.0	295.0
1400-1500	*	*	254.0	*	*	*	*	254.0	254.0
1500-1600	*	*	321.0	*	*	*	*	321.0	321.0
1600-1700	*	*	278.0	*	*	*	*	278.0	278.0
1700-1800	*	*	225.0	*	*	*	*	225.0	225.0
1800-1900	*	*	189.0	*	*	*	*	189.0	189.0
1900-2000	*	*	106.0	*	*	*	*	106.0	106.0
2000-2100	*	*	50.0	*	*	*	*	50.0	50.0
2100-2200	*	*	48.0	*	*	*	*	48.0	48.0
2200-2300	*	*	47.0	*	*	*	*	47.0	47.0
2300-2400	*	*	20.0	*	*	*	*	20.0	20.0
Totals									
0700-1900	*	*	*	*	*	*	*	*	*
0600-2200	*	*	*	*	*	*	*	*	*
0600-0000	*	*	*	*	*	*	*	*	*
0000-0000	*	*	*	*	*	*	*	*	*
AM Peak	*	*	*	*	*	*	*		
	*	*	*	*	*	*	*		
PM Peak	*	*	*	*	*	*	*		
	*	*	*	*	*	*	*		

*** - No data.**

MetroCount Traffic Executive
Weekly Vehicle Counts (Virtual Week)

VirtWeeklyVehicle-43 -- English (ENU)

Datasets:

Site:	**[115-337] US Route 9, 0.5 miles south of Ten Broeck Lane, Hudson, NY**
Attribute:	Quarry to Dock
Direction:	7 - North bound A>B, South bound B>A. **Lane:** 1
Survey Duration:	10:58 Wednesday, June 10, 2020 => 16:27 Wednesday, June 17, 2020,
Zone:	
File:	115-337 0 2020-06-17 1628.EC1 (Plus)
Identifier:	BG78EVVB MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm:	Factory default axle (v5.02)
Data type:	Axle sensors - Paired (Class/Speed/Count)

Profile:

Filter time:	**13:00 Wednesday, June 10, 2020 => 7:00 Thursday, June 11, 2020 (0.75)**
Included classes:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
Speed range:	6 - 99 mph.
Direction:	BA , Lane = 0-16
Separation:	Headway > 0 sec, Span 0 - 328.084 ft
Name:	Default Profile
Scheme:	Vehicle classification (Scheme F3)
Units:	Non metric (ft, mi, ft/s, mph, lb, ton)
In profile:	Vehicles = 2462 / 8093 (30.42%)

Weekly Vehicle Counts (Virtual Week)

VirtWeeklyVehicle-43
Site: 115-337.1.2NS
Description: **US Route 9, 0.5 miles south of Ten Broeck Lane, Hudson, NY**
Filter time: **13:00 Wednesday, June 10, 2020 => 7:00 Thursday, June 11, 2020**
Scheme: Vehicle classification (Scheme F3)
Filter: Cls(1-13) Dir(BA) Sp(6,99) Headway(>0) Span(0 - 328.084) Lane(0-16)

	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Averages 1 - 5	Averages 1 - 7
Hour									
0000-0100	*	*	*	20.0	*	*	*	20.0	20.0
0100-0200	*	*	*	7.0	*	*	*	7.0	7.0
0200-0300	*	*	*	5.0	*	*	*	5.0	5.0
0300-0400	*	*	*	9.0	*	*	*	9.0	9.0
0400-0500	*	*	*	16.0	*	*	*	16.0	16.0
0500-0600	*	*	*	57.0	*	*	*	57.0	57.0
0600-0700	*	*	*	99.0	*	*	*	99.0	99.0
0700-0800	*	*	*	*	*	*	*	*	*
0800-0900	*	*	*	*	*	*	*	*	*
0900-1000	*	*	*	*	*	*	*	*	*
1000-1100	*	*	*	*	*	*	*	*	*
1100-1200	*	*	*	*	*	*	*	*	*
1200-1300	*	*	*	*	*	*	*	*	*
1300-1400	*	*	275.0	*	*	*	*	275.0	275.0
1400-1500	*	*	325.0	*	*	*	*	325.0	325.0
1500-1600	*	*	385.0	*	*	*	*	385.0	385.0
1600-1700	*	*	393.0	*	*	*	*	393.0	393.0
1700-1800	*	*	311.0	*	*	*	*	311.0	311.0
1800-1900	*	*	186.0	*	*	*	*	186.0	186.0
1900-2000	*	*	163.0	*	*	*	*	163.0	163.0
2000-2100	*	*	91.0	*	*	*	*	91.0	91.0
2100-2200	*	*	56.0	*	*	*	*	56.0	56.0
2200-2300	*	*	29.0	*	*	*	*	29.0	29.0
2300-2400	*	*	35.0	*	*	*	*	35.0	35.0
Totals									
0700-1900	*	*	*	*	*	*	*	*	*
0600-2200	*	*	*	*	*	*	*	*	*
0600-0000	*	*	*	*	*	*	*	*	*
0000-0000	*	*	*	*	*	*	*	*	*
AM Peak	*	*	*	*	*	*	*		
	*	*	*	*	*	*	*		
PM Peak	*	*	*	*	*	*	*		
	*	*	*	*	*	*	*		

*** - No data.**

Attachment B
Loads Delivered Charts

Gate to Gate Truck Route
City of Hudson and Town of Greenport, NY

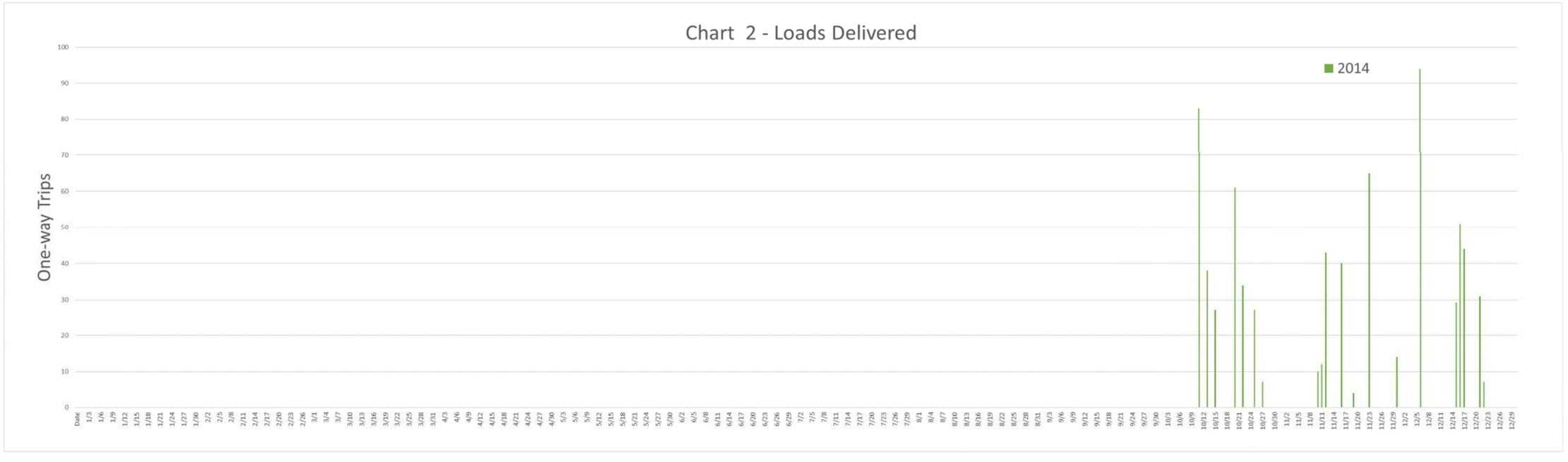


Chart 2 - Loads Delivered
One-way Trips
2014
Date

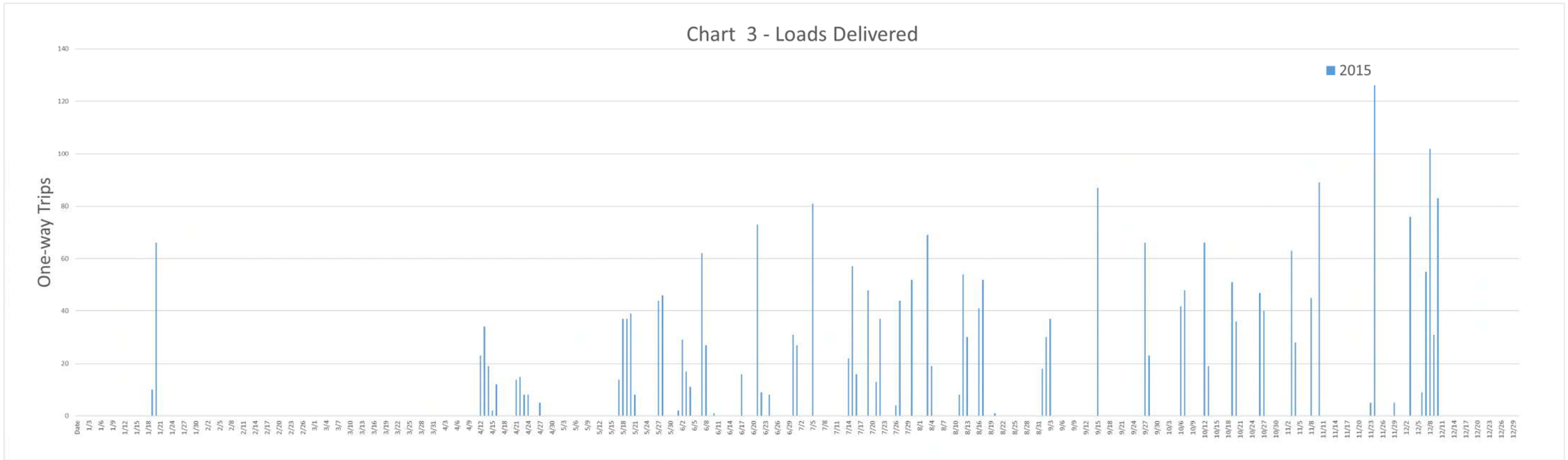


Chart 3 - Loads Delivered
One-way Trips
2015
Date

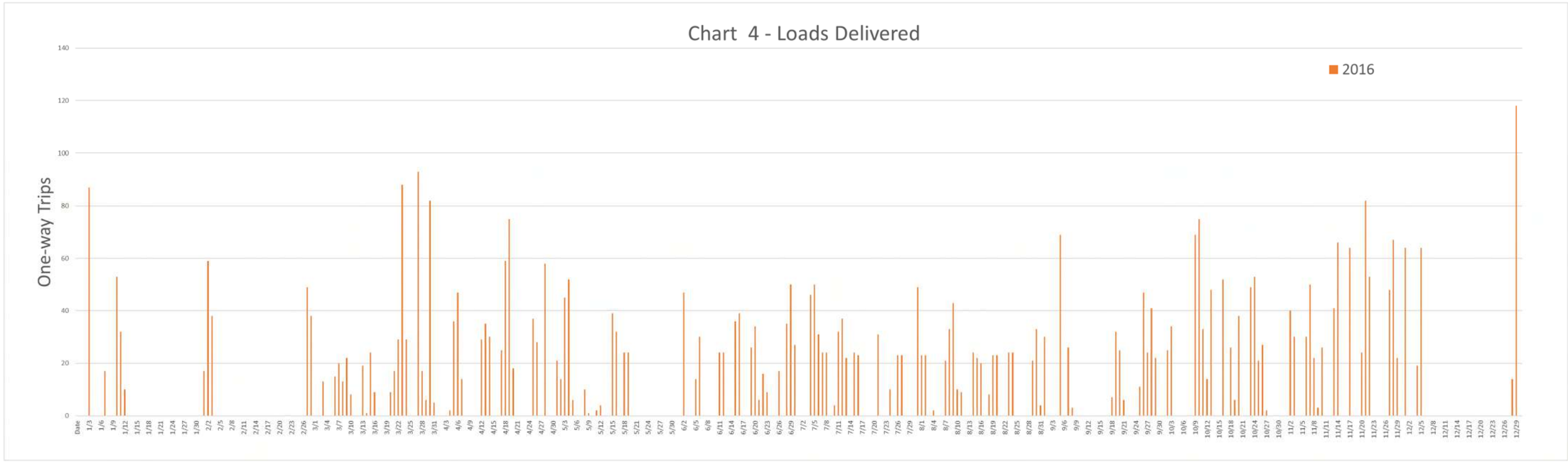


Chart 4 - Loads Delivered
One-way Trips
2016
0
20
40
60
80
100
120
140
Date

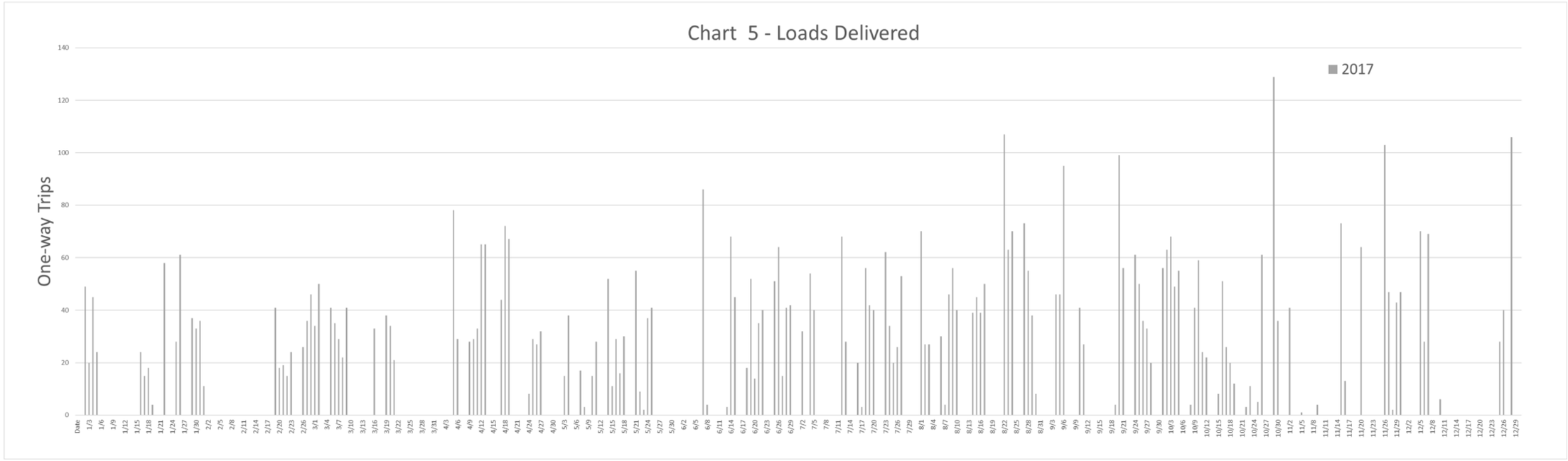


Chart 5 - Loads Delivered
One-way Trips
2017
0
20
40
60
80
100
120
140
Date

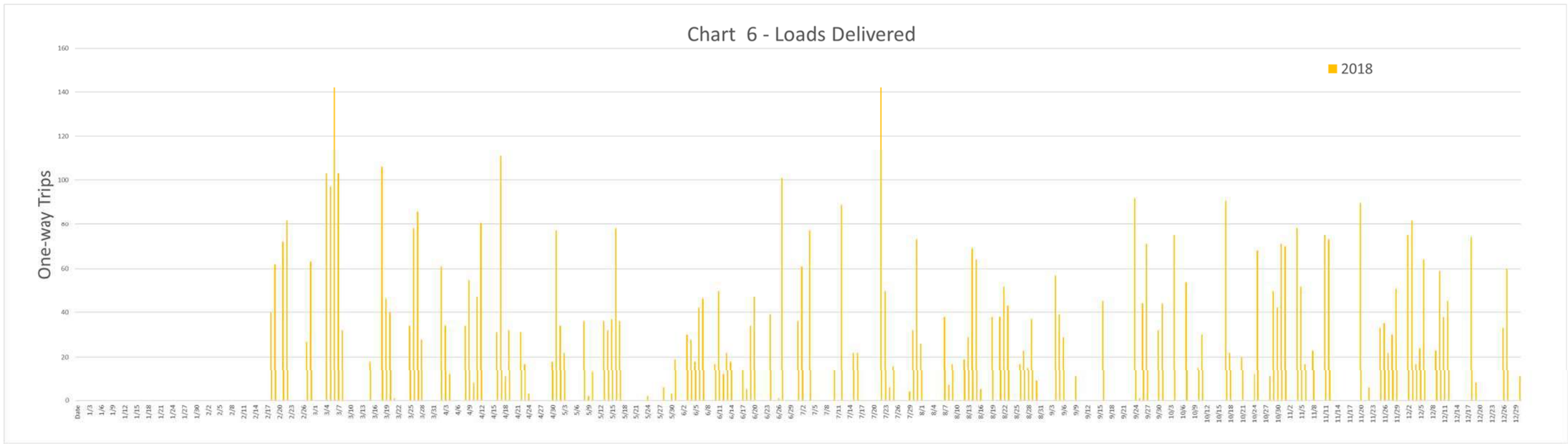


Chart 6 - Loads Delivered
One-way Trips
2018
0
20
40
60
80
100
120
140
160

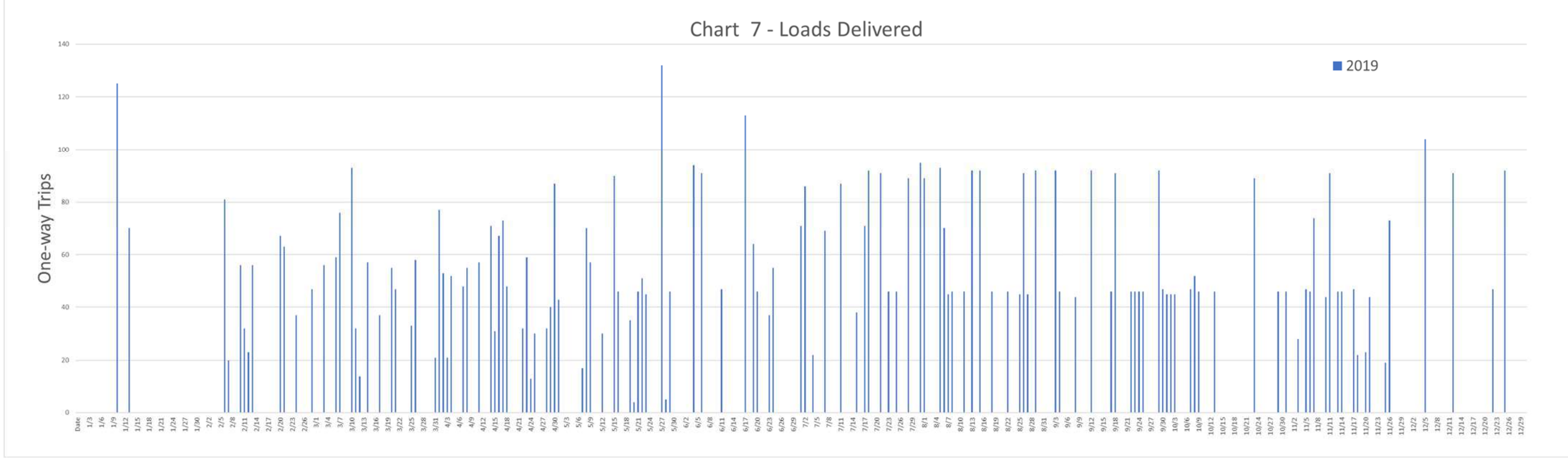


Chart 7 - Loads Delivered
One-way Trips
2019
0
20
40
60
80
100
120
140

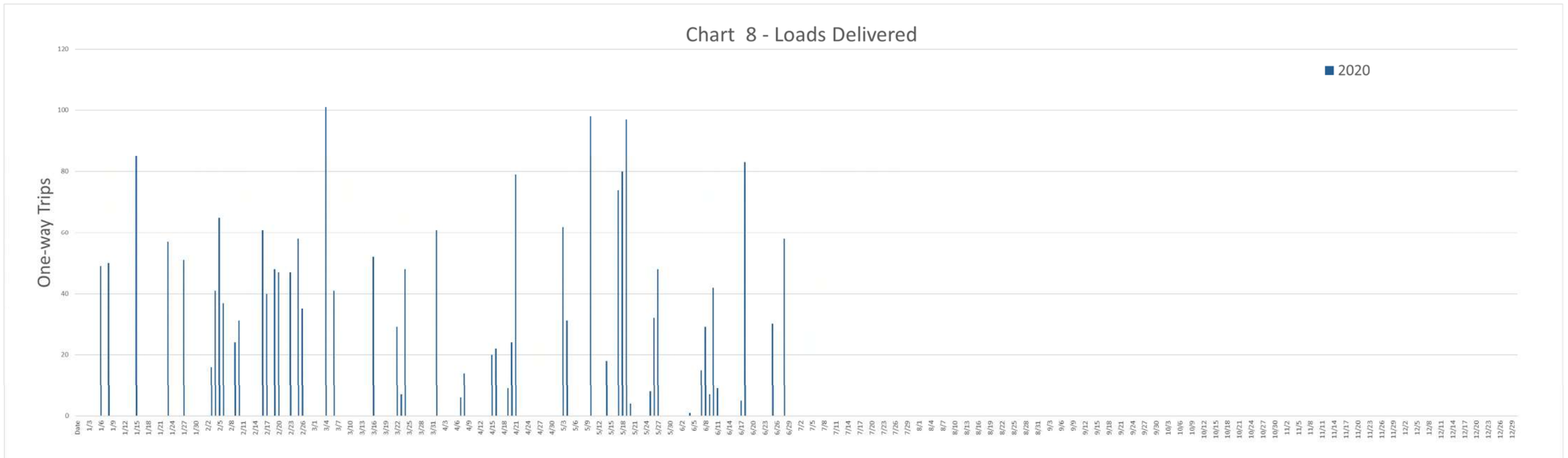


Chart 8 - Loads Delivered
2020
One-way Trips
120
100
80
60
40
20
0
Date

Attachment C
Level of Service Analysis

Gate to Gate Truck Route
City of Hudson and Town of Greenport, NY

LOS Definitions

The following is an excerpt from the Highway Capacity Manual, 6th Edition (HCM).

Level of Service for Signalized Intersections

Level of Service (LOS) can be characterized for the entire intersection, each intersection approach, and each lane group. Control delay alone is used to characterize LOS for the entire intersection or an approach. Control delay *and* volume-to-capacity (v/c) ratio are used to characterize LOS for a lane group. Delay quantifies the increase in travel time due to traffic signal control. It is also a surrogate measure of driver discomfort and fuel consumption. The v/c ratio quantifies the degree to which a phase's capacity is utilized by a lane group. The following paragraphs describe each LOS.

LOS A describes operations with a control delay of 10 s/veh or less and a v/c ratio no greater than 1.0. This level is typically assigned when the v/c ratio is low and either progression is exceptionally favorable or the cycle length is very short. If it is due to favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.

LOS B describes operations with control delay between 10 and 20 s/veh and a v/c ratio no greater than 1.0. This level is typically assigned when the v/c ratio is low and either progression is highly favorable or the cycle length is short. More vehicles stop than with LOS A.

LOS C describes operations with control delay between 20 and 35 s/veh and a v/c ratio no greater than 1.0. This level is typically assigned when progression is favorable or the cycle length is moderate. Individual *cycle failures* (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear at this level. The number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.

LOS D describes operations with control delay between 35 and 55 s/veh and a v/c ratio no greater than 1.0. This level is typically assigned when the v/c ratio is high and either progression is ineffective or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable.

LOS E describes operations with control delay between 55 and 80 s/veh and a v/c ratio no greater than 1.0. This level is typically assigned when the v/c ratio is high, progression is unfavorable, and the cycle length is long. Individual cycle failures are frequent.

LOS F describes operations with control delay exceeding 80 s/veh or a v/c ratio greater than 1.0. This level is typically assigned when the v/c ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.

A lane group can incur a delay less than 80 s/veh when the v/c ratio exceeds 1.0. This condition typically occurs when the cycle length is short, the signal progression is favorable, or both. As a result, both the delay and v/c ratio are considered when lane group LOS is established. A ratio of 1.0 or more indicates that cycle capacity is fully utilized and represents failure from a capacity perspective (just as delay in excess of 80 s/veh represents failure from a delay perspective).

Average control delay and queue length at roundabout controlled intersections are calculated using SIDRA Intersection. The physical geometry such as entry lane width and approach flare, and traffic volume at the roundabout are factors that influence the intersection's performance. The average delay reported using SIDRA Intersection is based on the signalized HCM Method of Delay for Level-of-Service.

Level of Service Criteria for Unsignalized Intersections

Level of service (LOS) for Two-Way Stop-Controlled (TWSC) intersections is determined by the computed or measured control delay. For motor vehicles, LOS is determined for each minor-street movement (or shared movement) as well as major-street left turns by using criteria given in Exhibit 20-2. LOS is not defined for the intersection as a whole or for major-street approaches for three primary reasons: (a) major-street through vehicles are assumed to experience zero delay; (b) the disproportionate number of major-street through vehicles at a typical TWSC intersection skews the weighted average of all movements, resulting in a very low overall average delay for all vehicles; and (c) the resulting low delay can mask important LOS deficiencies for minor movements. LOS F is assigned to the movement if the volume-to-capacity (v/c) ratio for the movement exceeds 1.0, regardless of the control delay.

The LOS criteria for TWSC intersections are somewhat different from the criteria used in Chapter 18 for signalized intersections, primarily because user perceptions differ among transportation facility types. The expectation is that a signalized intersection is designed to carry higher traffic volumes and will present greater delay than an unsignalized intersection. Unsignalized intersections are also associated with more uncertainty for users, as delays are less predictable than they are at signals, which can reduce users' delay tolerance.

The LOS criteria for All-Way Stop-Controlled (AWSC) intersections are given in Exhibit 21-8. LOS F is assigned if the v/c ratio of a lane exceeds 1.0, regardless of the control delay. For assessment of LOS at the approach and intersection levels, LOS is based solely on control delay.

Exhibits 20-2/21-8:
Level-of-Service Criteria for Stop Controlled Intersections

Control Delay (s/veh)	LOS by Volume-to-Capacity Ratio	
	v/c ≤ 1.0	**v/c ≥ 1.0**
10.0	A	F
>10.0 and ≤ 15.0	B	F
>15.0 and ≤ 25.0	C	F
>25.0 and ≤ 35.0	D	F
>35.0 and ≤ 50.0	E	F
>50.0	F	F

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	9	0	8	6	6	48
Future Vol, veh/h	9	0	8	6	6	48
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	92	92	92	92	92	92
Heavy Vehicles, %	89	2	100	0	0	17
Mvmt Flow	10	0	9	7	7	52

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	58	33	59	0	-	0
Stage 1	33	-	-	-	-	-
Stage 2	25	-	-	-	-	-
Critical Hdwy	7.29	6.22	5.1	-	-	-
Critical Hdwy Stg 1	6.29	-	-	-	-	-
Critical Hdwy Stg 2	6.29	-	-	-	-	-
Follow-up Hdwy	4.301	3.318	3.1	-	-	-
Pot Cap-1 Maneuver	770	1041	1096	-	-	-
Stage 1	806	-	-	-	-	-
Stage 2	813	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	764	1041	1096	-	-	-
Mov Cap-2 Maneuver	764	-	-	-	-	-
Stage 1	800	-	-	-	-	-
Stage 2	813	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.8	4.7	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1096	-	764	-	-
HCM Lane V/C Ratio	0.008	-	0.013	-	-
HCM Control Delay (s)	8.3	0	9.8	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	13	0	12	6	6	48
Future Vol, veh/h	13	0	12	6	6	48
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	92	92	92	92	92	92
Heavy Vehicles, %	92	2	100	0	0	17
Mvmt Flow	14	0	13	7	7	52

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	66	33	59	0	-	0
Stage 1	33	-	-	-	-	-
Stage 2	33	-	-	-	-	-
Critical Hdwy	7.32	6.22	5.1	-	-	-
Critical Hdwy Stg 1	6.32	-	-	-	-	-
Critical Hdwy Stg 2	6.32	-	-	-	-	-
Follow-up Hdwy	4.328	3.318	3.1	-	-	-
Pot Cap-1 Maneuver	757	1041	1096	-	-	-
Stage 1	801	-	-	-	-	-
Stage 2	801	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	748	1041	1096	-	-	-
Mov Cap-2 Maneuver	748	-	-	-	-	-
Stage 1	791	-	-	-	-	-
Stage 2	801	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.9	5.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1096	-	748	-	-
HCM Lane V/C Ratio	0.012	-	0.019	-	-
HCM Control Delay (s)	8.3	0	9.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	12	12	6	6	48
Future Vol, veh/h	1	12	12	6	6	48
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	92	92	92	92	92	92
Heavy Vehicles, %	2	100	100	0	2	2
Mvmt Flow	1	13	13	7	7	52

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	66	33	59	0	-	0
Stage 1	33	-	-	-	-	-
Stage 2	33	-	-	-	-	-
Critical Hdwy	6.42	7.2	5.1	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	4.2	3.1	-	-	-
Pot Cap-1 Maneuver	939	818	1096	-	-	-
Stage 1	989	-	-	-	-	-
Stage 2	989	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	928	818	1096	-	-	-
Mov Cap-2 Maneuver	928	-	-	-	-	-
Stage 1	977	-	-	-	-	-
Stage 2	989	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.4	5.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1096	-	826	-	-
HCM Lane V/C Ratio	0.012	-	0.017	-	-
HCM Control Delay (s)	8.3	0	9.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	24	0	8	22	44	39
Future Vol, veh/h	24	0	8	22	44	39
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	92	92	92	92	92	92
Heavy Vehicles, %	33	2	100	0	2	2
Mvmt Flow	26	0	9	24	48	42

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	111	69	90	0	-	0
Stage 1	69	-	-	-	-	-
Stage 2	42	-	-	-	-	-
Critical Hdwy	6.73	6.22	5.1	-	-	-
Critical Hdwy Stg 1	5.73	-	-	-	-	-
Critical Hdwy Stg 2	5.73	-	-	-	-	-
Follow-up Hdwy	3.797	3.318	3.1	-	-	-
Pot Cap-1 Maneuver	816	994	1062	-	-	-
Stage 1	881	-	-	-	-	-
Stage 2	907	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	809	994	1062	-	-	-
Mov Cap-2 Maneuver	809	-	-	-	-	-
Stage 1	873	-	-	-	-	-
Stage 2	907	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.6	2.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1062	-	809	-	-
HCM Lane V/C Ratio	0.008	-	0.032	-	-
HCM Control Delay (s)	8.4	0	9.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	28	0	12	22	44	39
Future Vol, veh/h	28	0	12	22	44	39
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	92	92	92	92	92	92
Heavy Vehicles, %	43	2	100	0	0	2
Mvmt Flow	30	0	13	24	48	42

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	119	69	90	0	-	0
Stage 1	69	-	-	-	-	-
Stage 2	50	-	-	-	-	-
Critical Hdwy	6.83	6.22	5.1	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-
Follow-up Hdwy	3.887	3.318	3.1	-	-	-
Pot Cap-1 Maneuver	787	994	1062	-	-	-
Stage 1	859	-	-	-	-	-
Stage 2	877	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	778	994	1062	-	-	-
Mov Cap-2 Maneuver	778	-	-	-	-	-
Stage 1	849	-	-	-	-	-
Stage 2	877	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.8	3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1062	-	778	-	-
HCM Lane V/C Ratio	0.012	-	0.039	-	-
HCM Control Delay (s)	8.4	0	9.8	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	16	12	12	22	44	39
Future Vol, veh/h	16	12	12	22	44	39
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	92	92	92	92	92	92
Heavy Vehicles, %	4	100	100	2	2	4
Mvmt Flow	17	13	13	24	48	42

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	119	69	90	0	-	0
Stage 1	69	-	-	-	-	-
Stage 2	50	-	-	-	-	-
Critical Hdwy	6.44	7.2	5.1	-	-	-
Critical Hdwy Stg 1	5.44	-	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-	-
Follow-up Hdwy	3.536	4.2	3.1	-	-	-
Pot Cap-1 Maneuver	872	777	1062	-	-	-
Stage 1	949	-	-	-	-	-
Stage 2	967	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	862	777	1062	-	-	-
Mov Cap-2 Maneuver	862	-	-	-	-	-
Stage 1	938	-	-	-	-	-
Stage 2	967	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.5	3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1062	-	823	-	-
HCM Lane V/C Ratio	0.012	-	0.037	-	-
HCM Control Delay (s)	8.4	0	9.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	26	68	3	106	94	23	1	79	160	17	117	7
Future Volume (veh/h)	26	68	3	106	94	23	1	79	160	17	117	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1737	1737	1767	1767	1767	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	28	74	3	115	102	25	1	86	174	18	127	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	11	11	11	9	9	9	2	2	2	2	2	2
Cap, veh/h	181	426	16	300	245	53	61	282	566	127	795	47
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.34	0.51	0.51	0.51	0.51	0.51	0.51
Sat Flow, veh/h	308	1247	46	619	716	154	1	556	1113	117	1565	93
Grp Volume(v), veh/h	105	0	0	242	0	0	261	0	0	153	0	0
Grp Sat Flow(s),veh/h/ln	1601	0	0	1488	0	0	1670	0	0	1775	0	0
Q Serve(g_s), s	0.0	0.0	0.0	4.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.6	0.0	0.0	7.3	0.0	0.0	5.5	0.0	0.0	2.7	0.0	0.0
Prop In Lane	0.27		0.03	0.48		0.10	0.00		0.67	0.12		0.05
Lane Grp Cap(c), veh/h	623	0	0	597	0	0	909	0	0	969	0	0
V/C Ratio(X)	0.17	0.00	0.00	0.41	0.00	0.00	0.29	0.00	0.00	0.16	0.00	0.00
Avail Cap(c_a), veh/h	623	0	0	597	0	0	909	0	0	969	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.8	0.0	0.0	15.3	0.0	0.0	8.6	0.0	0.0	7.9	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.0	0.0	2.0	0.0	0.0	0.8	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.0	2.6	0.0	0.0	1.8	0.0	0.0	1.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.4	0.0	0.0	17.3	0.0	0.0	9.4	0.0	0.0	8.3	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h		105			242			261			153	
Approach Delay, s/veh		14.4			17.3			9.4			8.3	
Approach LOS		B			B			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		25.0		35.0		25.0		35.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		20.5		30.5		20.5		30.5				
Max Q Clear Time (g_c+I1), s		9.3		7.5		4.6		4.7				
Green Ext Time (p_c), s		1.0		1.6		0.4		0.8				

Intersection Summary												
HCM 6th Ctrl Delay			12.4									
HCM 6th LOS			B									

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	26	72	3	110	94	23	1	79	160	17	117	7
Future Volume (veh/h)	26	72	3	110	94	23	1	79	160	17	117	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1648	1648	1648	1767	1767	1767	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	28	78	3	120	102	25	1	86	174	18	127	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	17	17	17	9	9	9	2	2	2	2	2	2
Cap, veh/h	171	411	14	306	239	51	61	282	566	127	795	47
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.34	0.51	0.51	0.51	0.51	0.51	0.51
Sat Flow, veh/h	278	1204	42	634	700	150	1	556	1113	117	1565	93
Grp Volume(v), veh/h	109	0	0	247	0	0	261	0	0	153	0	0
Grp Sat Flow(s),veh/h/ln	1525	0	0	1485	0	0	1670	0	0	1775	0	0
Q Serve(g_s), s	0.0	0.0	0.0	4.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.8	0.0	0.0	7.5	0.0	0.0	5.5	0.0	0.0	2.7	0.0	0.0
Prop In Lane	0.26		0.03	0.49		0.10	0.00		0.67	0.12		0.05
Lane Grp Cap(c), veh/h	596	0	0	596	0	0	909	0	0	969	0	0
V/C Ratio(X)	0.18	0.00	0.00	0.41	0.00	0.00	0.29	0.00	0.00	0.16	0.00	0.00
Avail Cap(c_a), veh/h	596	0	0	596	0	0	909	0	0	969	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.9	0.0	0.0	15.3	0.0	0.0	8.6	0.0	0.0	7.9	0.0	0.0
Incr Delay (d2), s/veh	0.7	0.0	0.0	2.1	0.0	0.0	0.8	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	0.0	2.7	0.0	0.0	1.8	0.0	0.0	1.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.6	0.0	0.0	17.4	0.0	0.0	9.4	0.0	0.0	8.3	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h		109			247			261			153	
Approach Delay, s/veh		14.6			17.4			9.4			8.3	
Approach LOS		B			B			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		25.0		35.0		25.0		35.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		20.5		30.5		20.5		30.5				
Max Q Clear Time (g_c+I1), s		9.5		7.5		4.8		4.7				
Green Ext Time (p_c), s		1.0		1.6		0.4		0.8				

Intersection Summary												
HCM 6th Ctrl Delay			12.5									
HCM 6th LOS			B									

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	26	60	3	98	94	23	1	79	160	17	117	7
Future Volume (veh/h)	26	60	3	98	94	23	1	79	160	17	117	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	28	65	3	107	102	25	1	86	174	18	127	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	2	2	2	2	2	2	2	2	2
Cap, veh/h	203	430	18	302	269	58	61	282	566	127	795	47
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.34	0.51	0.51	0.51	0.51	0.51	0.51
Sat Flow, veh/h	366	1258	52	628	789	169	1	556	1113	117	1565	93
Grp Volume(v), veh/h	96	0	0	234	0	0	261	0	0	153	0	0
Grp Sat Flow(s),veh/h/ln	1676	0	0	1587	0	0	1670	0	0	1775	0	0
Q Serve(g_s), s	0.0	0.0	0.0	4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.2	0.0	0.0	6.5	0.0	0.0	5.5	0.0	0.0	2.7	0.0	0.0
Prop In Lane	0.29		0.03	0.46		0.11	0.00		0.67	0.12		0.05
Lane Grp Cap(c), veh/h	650	0	0	629	0	0	909	0	0	969	0	0
V/C Ratio(X)	0.15	0.00	0.00	0.37	0.00	0.00	0.29	0.00	0.00	0.16	0.00	0.00
Avail Cap(c_a), veh/h	650	0	0	629	0	0	909	0	0	969	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.7	0.0	0.0	15.0	0.0	0.0	8.6	0.0	0.0	7.9	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.0	1.7	0.0	0.0	0.8	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.0	2.5	0.0	0.0	1.8	0.0	0.0	1.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.2	0.0	0.0	16.7	0.0	0.0	9.4	0.0	0.0	8.3	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h		96			234			261			153	
Approach Delay, s/veh		14.2			16.7			9.4			8.3	
Approach LOS		B			B			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		25.0		35.0		25.0		35.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		20.5		30.5		20.5		30.5				
Max Q Clear Time (g_c+I1), s		8.5		7.5		4.2		4.7				
Green Ext Time (p_c), s		1.0		1.6		0.4		0.8				

Intersection Summary												
HCM 6th Ctrl Delay			12.1									
HCM 6th LOS			B									

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	3	97	1	229	103	38	6	103	186	57	266	4
Future Volume (veh/h)	3	97	1	229	103	38	6	103	186	57	266	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	3	105	1	249	112	41	7	112	202	62	289	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	8	8	8	2	2	2	2	2	2	2	2	2
Cap, veh/h	65	597	6	403	151	52	66	311	535	174	758	10
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.34	0.51	0.51	0.51	0.51	0.51	0.51
Sat Flow, veh/h	11	1746	16	894	442	152	10	611	1053	204	1490	19
Grp Volume(v), veh/h	109	0	0	402	0	0	321	0	0	355	0	0
Grp Sat Flow(s),veh/h/ln	1773	0	0	1488	0	0	1674	0	0	1713	0	0
Q Serve(g_s), s	0.0	0.0	0.0	11.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.6	0.0	0.0	14.4	0.0	0.0	7.0	0.0	0.0	6.9	0.0	0.0
Prop In Lane	0.03		0.01	0.62		0.10	0.02		0.63	0.17		0.01
Lane Grp Cap(c), veh/h	667	0	0	606	0	0	912	0	0	941	0	0
V/C Ratio(X)	0.16	0.00	0.00	0.66	0.00	0.00	0.35	0.00	0.00	0.38	0.00	0.00
Avail Cap(c_a), veh/h	667	0	0	606	0	0	912	0	0	941	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.9	0.0	0.0	17.5	0.0	0.0	9.0	0.0	0.0	9.0	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.0	5.7	0.0	0.0	1.1	0.0	0.0	1.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.0	5.4	0.0	0.0	2.4	0.0	0.0	2.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.4	0.0	0.0	23.1	0.0	0.0	10.0	0.0	0.0	10.1	0.0	0.0
LnGrp LOS	B	A	A	C	A	A	B	A	A	B	A	A
Approach Vol, veh/h		109			402			321			355	
Approach Delay, s/veh		14.4			23.1			10.0			10.1	
Approach LOS		B			C			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		25.0		35.0		25.0		35.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		20.5		30.5		20.5		30.5				
Max Q Clear Time (g_c+I1), s		16.4		9.0		4.6		8.9				
Green Ext Time (p_c), s		1.0		2.0		0.4		2.2				

Intersection Summary												
HCM 6th Ctrl Delay			14.9									
HCM 6th LOS			B									

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	3	101	1	233	103	38	6	103	186	57	266	4
Future Volume (veh/h)	3	101	1	233	103	38	6	103	186	57	266	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	3	110	1	253	112	41	7	112	202	62	289	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	8	8	8	2	2	2	2	2	2	2	2	2
Cap, veh/h	65	597	5	405	148	51	66	311	535	174	758	10
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.34	0.51	0.51	0.51	0.51	0.51	0.51
Sat Flow, veh/h	10	1748	16	900	434	150	10	611	1053	204	1490	19
Grp Volume(v), veh/h	114	0	0	406	0	0	321	0	0	355	0	0
Grp Sat Flow(s),veh/h/ln	1773	0	0	1485	0	0	1674	0	0	1713	0	0
Q Serve(g_s), s	0.0	0.0	0.0	11.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.7	0.0	0.0	14.6	0.0	0.0	7.0	0.0	0.0	6.9	0.0	0.0
Prop In Lane	0.03		0.01	0.62		0.10	0.02		0.63	0.17		0.01
Lane Grp Cap(c), veh/h	667	0	0	605	0	0	912	0	0	941	0	0
V/C Ratio(X)	0.17	0.00	0.00	0.67	0.00	0.00	0.35	0.00	0.00	0.38	0.00	0.00
Avail Cap(c_a), veh/h	667	0	0	605	0	0	912	0	0	941	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.9	0.0	0.0	17.6	0.0	0.0	9.0	0.0	0.0	9.0	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.0	0.0	5.9	0.0	0.0	1.1	0.0	0.0	1.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	0.0	5.4	0.0	0.0	2.4	0.0	0.0	2.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.4	0.0	0.0	23.4	0.0	0.0	10.0	0.0	0.0	10.1	0.0	0.0
LnGrp LOS	B	A	A	C	A	A	B	A	A	B	A	A
Approach Vol, veh/h		114			406			321			355	
Approach Delay, s/veh		14.4			23.4			10.0			10.1	
Approach LOS		B			C			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		25.0		35.0		25.0		35.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		20.5		30.5		20.5		30.5				
Max Q Clear Time (g_c+I1), s		16.6		9.0		4.7		8.9				
Green Ext Time (p_c), s		0.9		2.0		0.4		2.2				

Intersection Summary												
HCM 6th Ctrl Delay			15.0									
HCM 6th LOS			B									

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	3	89	1	221	103	38	6	103	186	57	266	4
Future Volume (veh/h)	3	89	1	221	103	38	6	103	186	57	266	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	3	97	1	240	112	41	7	112	202	62	289	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	2	2	2	2	2	2	2	2	2
Cap, veh/h	66	615	6	397	157	53	66	311	535	174	758	10
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.34	0.51	0.51	0.51	0.51	0.51	0.51
Sat Flow, veh/h	12	1801	18	878	459	156	10	611	1053	204	1490	19
Grp Volume(v), veh/h	101	0	0	393	0	0	321	0	0	355	0	0
Grp Sat Flow(s),veh/h/ln	1831	0	0	1493	0	0	1674	0	0	1713	0	0
Q Serve(g_s), s	0.0	0.0	0.0	11.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.3	0.0	0.0	13.9	0.0	0.0	7.0	0.0	0.0	6.9	0.0	0.0
Prop In Lane	0.03		0.01	0.61		0.10	0.02		0.63	0.17		0.01
Lane Grp Cap(c), veh/h	687	0	0	607	0	0	912	0	0	941	0	0
V/C Ratio(X)	0.15	0.00	0.00	0.65	0.00	0.00	0.35	0.00	0.00	0.38	0.00	0.00
Avail Cap(c_a), veh/h	687	0	0	607	0	0	912	0	0	941	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.8	0.0	0.0	17.4	0.0	0.0	9.0	0.0	0.0	9.0	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.0	5.3	0.0	0.0	1.1	0.0	0.0	1.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.0	5.2	0.0	0.0	2.4	0.0	0.0	2.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.2	0.0	0.0	22.6	0.0	0.0	10.0	0.0	0.0	10.1	0.0	0.0
LnGrp LOS	B	A	A	C	A	A	B	A	A	B	A	A
Approach Vol, veh/h		101			393			321			355	
Approach Delay, s/veh		14.2			22.6			10.0			10.1	
Approach LOS		B			C			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		25.0		35.0		25.0		35.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		20.5		30.5		20.5		30.5				
Max Q Clear Time (g_c+I1), s		15.9		9.0		4.3		8.9				
Green Ext Time (p_c), s		1.0		2.0		0.4		2.2				

Intersection Summary												
HCM 6th Ctrl Delay			14.7									
HCM 6th LOS			B									

Intersection	
Int Delay, s/veh	0

Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	0	0	0	0	370	0	0	230	8
Future Vol, veh/h	0	0	0	0	0	0	0	370	0	0	230	8
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	100
Mvmt Flow	0	0	0	0	0	0	0	402	0	0	250	9

Major/Minor	Minor1			Minor2			Major1			Major2		
Conflicting Flow All	657	661	402	657	657	255	259	0	0	402	0	0
Stage 1	402	402	-	255	255	-	-	-	-	-	-	-
Stage 2	255	259	-	402	402	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	378	383	648	378	385	784	1306	-	-	1157	-	-
Stage 1	625	600	-	749	696	-	-	-	-	-	-	-
Stage 2	749	694	-	625	600	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	378	383	648	378	385	784	1306	-	-	1157	-	-
Mov Cap-2 Maneuver	378	383	-	378	385	-	-	-	-	-	-	-
Stage 1	625	600	-	749	696	-	-	-	-	-	-	-
Stage 2	749	694	-	625	600	-	-	-	-	-	-	-

Approach	NB	SB	NE	SW
HCM Control Delay, s	0	0	0	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NEL	NET	NER	NBLn1	SBLn1	SWL	SWT	SWR
Capacity (veh/h)	1306	-	-	-	-	1157	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	0	0	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-	0	-	-

Intersection	
Int Delay, s/veh	0

Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	0	0	0	0	370	0	0	230	12
Future Vol, veh/h	0	0	0	0	0	0	0	370	0	0	230	12
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	100
Mvmt Flow	0	0	0	0	0	0	0	402	0	0	250	13

Major/Minor	Minor1			Minor2			Major1			Major2		
Conflicting Flow All	659	665	402	659	659	257	263	0	0	402	0	0
Stage 1	402	402	-	257	257	-	-	-	-	-	-	-
Stage 2	257	263	-	402	402	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	377	381	648	377	384	782	1301	-	-	1157	-	-
Stage 1	625	600	-	748	695	-	-	-	-	-	-	-
Stage 2	748	691	-	625	600	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	377	381	648	377	384	782	1301	-	-	1157	-	-
Mov Cap-2 Maneuver	377	381	-	377	384	-	-	-	-	-	-	-
Stage 1	625	600	-	748	695	-	-	-	-	-	-	-
Stage 2	748	691	-	625	600	-	-	-	-	-	-	-

Approach	NB	SB	NE	SW
HCM Control Delay, s	0	0	0	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NEL	NET	NER	NBLn1	SBLn1	SWL	SWT	SWR
Capacity (veh/h)	1301	-	-	-	-	1157	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	0	0	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-	0	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	12	0	0	12	0	0	370	0	0	230	0
Future Vol, veh/h	0	12	0	0	12	0	0	370	0	0	230	0
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	100	2	2	100	2	2	2	2	2	2	100
Mvmt Flow	0	13	0	0	13	0	0	402	0	0	250	0

Major/Minor	Minor1			Minor2			Major1			Major2		
Conflicting Flow All	659	652	402	659	652	250	250	0	0	402	0	0
Stage 1	402	402	-	250	250	-	-	-	-	-	-	-
Stage 2	257	250	-	409	402	-	-	-	-	-	-	-
Critical Hdwy	7.12	7.5	6.22	7.12	7.5	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	6.5	-	6.12	6.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	6.5	-	6.12	6.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.9	3.318	3.518	4.9	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	377	285	648	377	285	789	1316	-	-	1157	-	-
Stage 1	625	462	-	754	552	-	-	-	-	-	-	-
Stage 2	748	552	-	619	462	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	364	285	648	364	285	789	1316	-	-	1157	-	-
Mov Cap-2 Maneuver	364	285	-	364	285	-	-	-	-	-	-	-
Stage 1	625	462	-	754	552	-	-	-	-	-	-	-
Stage 2	730	552	-	602	462	-	-	-	-	-	-	-

Approach	NB	SB	NE	SW
HCM Control Delay, s	18.2	18.2	0	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NEL	NET	NER	NBLn1	SBLn1	SWL	SWT	SWR
Capacity (veh/h)	1316	-	-	285	285	1157	-	-
HCM Lane V/C Ratio	-	-	-	0.046	0.046	-	-	-
HCM Control Delay (s)	0	-	-	18.2	18.2	0	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

Intersection	
Int Delay, s/veh	0

Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	0	0	0	0	316	0	0	450	8
Future Vol, veh/h	0	0	0	0	0	0	0	316	0	0	450	8
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	100
Mvmt Flow	0	0	0	0	0	0	0	343	0	0	489	9

Major/Minor	Minor1			Minor2			Major1			Major2		
Conflicting Flow All	837	841	343	837	837	494	498	0	0	343	0	0
Stage 1	343	343	-	494	494	-	-	-	-	-	-	-
Stage 2	494	498	-	343	343	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	286	301	700	286	303	575	1066	-	-	1216	-	-
Stage 1	672	637	-	557	546	-	-	-	-	-	-	-
Stage 2	557	544	-	672	637	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	286	301	700	286	303	575	1066	-	-	1216	-	-
Mov Cap-2 Maneuver	286	301	-	286	303	-	-	-	-	-	-	-
Stage 1	672	637	-	557	546	-	-	-	-	-	-	-
Stage 2	557	544	-	672	637	-	-	-	-	-	-	-

Approach	NB	SB	NE	SW
HCM Control Delay, s	0	0	0	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NEL	NET	NER	NBLn1	SBLn1	SWL	SWT	SWR
Capacity (veh/h)	1066	-	-	-	-	1216	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	0	0	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-	0	-	-

Intersection	
Int Delay, s/veh	0

Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	0	0	0	0	316	0	0	450	12
Future Vol, veh/h	0	0	0	0	0	0	0	316	0	0	450	12
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	100
Mvmt Flow	0	0	0	0	0	0	0	343	0	0	489	13

Major/Minor	Minor1			Minor2			Major1			Major2		
Conflicting Flow All	839	845	343	839	839	496	502	0	0	343	0	0
Stage 1	343	343	-	496	496	-	-	-	-	-	-	-
Stage 2	496	502	-	343	343	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	285	300	700	285	302	574	1062	-	-	1216	-	-
Stage 1	672	637	-	556	545	-	-	-	-	-	-	-
Stage 2	556	542	-	672	637	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	285	300	700	285	302	574	1062	-	-	1216	-	-
Mov Cap-2 Maneuver	285	300	-	285	302	-	-	-	-	-	-	-
Stage 1	672	637	-	556	545	-	-	-	-	-	-	-
Stage 2	556	542	-	672	637	-	-	-	-	-	-	-

Approach	NB	SB	NE	SW
HCM Control Delay, s	0	0	0	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NEL	NET	NER	NBLn1	SBLn1	SWL	SWT	SWR
Capacity (veh/h)	1062	-	-	-	-	1216	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	0	0	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-	0	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	12	0	0	12	0	0	316	0	0	450	0
Future Vol, veh/h	0	12	0	0	12	0	0	316	0	0	450	0
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	100	2	2	100	2	2	2	2	2	2	100
Mvmt Flow	0	13	0	0	13	0	0	343	0	0	489	0

Major/Minor	Minor1			Minor2			Major1			Major2		
Conflicting Flow All	839	832	343	839	832	489	489	0	0	343	0	0
Stage 1	343	343	-	489	489	-	-	-	-	-	-	-
Stage 2	496	489	-	350	343	-	-	-	-	-	-	-
Critical Hdwy	7.12	7.5	6.22	7.12	7.5	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	6.5	-	6.12	6.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	6.5	-	6.12	6.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.9	3.318	3.518	4.9	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	285	217	700	285	217	579	1074	-	-	1216	-	-
Stage 1	672	495	-	561	416	-	-	-	-	-	-	-
Stage 2	556	416	-	666	495	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	272	217	700	272	217	579	1074	-	-	1216	-	-
Mov Cap-2 Maneuver	272	217	-	272	217	-	-	-	-	-	-	-
Stage 1	672	495	-	561	416	-	-	-	-	-	-	-
Stage 2	539	416	-	648	495	-	-	-	-	-	-	-

Approach	NB	SB	NE	SW
HCM Control Delay, s	22.6	22.6	0	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NEL	NET	NER	NBLn1	SBLn1	SWL	SWT	SWR
Capacity (veh/h)	1074	-	-	217	217	1216	-	-
HCM Lane V/C Ratio	-	-	-	0.06	0.06	-	-	-
HCM Control Delay (s)	0	-	-	22.6	22.6	0	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.2	0	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	0	0	0	0	0	0	422	0	0	255	0
Future Vol, veh/h	0	0	0	0	0	0	0	422	0	0	255	0
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	0	459	0	0	277	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	736	736	277	736	736	459	277	0	0	459	0	0
Stage 1	277	277	-	459	459	-	-	-	-	-	-	-
Stage 2	459	459	-	277	277	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	335	346	762	335	346	602	1286	-	-	1102	-	-
Stage 1	729	681	-	582	566	-	-	-	-	-	-	-
Stage 2	582	566	-	729	681	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	335	346	762	335	346	602	1286	-	-	1102	-	-
Mov Cap-2 Maneuver	335	346	-	335	346	-	-	-	-	-	-	-
Stage 1	729	681	-	582	566	-	-	-	-	-	-	-
Stage 2	582	566	-	729	681	-	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1286	-	-	-	-	1102	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	0	0	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-	0	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	0	0	0	0	0	0	422	0	0	255	0
Future Vol, veh/h	0	0	0	0	0	0	0	422	0	0	255	0
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	0	459	0	0	277	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	736	736	277	736	736	459	277	0	0	459	0	0
Stage 1	277	277	-	459	459	-	-	-	-	-	-	-
Stage 2	459	459	-	277	277	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	335	346	762	335	346	602	1286	-	-	1102	-	-
Stage 1	729	681	-	582	566	-	-	-	-	-	-	-
Stage 2	582	566	-	729	681	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	335	346	762	335	346	602	1286	-	-	1102	-	-
Mov Cap-2 Maneuver	335	346	-	335	346	-	-	-	-	-	-	-
Stage 1	729	681	-	582	566	-	-	-	-	-	-	-
Stage 2	582	566	-	729	681	-	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1286	-	-	-	-	1102	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	0	0	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-	0	-	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	12	0	12	12	0	0	410	12	0	243	0
Future Vol, veh/h	0	12	0	12	12	0	0	410	12	0	243	0
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	100	2	100	100	2	2	3	100	2	2	2
Mvmt Flow	0	13	0	13	13	0	0	446	13	0	264	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	723	723	264	724	717	453	264	0	0	459	0	0
Stage 1	264	264	-	453	453	-	-	-	-	-	-	-
Stage 2	459	459	-	271	264	-	-	-	-	-	-	-
Critical Hdwy	7.12	7.5	6.22	8.1	7.5	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	6.5	-	7.1	6.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	6.5	-	7.1	6.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.9	3.318	4.4	4.9	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	342	256	775	242	258	607	1300	-	-	1102	-	-
Stage 1	741	543	-	436	434	-	-	-	-	-	-	-
Stage 2	582	431	-	563	543	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	329	256	775	233	258	607	1300	-	-	1102	-	-
Mov Cap-2 Maneuver	329	256	-	233	258	-	-	-	-	-	-	-
Stage 1	741	543	-	436	434	-	-	-	-	-	-	-
Stage 2	565	431	-	549	543	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19.8	21.4	0	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1300	-	-	256	245	1102	-	-
HCM Lane V/C Ratio	-	-	-	0.051	0.106	-	-	-
HCM Control Delay (s)	0	-	-	19.8	21.4	0	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.4	0	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	0	0	0	0	333	0	0	449	0
Future Vol, veh/h	0	0	0	0	0	0	0	333	0	0	449	0
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	0	362	0	0	488	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	850	850	488	850	850	362	488	0	0	362	0	0
Stage 1	488	488	-	362	362	-	-	-	-	-	-	-
Stage 2	362	362	-	488	488	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	280	298	580	280	298	683	1075	-	-	1197	-	-
Stage 1	561	550	-	657	625	-	-	-	-	-	-	-
Stage 2	657	625	-	561	550	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	280	298	580	280	298	683	1075	-	-	1197	-	-
Mov Cap-2 Maneuver	280	298	-	280	298	-	-	-	-	-	-	-
Stage 1	561	550	-	657	625	-	-	-	-	-	-	-
Stage 2	657	625	-	561	550	-	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1075	-	-	-	-	1197	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	0	0	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-	0	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	0	0	0	0	0	0	333	0	0	449	0
Future Vol, veh/h	0	0	0	0	0	0	0	333	0	0	449	0
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	0	362	0	0	488	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	850	850	488	850	850	362	488	0	0	362	0	0
Stage 1	488	488	-	362	362	-	-	-	-	-	-	-
Stage 2	362	362	-	488	488	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	280	298	580	280	298	683	1075	-	-	1197	-	-
Stage 1	561	550	-	657	625	-	-	-	-	-	-	-
Stage 2	657	625	-	561	550	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	280	298	580	280	298	683	1075	-	-	1197	-	-
Mov Cap-2 Maneuver	280	298	-	280	298	-	-	-	-	-	-	-
Stage 1	561	550	-	657	625	-	-	-	-	-	-	-
Stage 2	657	625	-	561	550	-	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1075	-	-	-	-	1197	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	0	0	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-	0	-	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	12	0	12	12	0	0	321	12	0	437	0
Future Vol, veh/h	0	12	0	12	12	0	0	321	12	0	437	0
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	100	2	100	100	2	2	2	100	2	2	2
Mvmt Flow	0	13	0	13	13	0	0	349	13	0	475	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	837	837	475	838	831	356	475	0	0	362	0	0
Stage 1	475	475	-	356	356	-	-	-	-	-	-	-
Stage 2	362	362	-	482	475	-	-	-	-	-	-	-
Critical Hdwy	7.12	7.5	6.22	8.1	7.5	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	6.5	-	7.1	6.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	6.5	-	7.1	6.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.9	3.318	4.4	4.9	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	286	215	590	198	217	688	1087	-	-	1197	-	-
Stage 1	570	423	-	500	487	-	-	-	-	-	-	-
Stage 2	657	484	-	418	423	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	273	215	590	189	217	688	1087	-	-	1197	-	-
Mov Cap-2 Maneuver	273	215	-	189	217	-	-	-	-	-	-	-
Stage 1	570	423	-	500	487	-	-	-	-	-	-	-
Stage 2	639	484	-	405	423	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	22.8	25.4	0	0
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1087	-	-	215	202	1197	-	-
HCM Lane V/C Ratio	-	-	-	0.061	0.129	-	-	-
HCM Control Delay (s)	0	-	-	22.8	25.4	0	-	-
HCM Lane LOS	A	-	-	C	D	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.4	0	-	-

Attachment D
August Truck Counts

Gate to Gate Truck Route
City of Hudson and Town of Greenport, NY

Project No.: 115-337
Project Name: Colarusso Quarry to Dock
Count Date: August 25, 2020 (Tuesday)

Legend:
Traveling TO dock
Traveling FROM dock

TRUCKS

Leg	Broad St.		Front St.		Front St.	
Direction	Eastbound		Northbound		Southbound	
Start Time	Left*	Right	Left*	Thru	Thru	Right
7:00 AM	6	0	7	0	0	0
8:00 AM	8	0	10	0	1	0
9:00 AM	9	0	8	1	1	0
10:00 AM	9	0	9	1	1	0
11:00 AM	9	0	9	2	1	0
12:00 PM	8	1	7	2	0	0
1:00 PM	11	0	9	0	0	1
2:00 PM	11	2	13	0	1	1
3:00 PM	13	0	13	2	1	2
4:00 PM	8	2	7	0	0	0
5:00 PM	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0
Total:	**92**	**5**	**92**	**8**	**6**	**4**

Total Trucks: **207**

TOTAL

Leg	Broad St.		Front St.		Front St.	
Direction	Eastbound		Northbound		Southbound	
Start Time	Left*	Right	Left*	Thru	Thru	Right
7:00 AM	20	1	8	8	14	14
8:00 AM	22	2	11	12	6	20
9:00 AM	45	2	10	14	15	36
10:00 AM	31	3	11	15	9	34
11:00 AM	49	2	14	17	18	43
12:00 PM	60	4	10	21	20	56
1:00 PM	54	9	13	15	12	52
2:00 PM	70	9	19	23	15	46
3:00 PM	61	5	14	24	18	57
4:00 PM	43	9	8	25	27	45
5:00 PM	30	2	11	23	24	44
6:00 PM	49	5	8	13	12	61
Total:	**534**	**53**	**137**	**210**	**190**	**508**

Total Vehicles: **1846**

TRUCK PERCENTAGE

Leg	Broad St.		Front St.		Front St.	
Direction	Eastbound		Northbound		Southbound	
Start Time	Left*	Right	Left*	Thru	Thru	Right
7:00 AM	30%	0%	88%	0%	0%	0%
8:00 AM	36%	0%	91%	0%	17%	0%
9:00 AM	20%	0%	80%	7%	7%	0%
10:00 AM	29%	0%	82%	7%	11%	0%
11:00 AM	18%	0%	64%	12%	6%	0%
12:00 PM	13%	25%	70%	10%	0%	0%
1:00 PM	20%	0%	69%	0%	0%	2%
2:00 PM	16%	22%	68%	0%	7%	2%
3:00 PM	21%	0%	93%	8%	6%	4%
4:00 PM	19%	22%	88%	0%	0%	0%
5:00 PM	0%	0%	0%	0%	0%	0%
6:00 PM	0%	0%	0%	0%	0%	0%

SUMMARY

Colarusso Truck Volume		% of Trucks that are Colarusso		
To Dock	From Dock	EBL	NBL	
7	6	100%	100%	7:00 AM
10	8	100%	100%	8:00 AM
8	9	100%	100%	9:00 AM
9	9	100%	100%	10:00 AM
9	9	100%	100%	11:00 AM
7	8	100%	100%	12:00 PM
9	11	100%	100%	1:00 PM
13	11	100%	100%	2:00 PM
13	13	100%	100%	3:00 PM
7	8	100%	100%	4:00 PM
0	0	0%	0%	5:00 PM
0	0	0%	0%	6:00 PM

*Truck volumes include Colarusso company trucks and other business' truck traffic on these movements.
Volumes include tractor trailer and single unit trucks.

Project No.: 115-337
Project Nam Colarusso Quarry to Dock
Count Date: August 25, 2020 (Tuesday)

Legend:
Traveling TO dock
Traveling FROM dock

TRUCKS*

Leg	Columbia St.			Columbia St.			N. 3rd St.			N. 3rd St.		
Direction	Eastbound			Westbound			Northbound			Southbound		
Start Time	Left	Thru*	Right	Left*	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:00 AM	0	8	1	11	5	1	1	3	4	0	2	0
8:00 AM	0	12	1	18	2	0	0	0	4	0	1	0
9:00 AM	0	15	2	20	3	3	0	1	6	1	4	2
10:00 AM	0	9	2	15	1	0	0	1	6	0	1	0
11:00 AM	1	12	0	13	4	0	0	3	11	0	5	0
12:00 PM	0	11	1	15	5	0	0	1	6	0	1	1
1:00 PM	0	14	1	20	2	0	1	2	3	0	2	0
2:00 PM	0	12	2	17	4	0	1	1	5	0	2	1
3:00 PM	0	16	0	15	0	0	0	4	7	0	3	0
4:00 PM	0	8	0	7	0	0	0	1	3	0	1	0
5:00 PM	0	0	0	1	0	0	0	0	7	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	**1**	**117**	**10**	**152**	**26**	**4**	**3**	**17**	**62**	**1**	**22**	**4**

Total Trucks: **419**

TOTAL

Leg	Columbia St.			Columbia St.			N. 3rd St.			N. 3rd St.		
Direction	Eastbound			Westbound			Northbound			Southbound		
Start Time	Left	Thru*	Right	Left*	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:00 AM	7	27	5	28	16	4	1	56	33	5	49	0
8:00 AM	4	36	5	44	14	8	6	66	43	10	61	2
9:00 AM	1	43	3	51	19	8	4	70	48	4	68	4
10:00 AM	2	44	4	44	17	8	9	77	31	6	58	4
11:00 AM	10	50	2	53	34	13	3	60	46	7	86	8
12:00 PM	13	46	4	57	35	15	4	81	48	9	90	9
1:00 PM	10	60	9	71	41	9	9	99	56	10	106	12
2:00 PM	9	69	11	66	40	4	7	88	35	10	89	6
3:00 PM	13	63	6	74	31	12	5	101	39	5	122	4
4:00 PM	6	45	2	64	34	12	6	111	31	9	123	3
5:00 PM	8	17	3	38	24	8	9	99	34	6	97	4
6:00 PM	15	32	4	24	21	12	8	74	17	3	68	9
	98	**532**	**58**	**614**	**326**	**113**	**71**	**982**	**461**	**84**	**1017**	**65**

Total Vehicles: **7774**

TRUCK PERCENTAGE*

Leg	Columbia St.			Columbia St.			N. 3rd St.			N. 3rd St.		
Direction	Eastbound			Westbound			Northbound			Southbound		
Start Time	Left	Thru*	Right	Left*	Thru	Right	Left	Thru	Right	Left	Thru	Right
7:00 AM	0%	30%	20%	39%	31%	25%	100%	5%	12%	0%	4%	#DIV/0!
8:00 AM	0%	33%	20%	41%	14%	0%	0%	0%	9%	0%	2%	0%
9:00 AM	0%	35%	67%	39%	16%	38%	0%	1%	13%	25%	6%	50%
10:00 AM	0%	20%	50%	34%	6%	0%	0%	1%	19%	0%	2%	0%
11:00 AM	10%	24%	0%	25%	12%	0%	0%	5%	24%	0%	6%	0%
12:00 PM	0%	24%	25%	26%	14%	0%	0%	1%	13%	0%	1%	11%
1:00 PM	0%	23%	11%	28%	5%	0%	11%	2%	5%	0%	2%	0%
2:00 PM	0%	17%	18%	26%	10%	0%	14%	1%	14%	0%	2%	17%
3:00 PM	0%	25%	0%	20%	0%	0%	0%	4%	18%	0%	2%	0%
4:00 PM	0%	18%	0%	11%	0%	0%	0%	1%	10%	0%	1%	0%
5:00 PM	0%	0%	0%	3%	0%	0%	0%	0%	21%	0%	0%	0%
6:00 PM	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

SUMMARY

Colarusso Truck Volumes		% of Trucks that are Colarusso		
To Dock	From Dock	EBT	WBL	
7	6	75%	64%	7:00 AM
10	8	67%	56%	8:00 AM
8	9	60%	40%	9:00 AM
9	9	100%	60%	10:00 AM
9	9	75%	69%	11:00 AM
7	8	73%	47%	12:00 PM
9	11	79%	45%	1:00 PM
13	11	92%	76%	2:00 PM
13	13	81%	87%	3:00 PM
7	8	100%	100%	4:00 PM
0	0	0%	0%	5:00 PM
0	0	0%	0%	6:00 PM
92	**92**	**79%**	**61%**	

*Truck volumes include Colarusso company trucks and other business' truck traffic on these movements.
Volumes include tractor trailer and single unit trucks.

115-337 Quarry to Dock - TMC
Tue Aug 25, 2020
Full Length (7 AM-7 PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 776827, Location: 42.252852, -73.798305, Site Code: 115-337

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US

Leg	Broad St.						East						Front St.						Front St.						
Direction	Eastbound						Westbound						Northbound						Southbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2020-08-25 7:00AM	0	0	0	0	**0**	0	0	0	0	0	**0**	0	1	3	0	0	**4**	0	0	5	6	0	**11**	0	**15**
7:15AM	4	0	0	0	**4**	0	0	0	0	0	**0**	0	1	1	0	0	**2**	0	0	2	5	0	**7**	1	**13**
7:30AM	10	0	1	0	**11**	0	0	0	0	0	**0**	0	4	1	0	0	**5**	0	0	4	3	0	**7**	0	**23**
7:45AM	6	0	0	0	**6**	0	0	0	0	0	**0**	0	2	3	0	0	**5**	0	0	3	0	0	**3**	0	**14**
Hourly Total	20	0	1	0	**21**	0	0	0	0	0	**0**	0	8	8	0	0	**16**	0	0	14	14	0	**28**	1	**65**
8:00AM	5	0	1	0	**6**	0	0	0	0	0	**0**	0	2	1	0	0	**3**	0	0	1	5	0	**6**	0	**15**
8:15AM	9	0	0	0	**9**	0	0	0	0	0	**0**	0	4	5	0	0	**9**	0	0	1	5	1	**7**	0	**25**
8:30AM	6	0	0	0	**6**	0	0	0	0	0	**0**	0	0	3	0	0	**3**	0	0	3	4	1	**8**	0	**17**
8:45AM	2	0	1	0	**3**	0	0	0	0	0	**0**	0	5	3	0	0	**8**	0	0	1	6	0	**7**	0	**18**
Hourly Total	22	0	2	0	**24**	0	0	0	0	0	**0**	0	11	12	0	0	**23**	0	0	6	20	2	**28**	0	**75**
9:00AM	12	0	0	0	**12**	0	0	0	0	0	**0**	0	2	2	0	0	**4**	0	0	7	10	0	**17**	0	**33**
9:15AM	8	0	1	0	**9**	0	0	0	0	0	**0**	2	2	5	0	0	**7**	0	0	1	8	1	**10**	0	**26**
9:30AM	9	0	1	0	**10**	0	0	0	0	0	**0**	0	5	4	0	0	**9**	0	0	4	9	0	**13**	0	**32**
9:45AM	16	0	0	0	**16**	0	0	0	0	0	**0**	0	1	3	0	0	**4**	0	0	3	9	0	**12**	0	**32**
Hourly Total	45	0	2	0	**47**	0	0	0	0	0	**0**	2	10	14	0	0	**24**	0	0	15	36	1	**52**	0	**123**
10:00AM	9	0	2	0	**11**	0	0	0	0	0	**0**	0	2	8	0	0	**10**	0	0	1	10	0	**11**	0	**32**
10:15AM	8	0	0	0	**8**	0	0	0	0	0	**0**	0	2	4	0	0	**6**	0	0	2	6	0	**8**	0	**22**
10:30AM	7	0	1	0	**8**	0	0	0	0	0	**0**	0	3	2	0	0	**5**	0	0	2	8	1	**11**	0	**24**
10:45AM	7	0	0	0	**7**	0	0	0	0	0	**0**	0	4	1	0	0	**5**	0	0	4	10	1	**15**	0	**27**
Hourly Total	31	0	3	0	**34**	0	0	0	0	0	**0**	0	11	15	0	0	**26**	0	0	9	34	2	**45**	0	**105**
11:00AM	17	0	0	0	**17**	0	0	0	0	0	**0**	0	3	6	0	0	**9**	0	0	4	7	1	**12**	1	**38**
11:15AM	6	0	0	0	**6**	1	0	0	0	0	**0**	1	5	3	0	0	**8**	1	0	5	11	0	**16**	0	**30**
11:30AM	16	0	2	0	**18**	0	0	0	0	0	**0**	0	5	4	0	0	**9**	0	0	5	11	0	**16**	0	**43**
11:45AM	10	0	0	0	**10**	0	0	0	0	0	**0**	0	1	4	0	0	**5**	0	1	4	14	0	**19**	0	**34**
Hourly Total	49	0	2	0	**51**	1	0	0	0	0	**0**	1	14	17	0	0	**31**	1	1	18	43	1	**63**	1	**145**
12:00PM	9	0	0	0	**9**	0	0	0	0	0	**0**	0	1	11	0	0	**12**	0	0	4	11	1	**16**	0	**37**
12:15PM	15	0	2	0	**17**	0	0	0	0	0	**0**	0	5	4	0	0	**9**	0	1	7	13	0	**21**	0	**47**
12:30PM	14	0	0	0	**14**	0	0	0	1	0	**1**	1	2	4	0	0	**6**	0	0	3	15	1	**19**	0	**40**
12:45PM	22	0	2	0	**24**	0	0	0	0	0	**0**	0	2	2	0	0	**4**	1	0	6	17	0	**23**	0	**51**
Hourly Total	60	0	4	0	**64**	0	0	0	1	0	**1**	1	10	21	0	0	**31**	1	1	20	56	2	**79**	0	**175**
1:00PM	10	0	3	0	**13**	0	0	0	0	0	**0**	0	3	3	0	0	**6**	0	0	2	18	1	**21**	0	**40**
1:15PM	11	0	0	0	**11**	0	0	0	0	0	**0**	0	6	3	0	0	**9**	0	1	4	8	1	**14**	0	**34**
1:30PM	18	0	2	0	**20**	0	0	0	0	0	**0**	0	2	4	0	0	**6**	0	0	4	15	0	**19**	0	**45**
1:45PM	15	0	4	0	**19**	0	0	0	0	0	**0**	0	2	5	0	0	**7**	0	0	2	11	0	**13**	0	**39**
Hourly Total	54	0	9	0	**63**	0	0	0	0	0	**0**	0	13	15	0	0	**28**	0	1	12	52	2	**67**	0	**158**
2:00PM	14	0	2	0	**16**	0	0	0	0	0	**0**	0	7	7	0	0	**14**	0	0	4	12	1	**17**	0	**47**
2:15PM	17	0	3	0	**20**	0	0	0	0	0	**0**	0	2	4	0	0	**6**	0	0	2	14	0	**16**	0	**42**
2:30PM	17	0	2	0	**19**	0	0	0	1	0	**1**	0	4	5	0	0	**9**	0	0	2	12	0	**14**	0	**43**
2:45PM	22	0	2	0	**24**	0	0	0	0	0	**0**	0	6	7	0	0	**13**	0	0	7	8	0	**15**	0	**52**
Hourly Total	70	0	9	0	**79**	0	0	0	1	0	**1**	0	19	23	0	0	**42**	0	0	15	46	1	**62**	0	**184**
3:00PM	8	0	1	0	**9**	0	0	0	0	0	**0**	0	4	3	0	0	**7**	0	0	7	17	0	**24**	0	**40**
3:15PM	20	0	2	0	**22**	0	0	0	0	0	**0**	0	4	7	0	0	**11**	0	0	3	16	0	**19**	0	**52**
3:30PM	14	0	2	0	**16**	0	0	0	0	0	**0**	0	3	11	0	0	**14**	0	0	7	14	0	**21**	0	**51**
3:45PM	19	0	0	0	**19**	0	0	0	0	0	**0**	0	3	3	0	0	**6**	0	0	1	10	1	**12**	0	**37**
Hourly Total	61	0	5	0	**66**	0	0	0	0	0	**0**	0	14	24	0	0	**38**	0	0	18	57	1	**76**	0	**180**
4:00PM	12	0	1	0	**13**	2	0	0	0	0	**0**	0	4	7	0	0	**11**	0	0	3	7	0	**10**	0	**34**
4:15PM	9	0	1	0	**10**	0	0	0	0	0	**0**	0	2	7	0	0	**9**	0	1	8	17	0	**26**	0	**45**
4:30PM	12	0	6	0	**18**	0	0	0	0	0	**0**	1	2	8	0	0	**10**	0	0	8	9	0	**17**	0	**45**
4:45PM	10	0	1	0	**11**	0	0	0	0	0	**0**	0	0	3	0	0	**3**	0	0	8	12	0	**20**	0	**34**
Hourly Total	43	0	9	0	**52**	2	0	0	0	0	**0**	1	8	25	0	0	**33**	0	1	27	45	0	**73**	0	**158**
5:00PM	7	0	0	0	**7**	0	0	0	0	0	**0**	0	5	12	0	0	**17**	0	0	5	8	0	**13**	0	**37**
5:15PM	7	0	0	0	**7**	0	0	0	0	0	**0**	0	1	3	0	0	**4**	0	0	3	9	0	**12**	0	**23**
5:30PM	6	0	1	0	**7**	1	0	0	0	0	**0**	0	2	3	0	0	**5**	0	0	7	11	0	**18**	0	**30**
5:45PM	10	0	1	0	**11**	1	0	0	0	0	**0**	0	3	5	0	0	**8**	0	0	9	16	2	**27**	0	**46**
Hourly Total	30	0	2	0	**32**	2	0	0	0	0	**0**	0	11	23	0	0	**34**	0	0	24	44	2	**70**	0	**136**
6:00PM	11	0	1	0	**12**	0	0	0	0	0	**0**	0	2	2	0	0	**4**	0	0	2	15	0	**17**	0	**33**
6:15PM	12	0	1	0	**13**	0	0	0	0	0	**0**	0	2	2	0	0	**4**	0	0	6	10	0	**16**	0	**33**
6:30PM	16	0	1	0	**17**	0	0	0	0	0	**0**	1	1	4	0	0	**5**	0	0	2	15	0	**17**	0	**39**
6:45PM	10	0	2	0	**12**	0	0	0	0	0	**0**	1	3	5	0	0	**8**	1	0	2	21	1	**24**	0	**44**
Hourly Total	49	0	5	0	**54**	0	0	0	0	0	**0**	2	8	13	0	0	**21**	1	0	12	61	1	**74**	0	**149**
Total	534	0	53	0	**587**	5	0	0	2	0	**2**	7	137	210	0	0	**347**	3	4	190	508	15	**717**	2	**1653**
% Approach	91.0%	0%	9.0%	0%	-	-	0%	0%	100%	0%	-	-	39.5%	60.5%	0%	0%	-	-	0.6%	26.5%	70.9%	2.1%	-	-	-
% Total	32.3%	0%	3.2%	0%	**35.5%**	-	0%	0%	0.1%	0%	**0.1%**	-	8.3%	12.7%	0%	0%	**21.0%**	-	0.2%	11.5%	30.7%	0.9%	**43.4%**	-	-
Lights	432	0	48	0	**480**	-	0	0	2	0	**2**	-	45	198	0	0	**243**	-	4	180	482	15	**681**	-	1406

Leg	Broad St.						East						Front St.						Front St.						
Direction	Eastbound						Westbound						Northbound						Southbound						
Time	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	**Int**
% Lights	80.9%	0%	90.6%	0%	**81.8%**	-	0%	0%	100%	0%	**100%**	-	32.8%	94.3%	0%	0%	**70.0%**	-	100%	94.7%	94.9%	100%	**95.0%**	-	85.1%
Articulated Trucks and Single-Unit Trucks	92	0	5	0	**97**	-	0	0	0	0	**0**	-	92	8	0	0	**100**	-	0	6	4	0	**10**	-	207
% Articulated Trucks and Single-Unit Trucks	17.2%	0%	9.4%	0%	**16.5%**	-	0%	0%	0%	0%	**0%**	-	67.2%	3.8%	0%	0%	**28.8%**	-	0%	3.2%	0.8%	0%	**1.4%**	-	12.5%
Buses	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% Buses	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Bicycles on Road	10	0	0	0	**10**	-	0	0	0	0	**0**	-	0	4	0	0	**4**	-	0	4	22	0	**26**	-	40
% Bicycles on Road	1.9%	0%	0%	0%	**1.7%**	-	0%	0%	0%	0%	**0%**	-	0%	1.9%	0%	0%	**1.2%**	-	0%	2.1%	4.3%	0%	**3.6%**	-	2.4%
Pedestrians	-	-	-	-	-	5	-	-	-	-	-	7	-	-	-	-	-	3	-	-	-	-	-	2	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

115-337 Quarry to Dock - TMC
Tue Aug 25, 2020
Full Length (7 AM-7 PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 776492, Location: 42.253617, -73.790399, Site Code: 115-337

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US

Leg	Columbia St.						Columbia St.						N. 3rd St.						N. 3rd St.						
Direction	Eastbound						Westbound						Northbound						Southbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2020-08-25 7:00AM	2	2	0	0	**4**	1	2	4	2	0	**8**	3	0	7	5	0	**12**	0	0	7	0	0	**7**	4	**31**
7:15AM	0	4	4	0	**8**	1	10	4	0	0	**14**	2	1	10	6	0	**17**	1	1	11	0	0	**12**	0	**51**
7:30AM	3	12	0	0	**15**	0	8	3	1	0	**12**	1	0	14	10	0	**24**	1	3	14	0	0	**17**	1	**68**
7:45AM	2	9	1	0	**12**	0	8	5	1	0	**14**	3	0	25	12	0	**37**	0	1	17	0	0	**18**	0	**81**
Hourly Total	7	27	5	0	**39**	2	28	16	4	0	**48**	9	1	56	33	0	**90**	2	5	49	0	0	**54**	5	**231**
8:00AM	1	8	1	0	**10**	0	11	7	1	0	**19**	0	2	15	12	0	**29**	0	1	16	0	0	**17**	0	**75**
8:15AM	0	12	2	0	**14**	0	14	5	1	0	**20**	1	2	21	9	0	**32**	1	3	15	0	0	**18**	3	**84**
8:30AM	2	8	1	0	**11**	1	3	0	2	0	**5**	0	0	17	11	0	**28**	0	2	17	2	0	**21**	2	**65**
8:45AM	1	8	1	0	**10**	0	16	2	4	0	**22**	5	2	13	11	0	**26**	0	4	13	0	0	**17**	3	**75**
Hourly Total	4	36	5	0	**45**	1	44	14	8	0	**66**	6	6	66	43	0	**115**	1	10	61	2	0	**73**	8	**299**
9:00AM	0	10	0	0	**10**	1	14	5	0	0	**19**	2	1	14	8	0	**23**	0	0	15	1	0	**16**	3	**68**
9:15AM	1	8	2	0	**11**	1	13	2	4	0	**19**	2	1	19	11	0	**31**	0	1	11	1	0	**13**	3	**74**
9:30AM	0	12	1	0	**13**	0	11	6	4	0	**21**	2	2	24	15	0	**41**	0	3	28	0	0	**31**	0	**106**
9:45AM	0	13	0	0	**13**	0	13	6	0	0	**19**	0	0	13	14	0	**27**	0	0	14	2	0	**16**	0	**75**
Hourly Total	1	43	3	0	**47**	2	51	19	8	0	**78**	6	4	70	48	0	**122**	0	4	68	4	0	**76**	6	**323**
10:00AM	1	8	2	0	**11**	0	12	4	0	0	**16**	7	2	13	6	0	**21**	1	2	11	0	0	**13**	5	**61**
10:15AM	1	9	1	0	**11**	0	12	4	3	0	**19**	3	3	19	10	0	**32**	0	1	16	1	0	**18**	3	**80**
10:30AM	0	10	1	0	**11**	0	10	4	3	0	**17**	6	3	23	9	0	**35**	0	1	17	2	0	**20**	3	**83**
10:45AM	0	17	0	0	**17**	0	10	5	2	0	**17**	5	1	22	6	0	**29**	0	2	14	1	0	**17**	1	**80**
Hourly Total	2	44	4	0	**50**	0	44	17	8	0	**69**	21	9	77	31	0	**117**	1	6	58	4	0	**68**	12	**304**
11:00AM	3	11	0	0	**14**	0	11	4	2	0	**17**	2	1	15	8	0	**24**	0	0	25	3	0	**28**	2	**83**
11:15AM	2	13	2	0	**17**	0	17	5	5	0	**27**	4	0	13	13	0	**26**	0	2	21	2	0	**25**	0	**95**
11:30AM	4	13	0	0	**17**	3	13	11	3	0	**27**	6	0	20	17	0	**37**	1	1	21	2	0	**24**	2	**105**
11:45AM	1	13	0	0	**14**	0	12	14	3	0	**29**	1	2	12	8	0	**22**	0	4	19	1	0	**24**	2	**89**
Hourly Total	10	50	2	0	**62**	3	53	34	13	0	**100**	13	3	60	46	0	**109**	1	7	86	8	0	**101**	6	**372**
12:00PM	2	11	1	0	**14**	2	17	10	4	0	**31**	2	0	14	10	0	**24**	0	1	26	1	0	**28**	6	**97**
12:15PM	5	11	1	0	**17**	0	19	5	2	0	**26**	4	2	22	11	0	**35**	0	3	24	2	0	**29**	0	**107**
12:30PM	3	14	1	0	**18**	0	9	13	6	0	**28**	7	0	29	14	0	**43**	0	2	22	2	0	**26**	0	**115**
12:45PM	3	10	1	0	**14**	1	12	7	3	0	**22**	5	2	16	13	0	**31**	0	3	18	4	0	**25**	1	**92**
Hourly Total	13	46	4	0	**63**	3	57	35	15	0	**107**	18	4	81	48	0	**133**	0	9	90	9	0	**108**	7	**411**
1:00PM	2	16	0	0	**18**	1	14	11	5	0	**30**	7	3	24	13	0	**40**	0	4	21	3	0	**28**	0	**116**
1:15PM	2	9	1	0	**12**	3	16	9	1	0	**26**	2	1	21	20	0	**42**	1	2	28	3	0	**33**	1	**113**
1:30PM	3	22	2	0	**27**	1	22	8	3	0	**33**	1	3	19	12	0	**34**	0	2	30	6	0	**38**	1	**132**
1:45PM	3	13	6	0	**22**	2	19	13	0	0	**32**	0	2	35	11	0	**48**	0	2	27	0	0	**29**	0	**131**
Hourly Total	10	60	9	0	**79**	7	71	41	9	0	**121**	10	9	99	56	0	**164**	1	10	106	12	0	**128**	2	**492**
2:00PM	1	13	0	0	**14**	0	16	8	2	0	**26**	2	3	23	15	0	**41**	0	5	17	1	0	**23**	0	**104**
2:15PM	2	16	7	0	**25**	1	20	11	2	0	**33**	0	1	26	8	0	**35**	0	1	24	1	0	**26**	2	**119**
2:30PM	3	18	2	0	**23**	1	15	12	0	0	**27**	3	3	19	6	0	**28**	1	2	18	1	0	**21**	0	**99**
2:45PM	3	22	2	0	**27**	1	15	9	0	0	**24**	1	0	20	6	0	**26**	0	2	30	3	0	**35**	3	**112**
Hourly Total	9	69	11	0	**89**	3	66	40	4	0	**110**	6	7	88	35	0	**130**	1	10	89	6	0	**105**	5	**434**
3:00PM	3	12	1	0	**16**	0	27	7	5	0	**39**	2	1	21	9	0	**31**	0	1	27	1	0	**29**	0	**115**
3:15PM	3	16	2	0	**21**	1	14	8	3	0	**25**	4	0	21	10	0	**31**	0	1	28	2	0	**31**	0	**108**
3:30PM	3	20	2	0	**25**	0	13	9	3	0	**25**	0	1	31	11	0	**43**	1	0	32	0	0	**32**	1	**125**
3:45PM	4	15	1	0	**20**	0	20	7	1	0	**28**	1	3	28	9	0	**40**	0	3	35	1	0	**39**	1	**127**
Hourly Total	13	63	6	0	**82**	1	74	31	12	0	**117**	7	5	101	39	0	**145**	1	5	122	4	0	**131**	2	**475**
4:00PM	1	10	1	0	**12**	2	21	7	5	0	**33**	0	0	27	9	0	**36**	0	3	32	0	0	**35**	0	**116**
4:15PM	2	15	0	0	**17**	1	17	11	2	1	**31**	3	1	29	8	0	**38**	0	3	22	0	0	**25**	3	**111**
4:30PM	2	9	1	0	**12**	0	17	9	5	0	**31**	6	4	29	6	0	**39**	2	1	34	2	0	**37**	6	**119**
4:45PM	1	11	0	0	**12**	2	9	7	0	0	**16**	10	1	26	8	0	**35**	2	2	35	1	0	**38**	4	**101**
Hourly Total	6	45	2	0	**53**	5	64	34	12	1	**111**	19	6	111	31	0	**148**	4	9	123	3	0	**135**	13	**447**
5:00PM	1	3	2	0	**6**	1	14	4	3	0	**21**	2	6	31	11	0	**48**	0	0	23	2	0	**25**	1	**100**
5:15PM	1	2	1	0	**4**	2	8	5	0	0	**13**	1	1	29	7	0	**37**	0	1	27	2	0	**30**	2	**84**
5:30PM	4	5	0	0	**9**	1	8	5	2	0	**15**	5	1	29	8	0	**38**	0	4	23	0	0	**27**	2	**89**
5:45PM	2	7	0	0	**9**	1	8	10	3	0	**21**	2	1	10	8	0	**19**	0	1	24	0	0	**25**	6	**74**
Hourly Total	8	17	3	0	**28**	5	38	24	8	0	**70**	10	9	99	34	0	**142**	0	6	97	4	0	**107**	11	**347**
6:00PM	2	4	1	0	**7**	1	10	3	3	0	**16**	1	1	21	6	0	**28**	0	0	25	2	0	**27**	3	**78**
6:15PM	2	8	1	0	**11**	1	9	4	3	0	**16**	3	3	16	3	0	**22**	0	1	14	2	0	**17**	3	**66**
6:30PM	6	10	1	0	**17**	2	0	6	3	0	**9**	0	2	21	5	0	**28**	0	1	18	2	0	**21**	5	**75**
6:45PM	5	10	1	0	**16**	0	5	8	3	0	**16**	0	2	16	3	0	**21**	3	1	11	3	0	**15**	0	**68**
Hourly Total	15	32	4	0	**51**	4	24	21	12	0	**57**	4	8	74	17	0	**99**	3	3	68	9	0	**80**	11	**287**
Total	98	532	58	0	**688**	36	614	326	113	1	**1054**	129	71	982	461	0	**1514**	15	84	1017	65	0	**1166**	88	**4422**
% Approach	14.2%	77.3%	8.4%	0%	-	-	58.3%	30.9%	10.7%	0.1%	-	-	4.7%	64.9%	30.4%	0%	-	-	7.2%	87.2%	5.6%	0%	-	-	-
% Total	2.2%	12.0%	1.3%	0%	**15.6%**	-	13.9%	7.4%	2.6%	0%	**23.8%**	-	1.6%	22.2%	10.4%	0%	**34.2%**	-	1.9%	23.0%	1.5%	0%	**26.4%**	-	-
Lights	94	409	47	0	**550**	-	461	296	108	1	**866**	-	67	962	398	0	**1427**	-	83	989	59	0	**1131**	-	3974
% Lights	95.9%	76.9%	81.0%	0%	**79.9%**	-	75.1%	90.8%	95.6%	100%	**82.2%**	-	94.4%	98.0%	86.3%	0%	**94.3%**	-	98.8%	97.2%	90.8%	0%	**97.0%**	-	89.9%
Articulated Trucks and Single-Unit Trucks	1	117	10	0	**128**	-	152	26	4	0	**182**	-	3	17	62	0	**82**	-	1	22	4	0	**27**	-	419
% Articulated Trucks and Single-Unit Trucks	1.0%	22.0%	17.2%	0%	**18.6%**	-	24.8%	8.0%	3.5%	0%	**17.3%**	-	4.2%	1.7%	13.4%	0%	**5.4%**	-	1.2%	2.2%	6.2%	0%	**2.3%**	-	9.5%
Buses	0	0	0	0	**0**	-	0	0	1	0	**1**	-	1	0	1	0	**2**	-	0	0	0	0	**0**	-	3
% Buses	0%	0%	0%	0%	**0%**	-	0%	0%	0.9%	0%	**0.1%**	-	1.4%	0%	0.2%	0%	**0.1%**	-	0%	0%	0%	0%	**0%**	-	0.1%

Leg	Columbia St.						Columbia St.						N. 3rd St.						N. 3rd St.						
Direction	Eastbound						Westbound						Northbound						Southbound						
Time	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	**Int**
Bicycles on Road	3	6	1	0	**10**	-	1	4	0	0	**5**	-	0	3	0	0	**3**	-	0	6	2	0	**8**	-	26
% Bicycles on Road	3.1%	1.1%	1.7%	0%	**1.5%**	-	0.2%	1.2%	0%	0%	**0.5%**	-	0%	0.3%	0%	0%	**0.2%**	-	0%	0.6%	3.1%	0%	**0.7%**	-	0.6%
Pedestrians	-	-	-	-	-	35	-	-	-	-	-	129	-	-	-	-	-	15	-	-	-	-	-	85	
% Pedestrians	-	-	-	-	-	97.2%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	96.6%	-
Bicycles on Crosswalk	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	3	
% Bicycles on Crosswalk	-	-	-	-	-	2.8%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	3.4%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Barton & Loguidice

SENT VIA EMAIL

August 7, 2020

Ms. Betsy Gramkow, Chair
City of Hudson Planning Board
520 Warren Street
Hudson, NY 12534

Re: A. Colarusso & Son Conditional Use Applications
Updated Traffic Evaluation Comments

File: 1204.006.001

Dear Ms. Gramkow:

Barton & Loguidice, D.P.C. (B&L) has completed a technical review of the following reports and information for the Quarry-to-Dock Haul Road and Commercial Dock Operations projects proposed by A. Colarusso & Son, Inc.:

- Traffic Evaluation, Colarusso Quarry to Dock Truck Route dated January 25, 2016 as prepared by Creighton Manning Engineering, LLP; and
- Traffic Evaluation Update, Colarusso Quarry to Dock Truck Route dated August 17, 2016 and updated December 5, 2016 as prepared by Creighton Manning Engineering, LLP; and
- Traffic Evaluation, Colarusso Gate to Gate Truck Route dated July 9, 2020 as prepared by Creighton Manning Engineering, LLP.

We offer the following comments and observations related to the potential traffic impacts of this project:

1. The traffic evaluation and updates were completed in accordance with industry accepted practices and methodology.

2. Existing traffic volume collection followed traditional industry techniques but due to reduction in travel as a result of the pandemic it expectedly revealed a decrease in traffic volume on Routes 9 and 9G.
    a. We agree with the use of historical data on Routes 9 and 9G projected into the future using annual growth rates.
    b. We agree with the origin/destination method for establishing 2019 volumes through the study area intersections. Please provide the source from where the data was derived.

3. The projected 2019 existing traffic data shows that Colarusso truck trips currently represent 3.4% and 2.4% of the AM and PM peak hours respectively through the Columbia Street/Third Street intersection.

4. Trip generation rates were derived from data supplied by the applicant and based on the average and maximum rates of barge deliveries. A typical traffic impact study would establish trip generation rates from the industry standard Institute of Transportation Engineers (ITE), *Trip Generation Manual.* However the land use and nature of this project does not fit within the published data categories, therefore the applicant's method for determining trips generated by the project is acceptable.
    a. Please provide clarification to the trip generation volumes that are included in the analysis.
        - The 2016 study presented the following:
            - Average: 24 truckloads/day or 48 trips/day resulting in an hourly rate of 4 trips/hour
            - Maximum: 142 truckloads/day or 284 trips/day resulting in an hourly rate of 24 trips/hour
        - The updated 2019 study presented the following:
            - Average: 57 truckloads/day or 114 trips/day resulting in an hourly rate of 10 trips/hour
            - 85th Percentile: 91 truckloads/day or 182 trips/day resulting in an hourly rate of 16 trips/hour
            - Maximum: 132 truckloads/day or 264 trips/day resulting in an hourly rate of 22 trips/hour
        - The 2019 average is higher than the 2016 average trips/day and trips/hour. The 2019 maximum trips/day has reduced from the 2016 study. The updated study is maintaining the higher 2016 maximum rate of 24 trips/hour for analyzing the no-build and build conditions.
    b. Commercial/Retail Trips:
        - The 2016 study, Table 2, presented 8 trips/peak hour
        - The 2019 study, Section D describes that the 85th percentile of commercial/retail volume is 24 trips/peak hour.
        - Please clarify the commercial/retail trips and provide an updated Trip Generation table.
        - Please clarify if the difference between additional 4 trips in Figure 2-2 and the additional 12 trips in Figure 3-2 is the result of the commercial/retail trips.

5. The applicant has provided confirmation in the project narrative that there are no current plans to expand operations and therefore there would not be an increase in the number of maximum truckloads per day or trips per day (142 truckloads/day = 284 trips/day or if revised in the clarification to #4 above).
    a. Since the trip generation is calculated based on the applicant supplied data and not the industry standard published data, a suggested mitigation is to request post construction traffic counts to confirm the projected data used in the traffic evaluation study. These counts should be completed on Columbia Street and the new Haul Road for comparison to pre-construction counts.

6. We agree with the sight distance improvement recommendation to the Route 9 haul road crossing and the recommendation for advance intersection warning sign installation at both Route 9G and Route 9 intersection crossings.

7. The applicant has proposed to restrict the hauling hours from 7 a.m. to 7 p.m. all week, to 7 a.m. to 6 p.m., Monday through Thursday, and 7 a.m. to 5 p.m. on Friday, and no hauling on weekends or major holidays. This reduction is operating hours will result in a small increase to the hourly trip generation statistics presented and should be provided in the updated trip generation table.

8. As a result of increased truck, vehicle, pedestrian, and bicycle volumes in the vicinity of the Broad St. / Front St. intersection, the City may wish to consider improvements such as signing and striping to delineate right of way and guidance as well as to increase awareness of the different modes of travel utilizing the space.

If you have any questions, please feel free to contact our office.

Sincerely,

BARTON & LOGUIDICE, D.P.C.

Daniel J. Rourke, P.E., PTOE
Senior Managing Engineer

CKD/PJC

Cc: Victoria L. Polidoro, Esq. *via email*

Attachment D

4/18/17 Barton & Loguidice Engineering
Letter to Greenport Planning Board Chair

April 18, 2017

Mr. Edward Stiffler, Chairperson
Town of Greenport Planning Board
600 Town Hall Drive
Hudson, New York 12534

Re: **Comments on State Environmental Quality Review**
A. Colarusso & Sons Quarry-to-Dock Haul Road

File: 1204.003.001

Dear Chairperson Stiffler and Members of the Planning Board:

Barton & Loguidice, D.P.C. (B&L) has been retained by the City of Hudson to complete a review of provided documentation on the Quarry-to-Dock Haul Road ("Action") proposed by A. Colarusso & Sons Quarry, Inc. ("Applicant") and Patrick J. Prendergast, P.E. ("Engineer"). The documentation was reviewed for the purposes of the Town of Greenport's SEQRA review.

I. Summary

The Applicant proposes to construct a 24-foot wide gravel and asphalt haul road from their quarry in the Town of Greenport to their Hudson River dock off of Broad Street in the City of Hudson. The haul road will utilize a former rail road bed, the South Bay causeway, and a portion of newly constructed road to establish an approximately 2.26-mile long corridor to transport raw materials from the quarry to the dock via dump trucks and tractor trailers.

Following an October 31, 2016 decision by the New York State Department of Environmental Conservation (DEC) Commissioner, the Town of Greenport was designated lead agency to conduct the environmental review of the Action under the State Environmental Quality Review Act (SEQRA). The City of Hudson Planning Board is an involved agency in the coordinated review.

As the Lead Agency, the Town of Greenport is responsible for determining if and Environmental Impact Statement (EIS) is needed, and it is the City's responsibility as an Involved Agency to provide the Town with information based on its review of the project to assist in making that determination. To determine that an EIS will not be required, the Lead Agency must determine that there will be no potential adverse environmental impacts or that identified potential adverse environmental impacts will not be significant. Therefore, it is critical that the Lead Agency consider all potential adverse environmental impacts that are

10 Airline Drive • Suite 200 • Albany, New York 12205
Telephone: 518-218-1801 • Facsimile: 518-218-1805 • www.BartonandLoguidice.com

identified and, where possible, consider methods and alternatives to mitigate significant impacts to the reasonable extent practicable.

As detailed in this letter, we find that additional information and detail must be provided by the Applicant in order for the Lead Agency to assess the identified moderate to large impacts (including primary, secondary, cumulative, short-, and long-term impacts). Adequate assessment of alternatives and impacts is necessary in making a proper determination of significance and in determining sufficient mitigation. Should this information not be provided in a timely fashion, we believe the Lead Agency should issue a positive declaration in order to thoroughly investigate the identified issues in more detail and consider alternatives.

The impacts of the proposed project are both similar and different within the Town and the City. Traffic issues are of interest to both the Town and the City. The environmental sensitivity of the South Bay area (i.e., recognized in the NYS Department of State Coastal Management Plan as a very rare, sensitive and valuable ecological resource) is more so in the City than the primarily upland environment where the proposed haul road will traverse through the Town. The City has taken great measures planning the future use and development of its riverfront through its Waterfront Revitalization Plan and subsequent zoning amendments reflect the protection of this significant City resource. As the Board is aware, the Lead Agency's obligation in the SEQRA review is to consider the whole action of the project throughout both the Town and the City.

The purpose of the following comments is to request additional information related to potential adverse environmental impacts be provided by the Applicant. This additional information will be necessary for the Lead Agency to make a reasoned determination of significance.

II. Segmentation

The application pending before the Town and City Planning Boards "proposes to reroute Hudson River Dock traffic from the City of Hudson and the State Highway system" according to the March 28, 2017 Full Environmental Assessment Form ("FEAF") prepared by the Applicant. The proposal, however, does not indicate any work will occur at the Hudson River Dock.

We note that following the locally-unpermitted replacement of concrete and wood bulkhead with a steel bulkhead at the Dock, the City of Hudson Code Enforcement Officer issued an Order to Remedy on January 24, 2017. An appeal to this decision is currently pending before the City of Hudson Zoning Board of Appeals.

In determining whether segmentation, as defined by 6 NYCRR 617.2(ag), is occurring the DEC's "SEQR Handbook" establishes a "basic test" of eight (8) questions. The Handbook further states, "If the answer to one or more of these questions is yes, an agency should be concerned that segmentation is taking place."

We find that the proposed haul road and bulkhead replacement at the dock result in an affirmative answer for the following questions:

- *Purpose: Is there a common purpose or goal for each segment?*
  - Both segments serve a common purpose or goal to improve the facilities of the Applicant, and provide for more efficient transport of raw materials.
- *Location: Is there a common geographic location involved?*
  - Both segments share a common location within Greenport and Hudson. They are separated only by railroad right-of-way owned by CSX Transportation.
- *Impacts: Do any of the activities being considered for segmentation share a common impact that may, if the activities are reviewed as one project, result in a potentially significant adverse impact, even if the impacts of single activities are not necessarily significant by themselves.*
  - Both segments share common and cumulative impacts on surface waters; flooding; plants and animals; aesthetic resources; open space and recreation; transportation; and noise, odor, and light; while also being inconsistent with community plans and character.
- *Ownership: Are the different segments under the same or common ownership or control?*
  - Both segments are owned and controlled by the Applicant.
- *Common Plan: Is a given segment a component of an identifiable overall plan? Will the initial phase direct the development of subsequent phases or will it preclude or limit the consideration of alternatives in subsequent phases?*

- Both segments are part of an apparent overall plan to make improvements to the Applicant's facilities to allow for more efficient transport and shipment of raw materials. However, as memorialized in the February 2017 Project Narrative as prepared by the Engineer, "there is no plan to expand the existing business" (1). This is affirmed in a March 28, 2017 letter from the Applicant which states "we have no future actions contemplated other than the pending Haul Road Improvement and Truck Traffic Diversion Project."

It is important to note that in the City's Zoning Code, which was adopted subsequent to the Local Waterfront Revitalization Plan, considers the haul road and the dock to be integral components of one another. In a half dozen locations, detailed later in this letter, the Code ties these two areas together for permitting and evaluation of impacts to the riverfront. Further, these City Zoning Map indicates that the causeway corridor through the South Bay area is zoned as Core Riverfront (i.e., the same as the Dock's zoning classification) although the rest of the South Bay area is zoned as Recreational Conservation. Clearly, the City's zoning laws reflect that the corridor and the dock are to be considered together with respect to future development of the riverfront area.

For the reasons discussed above, we believe that the lead agency should consider the haul road and bulkhead replacement as segments of a larger, overall common plan. To meet the intent of SEQR, cumulative impacts from both segments should be reviewed concurrently and before making a determination of significance. A decision to do so may require additional permits and reviews by local, state, and federal agencies.

III. Completeness & Identification of Potential Project Impacts/Mitigation

In general, the revised FEAF along with other documentation provided presents inconsistencies and lacks critical information necessary to review and assess the potential on-site ***and*** off-site impacts the Action may result in along with the adequacy of proposed mitigation measures. We present the following items as requiring additional information in order to complete a thorough review of the project's impacts.

1. Surface Water

The proposed Action may have a moderate to large impact on one or more wetlands or other surface water bodies including state- and federally-regulated wetlands, the South

Bay, and the Hudson River. Impacts to wetlands may result due to the proposed work along the South Bay causeway and at the Applicant's Hudson River dock.

Erosion & Turbidity: Along the causeway, work will occur "within two to three feet of the edge of the wetland" (Narrative, 8). Due to the close proximity of the work to the South Bay wetlands, construction may result in sediment-laden runoff entering the adjacent wetlands and cause an increase in turbidity. The Applicant proposes to implement erosion and sediment control techniques to minimize erosion of disturbed areas. However, the potential for impact remains.

Further, the work will alter the location, size, grade, and type of impervious surfaces along the causeway resulting in a change to runoff quantity, quality, and pattern. We note that the Applicant finds that the DEC considers the entire causeway impervious due to the stone fill used in it construction. While this meets the DEC's definition of impervious, there is a degree of perviousness along the causeway where vegetation has taken over. A review of recent aerial photography shows that, with the exception of the existing single-lane gravel roadway, the remaining portions of the causeway are vegetated with grasses, low-brush, and trees. With the proposed realignment and widening of the roadway to allow a greater buffer area to the wetlands and two-way traffic, runoff is likely to increase in quantity.

Vegetation & Habitat: There is also likely to be removal of a moderate to large amount of vegetation to accommodate the work resulting in a potential loss of aquatic and other wildlife habitats. As discussed above, much of the causeway is presently vegetated. The land cover will necessarily change under the proposed work. Such impacts would result in changes to the important functions of these natural systems.

Disturbance of Bottom Sediments: The November 2016 site plans illustrate an existing culvert near station 106+00 on the causeway. No information is provided on the size, material, or condition of this culvert and it is unclear if any work if proposed or needed. A telephone conversation with the Applicant's Engineer on April 14, 2017 indicated that the culvert is in good shape and is of plastic construction. This information was not able to be verified in the field prior to the date of this letter. While the culvert may not require any work to serve its purpose, we note that should any work to the culvert be necessary, additional impacts to the wetlands including disturbance of bottom sediments may result.

Floodwaters: All of the work west of Route 9G, and a portion immediately to the east, is located within the 100-year floodplain. Cross sections of the causeway provided by the Applicant appear to show minimal importation of fill into floodplain areas. A moderate to large impact to floodwaters is not likely to occur in this respect; however, proposed grading changes and alterations to impervious surfaces along the causeway and at the dock may result in a change to floodwaters, water flow, and/or drainage. **Flooding**

The proposed Action will result in development on lands subject to flooding. As stated above, all of the work west of Route 9G, and a portion immediately to the east, is located within the 100-year floodplain. This includes work on the South Bay causeway and the dock work subject to the City's Order to Remedy.

Further, within City limits, new construction and/or alterations within a floodplain requires a Floodplain Development Permit, per Chapter 148 of the City code to prevent the flood damage, protect human life and health, minimize rescue efforts and minimize damage to public facilities and utilities. The proposed work within the City will require said permit following environmental review.

In accordance with the DEC's FEAF Workbook, the following work items, which are a part of the proposed action, are likely to result in a moderate to large impact to flooding:

- Construction of large expanses of impervious surfaces within the 100-year floodplain;
- Clearing or grading that will alter the flow of water or drainage patterns; and
- Removal of riparian vegetation that grows from the water or bank edge.

Additionally, aerial photos of the South Bay area indicate the inundation of the causeway during major storm events (Irene and Sandy). Provisions to protect against adverse impacts to the South Bay ecosystem during such events should be investigated.

2. Plants and Animals

The proposed Action may result in a loss of flora or fauna. As discussed in previous subsections of this letter, the proposed work along the causeway will require the removal of vegetation. The 2010 Ecological Assessment and impact Analysis prepared by Bagdon Environmental found "large amounts" of side-oats gramma, a state-listed endangered species, along the western side of the causeway (3). It is unknown whether or not the

populations of side-oats gramma have been identified for preservation, or will be removed as part of the proposed work. In addition to vegetation removal, impacts to animal habitat may result due to the proposed haul road widening and realignment through the South Bay. The Applicant should consider additional mitigation measures, as discussed later in this letter, in this area to reduce potential impacts to plants and animals.

3. Aesthetic Resources

The land use of the proposed Action is in sharp contrast to current land use patterns between the proposed project and a scenic or aesthetic resource, namely that of the South Bay and the Henry Hudson Riverfront Park and surrounding riverfront uses. Stockpiled materials at the dock are visible from portions of Park, the Hudson River, the Basilica Hudson, and adversely impact the viewshed. The 2011 Local Waterfront Revitalization Plan specifically recommended that, "[t]he owner or operator responsible for the stockpiling should install screening to reduce these current adverse visual impacts" (26). Recommendations for specific visual screening is discussed later in this letter.

4. Open Space and Recreation

The proposed Action may result in a loss of recreational opportunities or a reduction of an open space resource. Due to the haul road and dock's location immediately adjacent to the City's riverfront park, and the shared use of the Broad Street crossing, truck traffic and dock operations have the potential to come into conflict with access to and use of the Park.

Additionally, it is unclear what the proposed typical operating hours are for the road and dock. The traffic evaluation by Creighton Manning states that the hours of operation "will generally be Monday to Friday from 7:00 a.m. to 7:00 p.m.," while the most recently revised FEAF states hours of 5:00 a.m. to 8:00 p.m. Monday through Saturday. The latter hours are more likely to adversely impact open space and recreation during evening hours and on weekends.

We additionally note the lack of clarity when it comes to the quantity of trips generated between the quarry and the dock. The average daily one-way trip generation is calculated at 48, while the maximum is calculated at 284 according to the traffic evaluation. This equates to roughly one trip every 15 minutes and 2.5 minutes, respectively, for a 12-hour day. It is unclear how often the maximum condition will govern. Additional information

in this regard along with a clear statement of the existing condition is a necessity in assessing the impact to open space and recreation.

5. Transportation

The proposed Action may result in a moderate to large impact to transportation systems. As stated above, the traffic evaluation finds that the average daily trip generation is between 48 (average) and 284 (maximum). The evaluation further states that the maximum condition typically occurs twice a year, yielding a net tonnage of 110,000 to 150,000 tons of aggregate shipped from the dock annually. It should be clearly stated by the Applicant, for the record, the total quantity of trips to and from the dock, the peak daily trips and how often that peak occurs, as well as the net tonnage shipped from the dock to establish a baseline condition to assess whether future intensification occurs. To that end, historical data from prior years should be stated as well.

The above discussed information is critical in assessing the off-site impacts to Front and Broad Streets in the City, which the traffic evaluation does not take into account. The Broad Street crossing is the only existing access point to the City's riverfront, and is shared between dock traffic, passenger vehicles, pedestrians, bicyclists, and more. While this is an existing condition, any increase to the amount of quarry-to-dock trips may result in an adverse impact to this intersection, particularly due to the lack of adequate control signage and a clearly delineated pedestrian crossing.

6. Noise, Odor, and Light

The proposed Action may result in an increase in temporary and permanent noise, odors, or outdoor lighting. These are equally likely to occur at both the haul road and dock. The City's noise standards, as stipulated by Chapter 210 of the City's code, limits noise to 65dBA in the daytime (between 7 AM to 10PM) and to 55 dBA at other times. The Conservation Recreation Zone (South Bay area) has a 55dBA limit at all times. It is unclear what noise levels the Applicant anticipates as a result of the proposed action, but we note that tractor trailers can reach 90 dBA and over during operation.

There is also a concern for dust generation along the haul road. While the applicant proposes asphalt aprons at the Route 9 and 9G crossings, no such apron is proposed at the end of Front Street. Without such an apron to tracking of dust onto City streets may result from truck traffic, and, during dry periods, this is likely to result in dust generation.

Should an apron be proposed in this location, dust may continue to be a concern, nonetheless, due to gravel and dirt parking areas along Front and Broad Street.

7. Consistency with Community Plans

The proposed Action is not consistent with the City of Hudson Comprehensive Plan (2002) and Local Waterfront Revitalization Plan (2011). In a specific reference to the Hudson River dock facility, the Comprehensive Plan, states that "increased barge operations may have ***profound*** impacts on the future redevelopment efforts of the City's waterfront" (emphasis added) (B-51).

The LWRP reaffirmed this sentiment in a number of locations, including recommending the rezoning of the waterfront area from industrial to a core riverfront district, and, in one location, discussing a portion of the precise work now proposed by the Applicant:

> *"Modernization of the existing port operation, including any man made modification to the road surface of the causeway, would be subject to the standards for Conditional Uses in the Core Riverfront (C-R) zoning district, all necessary city and state coastal consistency reviews and compliance with necessary environmental review."* (26)

It is further discussed that the use of the South Bay causeway is not an acceptable long-term solution to accommodate transport to the dock unless satisfactory mitigation can be provided.

8. Consistency with Community Character

In *Village of Chestnut Ridge v. Town of Ramapo*, 45 AD3d 74 (2d Dept.2007), the court observed that, "[t]he power to define community character is a unique prerogative of a municipality acting in its governmental capacity." It was further stated that it is the municipality's responsibility to define their own character through the use of zoning and planning powers. A review of the City of Hudson's Comprehensive Plan (2002) and Zoning Code (2011) demonstrates that the proposed Action is inconsistent with the community character without adequate further mitigation.

In addition to the references discussed above in relation to the City Comprehensive Plan and LWRP, we note that the Zoning Code includes a number of relevant sections which we cite (with emphasis added) below.

§325-17.1 D., Conditional uses, (1) - Continuation of existing commercial dock operations for the transport and shipment of goods and raw materials, including loading and unloading facilities, and storage of such goods and raw materials, ***and associated private roads providing ingress and egress to or from such commercial dock operations, as such uses existed on the effective date*** *of this Local Law No. 5 of 2011*

§325-17.1 D., Conditional uses, (2) ***A private causeway or private road that provides ingress or egress from the property upon which a commercial dock operation is conducted*** *as set forth in §325-17.1 F (2) (h) and (k).*

*§325-17.1 F., Standards for conditional uses, (2) Special conditions for commercial dock operations (****including private roads providing ingress and egress to the commercial dock operations****):*

§325-17.1 F. (2), Special conditions for commercial dock operations, (j) Construction, reconstruction or resurfacing of and other improvements to the dock operations ***(including private roads providing ingress and egress to the commercial dock operations)*** *shall be performed in a manner which preserves natural features and drain ways, minimizes grading and cut and fill operations, insurers conformity with natural topography, and retains natural vegetation and vegetative buffers around water bodies to the maximum extent practicable in order to prevent any increase in erosion or the volume and rate or velocity of sedimentation or surface water runoff prior to, during and after site preparation work.*

§325-17.1 F., Standards for conditional uses, (3) ***Special conditions for a private causeway or private road that provide ingress to or egress from the property upon which a commercial dock operation is conducted*** *includes the requirements as set forth in §325-17.1 F (2) (h) and (k).*

The City Zoning Map *also clearly depicts the existing private access road as being included and a part of the Core Riverfront zoning district although it transverses the South Bay area which is located wholly within the Recreational Conservation District.*

City plans and code demonstrate that the proposed haul road is inconsistent with the community character the City has defined. Moreover, these documents find the dock and the haul road to be integral parts to one another, supporting the discussion above regarding segmentation.

IV. Request for Further Information, Mitigation, and Comment Time

As established in this letter, the Applicant and Engineer have not provided adequate information to assess potential adverse environmental impacts that may result due to the proposed work, or provide satisfactory mitigation thereby precluding the ability of the Lead Agency to determine significance,. Further information is necessary to make a well-founded environmental determination with required mitigation measures. At minimum, we suggest the following information be provided and mitigation measures investigated.

Information Requested

- Culvert: It would be beneficial to accompany the Applicant and Engineer on a site walk which would include an inspection of existing South Bay causeway culvert. An offer to do so was made by the Engineer on April 14, 2017; however, due to time constraints on this SEQRA hearing, a site walk was not able to occur prior to submission of this letter.
- Baseline Data: More information on existing and prior year trip and tonnage volume is needed to establish a baseline understanding of dock output. Data presented is unclear on how often the average trip condition occurs versus the maximum trip condition.
- Steel Trestle Alternative: The Applicant has investigated four (4) alternative solutions to accomplish the project's objective (one being the no-action alternative). All alternatives rely on the use of the Broad Street railroad crossing due to the policy of CSX Transportation and NYSDOT to eliminate grade crossings wherever practical. There is another alternative that has not been discussed, and that is the use of the existing steel trestle near the bend in the haul road. A staging area is present on both sides of the railroad, but it is unclear what the historic use of the trestle was for. If the trestle could accommodate a conveyor system to transport aggregate over the railroad, use of the Broad Street crossing for aggregate transport could be deemed unnecessary.

Mitigation Concepts

- Wetland Buffers: To address certain surface water, flooding, and plant and animals impact, buffer areas between haul road and wetlands could improved/restored through native seeding and plantings including the endangered side-oats gramma. This could result in positive impacts to stormwater reduction/filtration and habitat creation.
- Noise & Visual Screening: Enclosed with this letter is a conceptual mitigation plan showing the western terminus of the haul road and dock facility. Vegetative screening and berming between the dock and Riverfront Park/Front Street would help mitigate any aesthetic, open space, recreation, and noise impacts.
- Front & Broad Street Improvements: Addition of traffic control signage at the Front Street and Broad Street intersection and dock driveway intersection with Broad Street, as illustrated on attached mitigation concept, would aid in mitigating traffic impacts to this intersection. Additionally, construction of a clearly delineated pedestrian and bicyclist way over the Broad Street railroad crossing would provide a safe way for residents to access the Riverfront Park.
- Asphalt Apron at Front Street: To minimize potential dust generation at the western terminus of the haul road, an asphalt apron (similar to those at 9 and 9G) could be constructed starting at approximately 115+00 and terminating at the paved portion of Front Street.
- Hours of Operation: As discussed in this letter, it is unclear when the existing and proposed hours of operation are for the haul road and dock. The applicant should provide a more definitive answer to this and work with the City to limit impacts to recreational resources during peak usage (i.e. night and weekends).
- Maximum Trip Limit: It is additionally unclear how often the "maximum condition" of truck trips will occur (i.e. 284 trips per day). As the existing dock is a conditional use under the City Zoning Code, any intensification or expansion would require review of the Planning Board. In establishing a baseline of existing prior year use, a limit to "maximum condition" trip generation could be set to mitigate noise, recreation, and traffic impacts. It may be also noted that the throughput of the quarry is presently limited only by its processing equipment. Additional or upgraded equipment would allow an increase in the truck traffic intensity.

We appreciate the opportunity to submit these comments for your consideration in the project's environmental review. We would also respectfully request additional time be allowed for review and response to new information that we trust will be provided by the Applicant to address the above issues.

If you have any questions, please feel free to contact our office.

Very truly yours,

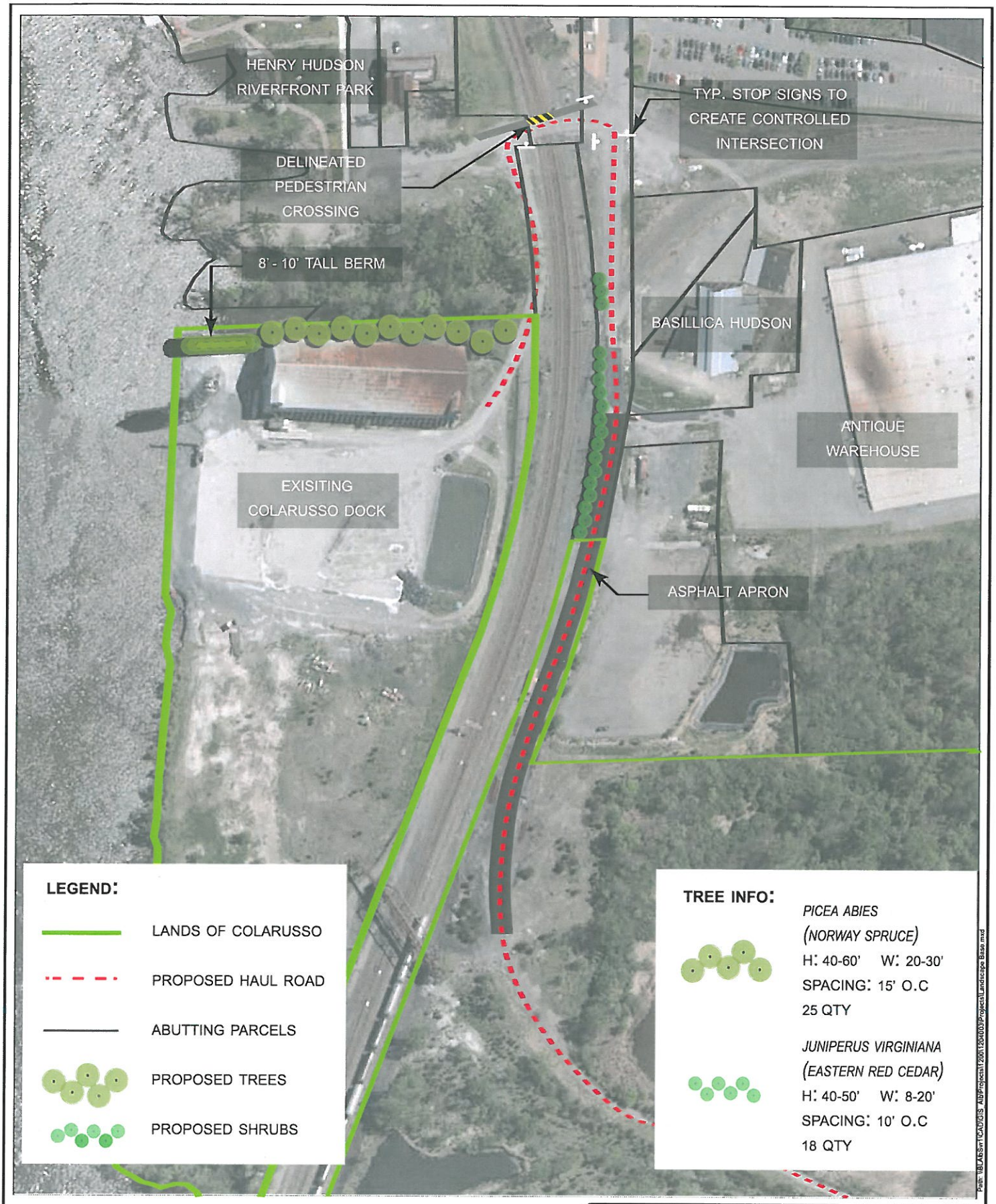
BARTON & LOGUIDICE, D.P.C.

David B. Clouser, P.E.
Senior Managing Engineer

RBW/

Enc (1)

CC: Thomas DePietro w/enc.
Mitchell Khosrova, Esq. w/enc.
Patrick Prendergast, P.E. w/enc.



Barton & Loguidice, D.P.C.

Engineers • Environmental Scientists • Planners • Landscape Architects

1 inch = 200 feet

City of Hudson

Colarusso Haul Road Mitigation Concepts

Columbia County New York

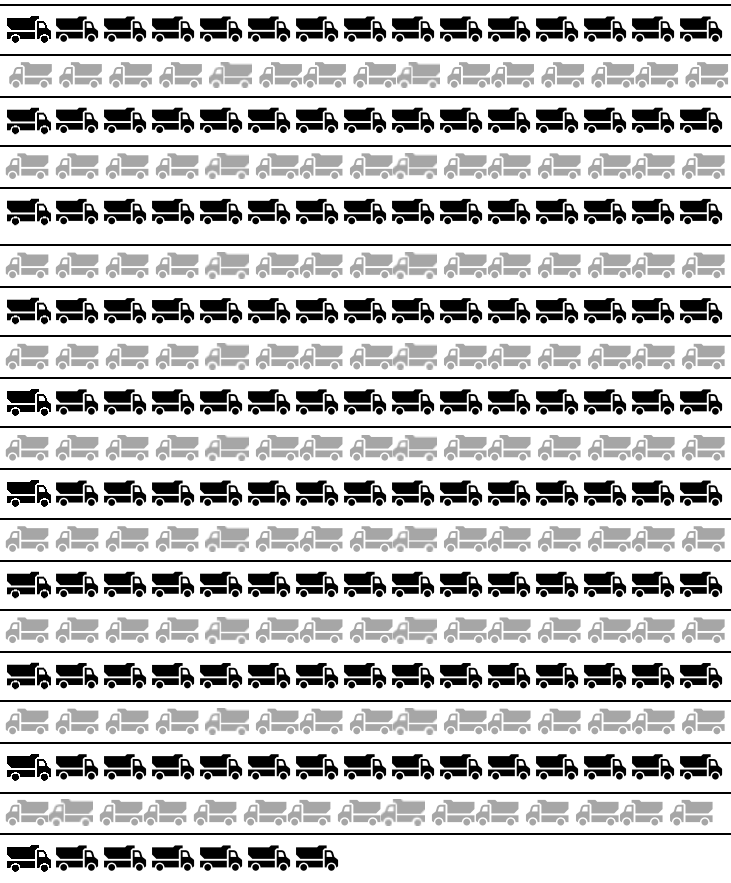
Figure 1

Project No. 1204.003

Attachment E

A Threat to Our Waterfront: A Deluge of Trucks (summary of actual, and future potential truck trips based on Haul Road Limits)

Threat to Our Waterfront: A Deluge of Trucks

ACTUAL TRUCK VOLUME[1]	PROPOSED (Max Potential)
ANNUAL trips - 2015: 5,460 trips **2019:** 15,180 trips	71,000 trips/year
2015 days hauled: 77 days	250 days/year
2015: 71 trips/day hauled	284 trips/day
2015: 6 trips/hour	24 trips/hour
	
	
Reserving the Right to Make it EVEN WORSE: **"…there are no current plans to expand operations and therefore there would not [be] an increase in the number of maximum trips per days (284 trips/day) unless [Colarusso's] plans and facilities capabilities change …"** *Colarusso Attorney John Privatera, writing to the Hudson Planning Board 2/8/21*	
Traveling to Dock **Returning to Quarry**	[1]Actual truck volume based on July 2020 Creighton Manning Traffic Study – 2015 truckload volume (2,730 loads, 5,460 trips, over 65 haul days).

Why Colarusso's Proposed truck volume is <u>not</u> compatible with the City of Hudson's Core-Riverfront District Zoning Codes:

Alarming Rise of Gravel Truck Trips			
	2015 Truck Trips	2019 Truck Trips	Proposed Trips[1] - Up to:
Annual truck trips	5,460[2]	15,180	71,000+
Increase from 2015	-	300%	1,300%
Days of operation per year (For 2015-2019, <u>available</u> workdays = 365 minus 11 holidays; <u>Actual</u> days hauled were less)	77	133	250[3]
Average trips per days hauled	71	114	284+
Average trips per hour	6	10	24+
Number of trips every 5 minutes (based on 12-hour work-day)	0.50	0.83	2+

[1] Important note: Colarusso has repeatedly claimed the right to increase the maximum number of trips per day beyond its "284 per day" proposal.

[2] 2015 Truck Trips based on 7/9/20 Creighton Manning Report (2,730 truckloads = 5,460 trips).

[3] Colarusso proposes reducing hauling hours to weekdays; no hauling on weekends or major holidays (= 250 days/year).

The above truck trip numbers do NOT include an <u>additional</u> 12,000 truckloads (24,000 truck trips) per year for gravel sold to retail customers that originated to the South. These retail customers' trucks use Warren St, Park Place, Columbia St, and Green St, to access Neuman Road.

OUR HUDSON WATERFRONT