



CITY OF BEACON, NEW YORK  
ONE MUNICIPAL PLAZA  
BEACON, NY 12508

Mayor Randy Casale  
Councilmember Lee Kyriacou, At Large  
Councilmember George Mansfield, At Large  
Councilmember Terry Nelson, Ward 1  
Councilmember John E. Rembert, Ward 2  
Councilmember Jodi M. McCredo, Ward 3  
Councilmember Amber J. Grant, Ward 4  
City Administrator Anthony Ruggiero

July 2, 2018  
7:00 PM  
City Council Agenda

**Call to Order**

**Pledge of Allegiance**

**Roll Call**

**Public Comment:**

Each speaker may have one opportunity to speak up to three minutes on any subject matter other than those which are the topic of a public hearing tonight. Please sign in at the podium. This segment will last no longer than thirty minutes, with speakers recognized in the order they appear on the sign-in sheet. A second public comment opportunity will be provided later in the meeting for those who do not get to speak during this first segment.

**Public Hearings:**

- Public Hearing on a proposed local law to amend Chapter 195 of the Code of the City of Beacon, concerning lot line adjustments

**Reports:**

- Council Member Amber J. Grant
- Council Member John E. Rembert
- Council Member Lee Kyriacou
- Council Member George Mansfield
- Council Member Jodi M. McCredo
- Council Member Terry Nelson
- City Administrator, Anthony Ruggiero
- County Legislators
- Mayor Randy Casale

**Local Laws and Resolutions:**

1. A resolution to adopt a local law to amend Chapter 195 of the Code of the City of Beacon, concerning lot line adjustments
2. A resolution accepting a report by Dr. Francis E. Griggs, Jr. on the Bridge Street Bridge
3. A resolution authorizing the execution of an agreement with Dr. Francis E. Griggs, Jr. concerning the Tioronda Avenue Bridge
4. A resolution to set a public hearing for July 16, 2018 to receive public comment on a Special Use Permit application for the 1181 North Avenue
5. A resolution to set a public hearing on July 16, 2018 to receive public comment on a Special Use Permit application for 850 Wolcott Ave
6. A resolution to set a public hearing on July 16, 2018 to receive public comment on a Special Use Permit application for the Edgewater project
7. A resolution to adopt as the names of private streets, Coyne Hill Road and Liam Drive for E911 purposes
8. A resolution authorizing entering into subordination agreement with the Kearney Realty and Development Group, Inc. and modification to agreement
9. A resolution authorizing easement agreement for existing sanitary sewer main at 135-137 Spring Valley Street
10. A resolution authorizing the Mayor or City Administrator to accept the bid results and execute a contract with A Plus Striping, Inc. for stop bars, crosswalks and parking lines
11. A resolution authorizing the Mayor or City Administrator to accept the bid results and execute a contract with A. Colarusso and Son for asphalt milling of various streets
12. A resolution authorizing the Mayor or City Administrator to accept the bid results and execute a contract with Safety Marking, Inc. for street lines
13. A resolution to accept the proposal for park restoration at Green Street Park
14. A resolution authorizing the Mayor or City Administrator to sign an agreement with Complus for parking ticket collection

**Approval of Minutes:**

- Approval of Minutes from June 18, 2018

**2nd Opportunity for Public Comments:**

Each speaker may have one opportunity to speak up to three minutes on any subject matter other than those which are the topic of a public hearing tonight. This segment will last no longer than thirty minutes. Those who spoke at the first public comment segment are not permitted to speak again.

**Adjournment:**

**City of Beacon Council Agenda**  
**7/2/2018**

**Title:**

**Public Hearing on a proposed local law to amend Chapter 195 of the Code of the City of Beacon, concerning lot line adjustments**

**Subject:**

**Background:**

**ATTACHMENTS:**

Description  
LL Lot Lines

Type  
Local Law

DRAFT LOCAL LAW NO. \_\_\_\_ OF 2018

CITY COUNCIL  
CITY OF BEACON

PROPOSED LOCAL LAW TO AMEND  
CHAPTER 195 OF THE CODE OF THE  
CITY OF BEACON

A LOCAL LAW to  
amend Chapter 195 of  
the Code of the City of  
Beacon, concerning  
Lot Line Adjustments.

BE IT ENACTED by the City Council of the City of Beacon as follows:

**SECTION 1.** Chapter 195, Article I, of the Code of the City of Beacon is hereby amended as follows to create Section 3.1 entitled “Lot line adjustments”:

§ 195-3.1 Lot line adjustments.

- A. Exemption. A lot line adjustment shall not be considered a subdivision and is therefore exempt from the procedural requirements otherwise imposed upon a subdivision. A lot line adjustment, however, must be determined to be exempt by the Building Inspector based upon the lot line adjustment criteria set forth herein.
- B. Criteria for classification as a lot line adjustment.
- (1) No new lot is to be created; or
  - (2) The action is intended to adjust, relocate or correct an existing lot line; or
  - (3) The intended conveyance will involve a part of one lot being added to an adjoining lot; and
  - (4) Neither of the lots involved will become nonconforming in any respect under Chapter 223, Zoning, as a result of the lot line adjustment.
  - (5) Notwithstanding any of the foregoing, a lot line adjustment involving a legal nonconforming lot, where the lots involved in the lot line adjustment are improved, may be permitted if such lot line adjustment does not increase any dimensional nonconformity by more than 7%.



C. Application process.

- (1) An application for a lot line adjustment exemption shall be submitted to the Building Department and shall be on a form approved by the Building Inspector.
- (2) The application shall be accompanied by the required application fee, payable to the City of Beacon, in the amount set forth in the City of Beacon Fee Schedule, which is on file in the City Clerk's Office.
- (3) The application shall contain:
  - (a) The name, address and telephone number of each lot owner involved in the lot line adjustment.
  - (b) The address and Tax Map number of each lot involved.
  - (c) An explanation of the intended adjustment and the reason(s) therefore.
  - (d) A map, acceptable to the Building Inspector, drawn to scale depicting the existing lot line as well as the proposed new lot line.
  - (e) Any other documentation and/or information required by the Building Inspector.

D. In the event that the exemption is denied, the Building Inspector shall specify the reason(s) therefor in the written notice.

E. The Building Inspector may include in an approval of an application for lot line adjustment such terms and conditions as the Building Inspector deems necessary or appropriate to ensure the safety or further the purpose and intent of this Chapter or any other applicable law.

**SECTION 2.** The following definitions set forth in Chapter 195, Article II, Section 10 of the Code of the City of Beacon entitled "Definitions" are hereby amended or added as follows:

**LOT LINE ADJUSTMENT**

Any conveyance of real property between adjacent landowners which does not result in additional buildable lot(s) nor creates a zoning deficiency in any existing zoning compliant lot. A lot line adjustment is not considered a subdivision for purposes of this chapter.

**RESUBDIVISION**

Any change in a subdivision plat or resubdivision in the of existing property lines or of property lines shown on a plat approved by the Planning Board and filed in the

office of the Dutchess County Clerk, which change affects any street and/or lot layout shown on such plat or affects any area reserved thereon for public use or diminishes the size of any lot shown thereon.

## **SUBDIVISION**

The division of any parcel of land, regardless of use, into two or more lots, plots, blocks, sites or parcels, with or without the creation of new streets or private roads, for the purpose, whether immediate or future, of transfer of ownership or building development, and shall include resubdivision as defined herein. Subdivision does not include lot line adjustments as defined in this chapter.

## **SECTION 3. Ratification, Readoption and Confirmation**

Except as specifically modified by the amendments contained herein, Chapter 195 of the City of Beacon is otherwise to remain in full force and effect and is otherwise ratified, readopted and confirmed.

## **SECTION 4. Severability**

The provisions of this Local Law are separable and if any provision, clause, sentence, subsection, word or part thereof is held illegal, invalid or unconstitutional, or inapplicable to any person or circumstance, such illegality, invalidity or unconstitutionality, or inapplicability shall not affect or impair any of the remaining provisions, clauses, sentences, subsections, words or parts of this Local Law or their petition to other persons or circumstances. It is hereby declared to be the legislative intent that this Local law would have been adopted if such illegal, invalid or unconstitutional provision, clause, sentence, subsection, word or part had not been included therein, and if such person or circumstance to which the Local Law or part hereof is held inapplicable had been specifically exempt there from.

## **SECTION 5. Effective Date**

This local law shall take effect immediately upon filing with the Office of the Secretary of State.

**City of Beacon Council Agenda**  
**7/2/2018**

**Title:**

**A resolution to adopt a local law to amend Chapter 195 of the Code of the City of Beacon, concerning lot line adjustments**

**Subject:**

**Background:**

**ATTACHMENTS:**

Description	Type
Lot Line Adjustments Reso	Resolution



**CITY OF BEACON**  
**CITY COUNCIL**  
**RESOLUTION NO. \_\_\_\_\_ OF 2018**

**PROPOSED LOCAL LAW TO AMEND CHAPTER 195 OF THE CODE OF THE  
CITY OF BEACON, CONCERNING LOT LINE ADJUSTMENTS**

**BE IT RESOLVED**, that the Beacon City Council hereby adopts a local law to amend Chapter 195 of the Code of the City of Beacon, concerning lot line adjustments.

Resolution No. _____ of 2018		Date: <u>2018</u>					
<input type="checkbox"/> Amendments		<input type="checkbox"/> On roll call				<input type="checkbox"/> 2/3 Required	
<input type="checkbox"/> Not on roll call.						<input type="checkbox"/> 3/4 Required	
Motion	Second	Council Member	Yes	No	Abstain	Reason	Absent
		Terry Nelson					
		Jodi McCredo					
		George Mansfield					
		Lee Kyriacou					
		John Rembert					
		Amber Grant					
		Mayor Randy Casale					
<b>Motion Carried</b>							

**City of Beacon Council Agenda**  
**7/2/2018**

**Title:**

**A resolution accepting a report by Dr. Francis E. Griggs, Jr. on the Bridge Street Bridge**

**Subject:**

**Background:**

**ATTACHMENTS:**

Description	Type
Reso_bridge st bridge report	Resolution
Bridge Street Bridge Report	Backup Material

**CITY OF BEACON  
CITY COUNCIL**

**RESOLUTION NO. \_ OF 2018**

**ACCEPTING A HISTORICAL REVIEW, EXISTING CONDITION REPORT  
AND RECOMMENDATIONS FOR REHABILITATION OF THE BRIDGE  
STREET BRIDGE**

**WHEREAS**, the City of Beacon entered into an agreement with Dr. Francis E. Griggs, Jr. to perform a study and report on the bridge across Fishkill Creek known as the Bridge Street Bridge (the “Bridge”) and prepare a final report setting forth possible rehabilitation options.

**WHEREAS**, Dr. Griggs has completed a Historical Review, Existing Condition Report and Recommendations for Rehabilitation of the Bridge Street Bridge for the City of Beacon.

**NOW, THEREFORE, BE IT RESOLVED**, that the City Council of the City of Beacon hereby accepts the Historical Review, Existing Condition Report and Recommendations for Rehabilitation of the Bridge Street Bridge 2018 and directs the City Clerk (i) to maintain a copy on file; (ii) provide a digital copy available to the public on the City’s website or otherwise; and (iii) transmit a copy to the Beacon Historical Society.

Resolution No. _____ of 2018		Date: <u>2018</u>					
<input type="checkbox"/> Amendments		<input type="checkbox"/> On roll call		<input type="checkbox"/> 2/3 Required			
<input type="checkbox"/> Not on roll call.				<input type="checkbox"/> 3/4 Required			
Motion	Second	Council Member	Yes	No	Abstain	Reason	Absent
		Terry Nelson					
		Jodi McCredo					
		George Mansfield					
		Lee Kyriacou					
		John Rembert					
		Amber Grant					
		Mayor Randy Casale					
<b>Motion Carried</b>							

# *Bridge Street Bridge*

RECEIVED JUN 11 2018

*Beacon, New York*



## **A Historical Review, Existing Condition Report and Recommendations for Rehabilitation.**

**June 2018**

**Dr. Francis E. Griggs, Jr., Dist. M. ASCE  
Consulting Engineer  
Specializing in Historic Bridge Preservation  
30 Bradt Road  
Rexford, NY 12148**

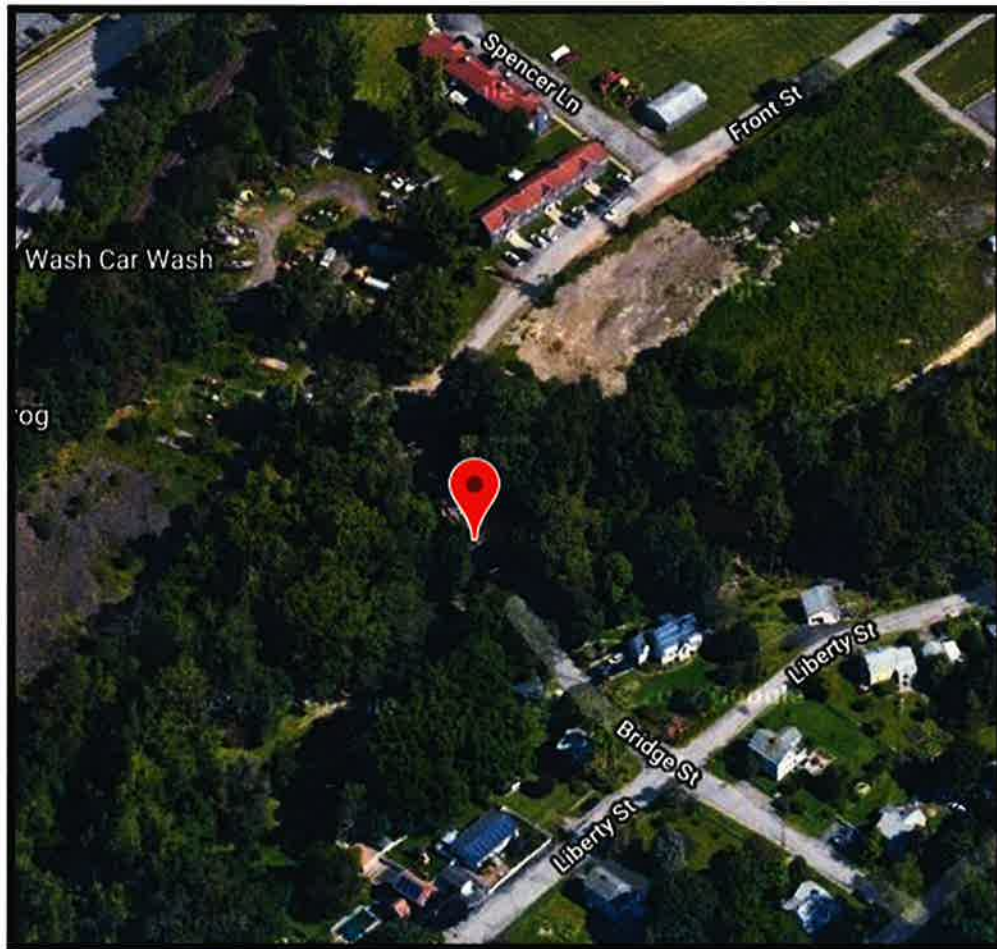
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## Introduction

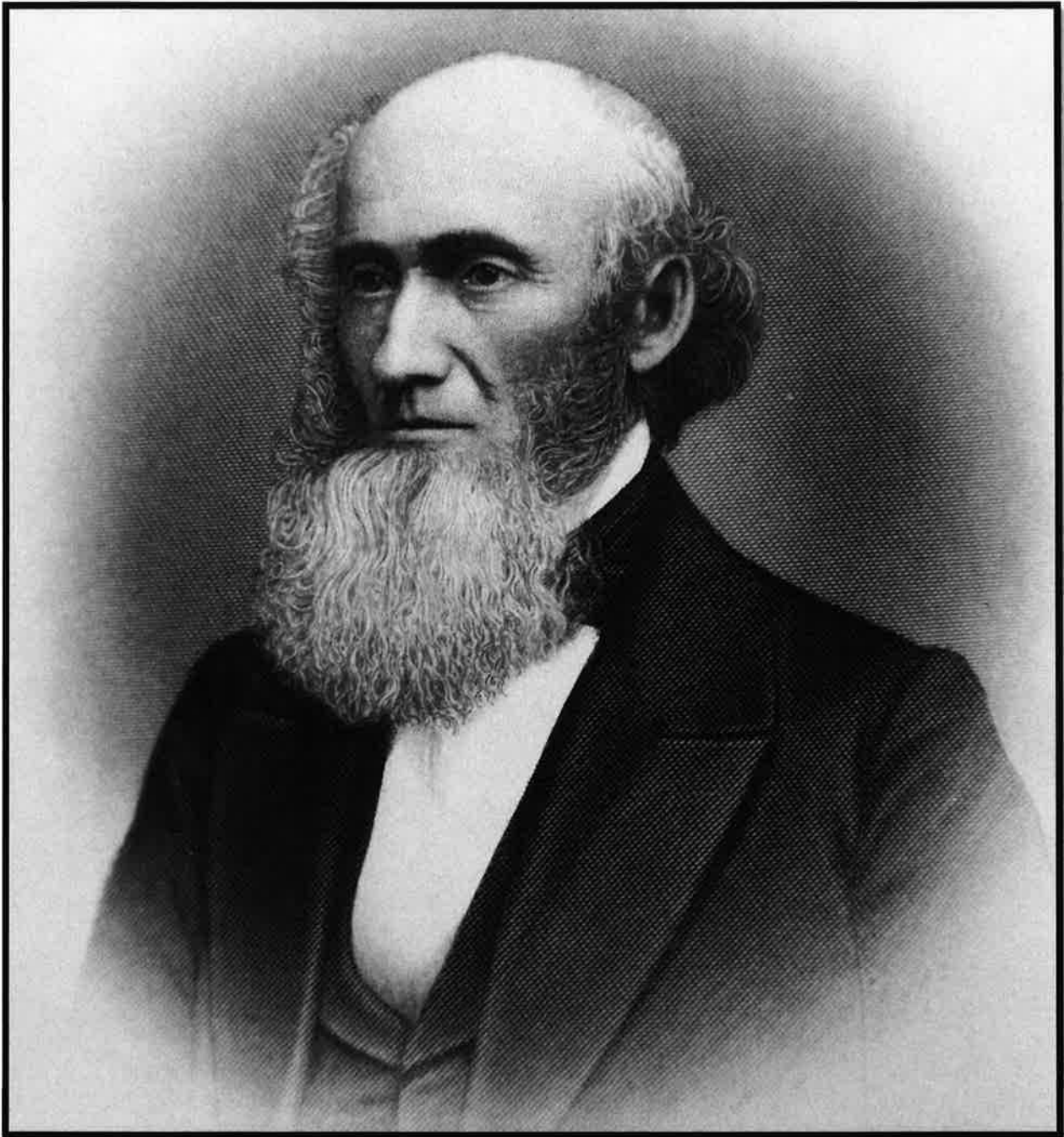
The Bridge Street Bridge, located in Beacon, New York, crosses the Fishkill Creek, a tributary of the Hudson River, connecting Liberty Street with Front Street. It was built by the New York Bridge Company in 1879 for Charles M. Wolcott, who owned the adjacent Groveville Carpet Mill, as a means of mill worker access across the creek.



It is a Whipple double intersection wrought iron truss developed by Squire Whipple, the Father of the Iron Bridge Truss, in the 1840s. His original design utilized cast iron for all compression members and wrought iron for all tension members. The design was modified in the 1850s to an all wrought iron bridge by John W. Murphy who built several bridges of the type across the Delaware River near Easton, Pennsylvania. After the Civil War it was adopted by many railroads and bridge building companies as their standard design, first in iron and later steel.

One of the partners in the New York Bridge was James M. Shipman, a nephew of Squire Whipple. The other, John D. Hutchinson, was the son of John Hutchinson who built many Whipple bowstring bridges across the Erie Canal in the 1850s and 1860s.

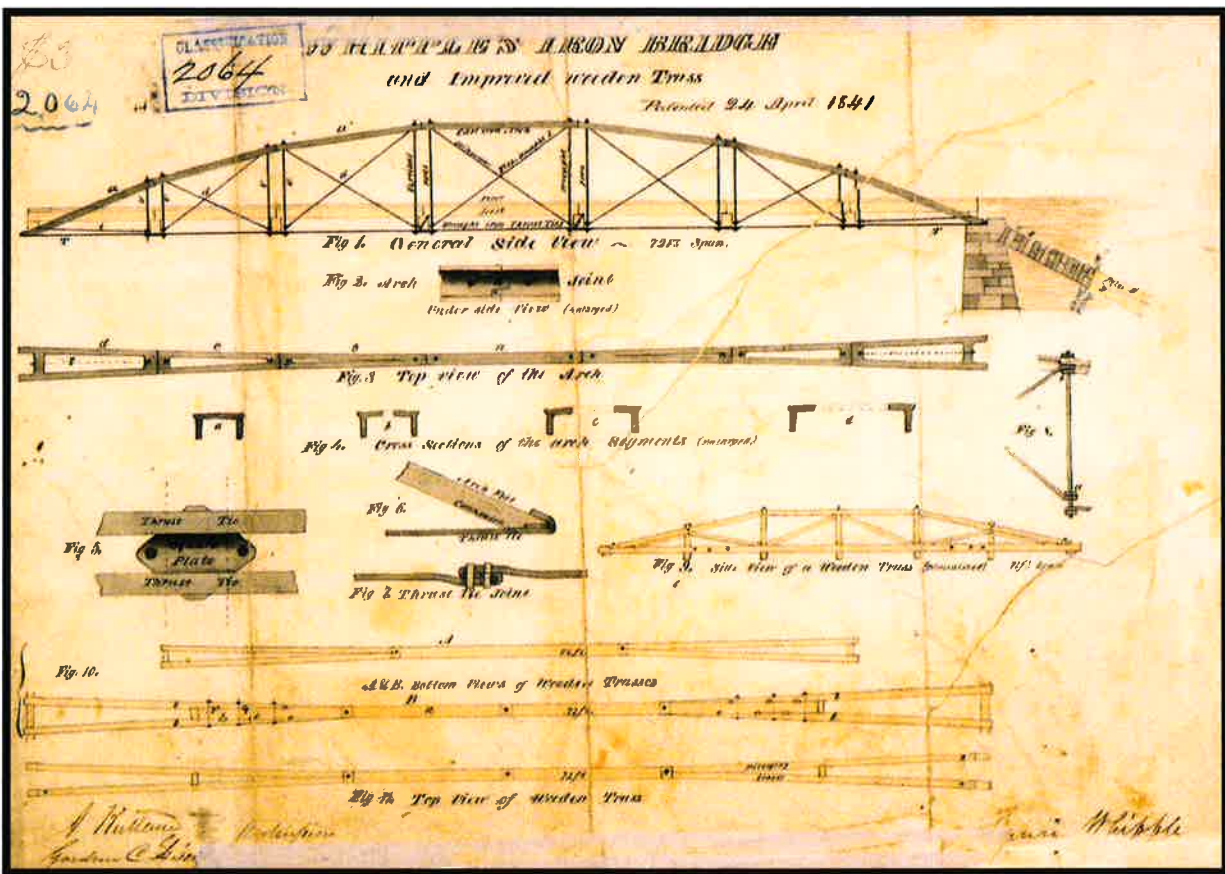
It is the oldest bridge of its type in New York State. While a few years younger than the Tioronda Bridge, formerly located just downstream, it is of far greater historical significance given its link to Squire Whipple and the fact that the bridge style was the predominant style for railroad bridges built between the 1850s and 1890s gradually evolving from cast and wrought iron to all wrought iron and eventually steel. The longest span, in steel, built to the design was the Cairo Bridge in 1889 by George S. Morison across the Ohio River with the two longest spans being 518' in length.



Squire Whipple 1804-1888 -- The Father of the iron truss bridge.

## Squire Whipple and the evolution of the bridge design

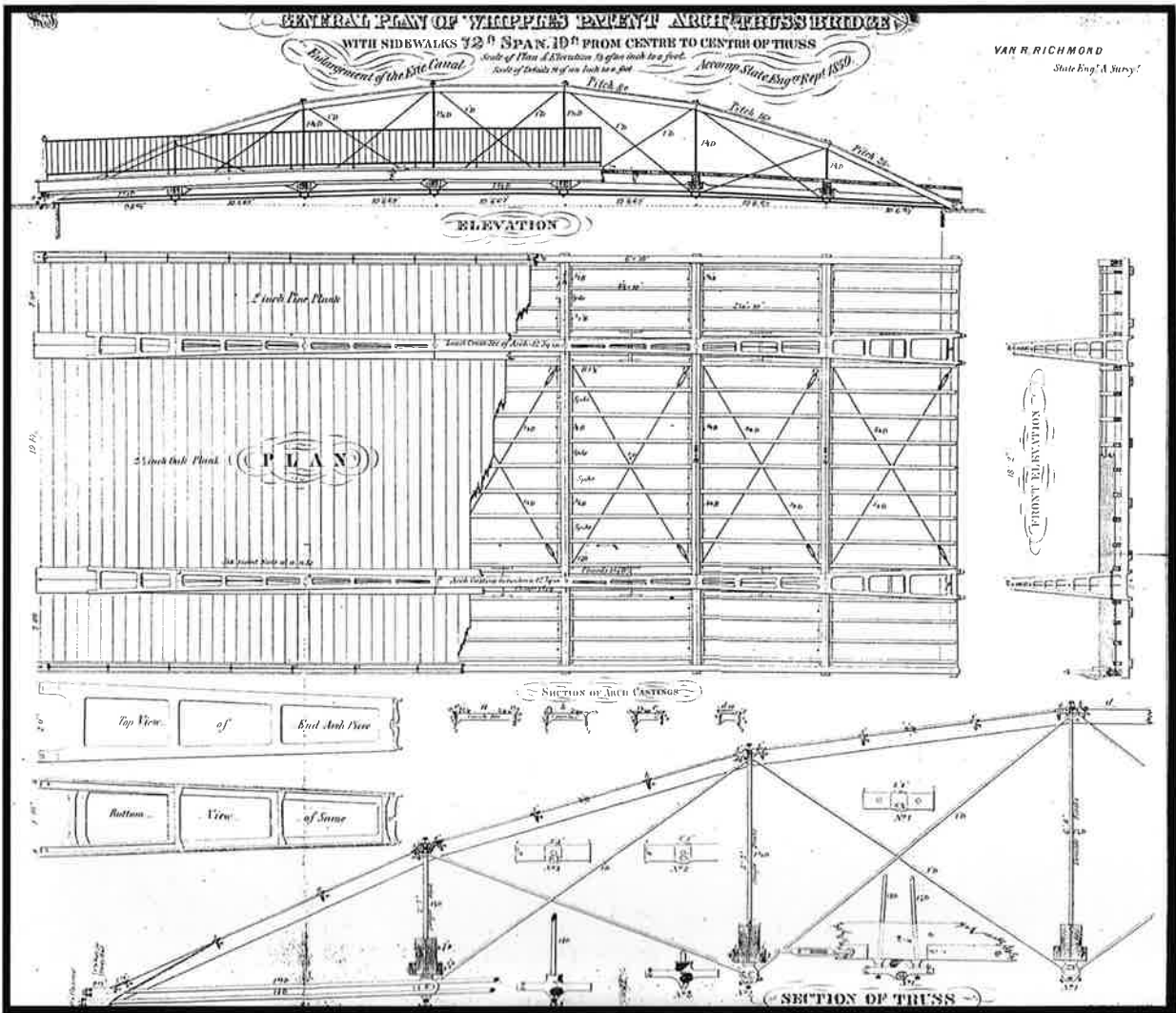
The Bridge Street Bridge is a pin connected Whipple Double Intersection Truss that Squire Whipple first described in his 1847 book on Bridge Building. He first built a bridge on this plan across the Enlarged Erie Canal for the Rensselaer & Saratoga Railroad. To appreciate the design a brief summary of how Whipple arrived at it is of interest. Whipple was working on the enlargement of the Erie Canal in 1840 and, like many, knew that wooden bridges had limited life due to natural decay of wood in exposed weather environments. He determined that a bridge made of iron may cost more initially but would last longer than a wooden structure and its life cycle cost would be lower. He designed and built his first cast and wrought iron bowstring bridge across the Canal in Utica on First Street in 1840 and received a patent on the design in 1841.



Whipple Patent Application

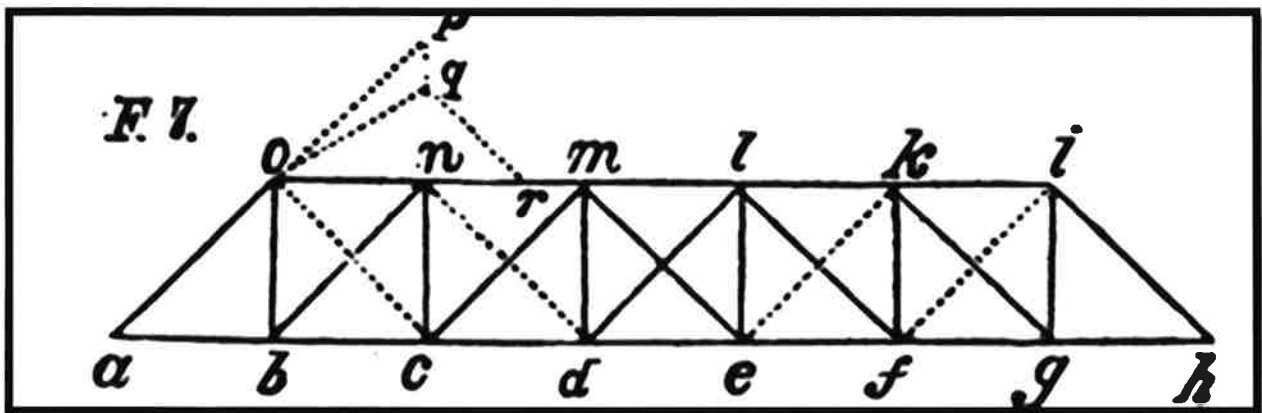
He went on to build several of these bridges in the 1840s and many more in the 1850s and 1860s. They were adopted by the Canal Commissioners as their standard city bridge.



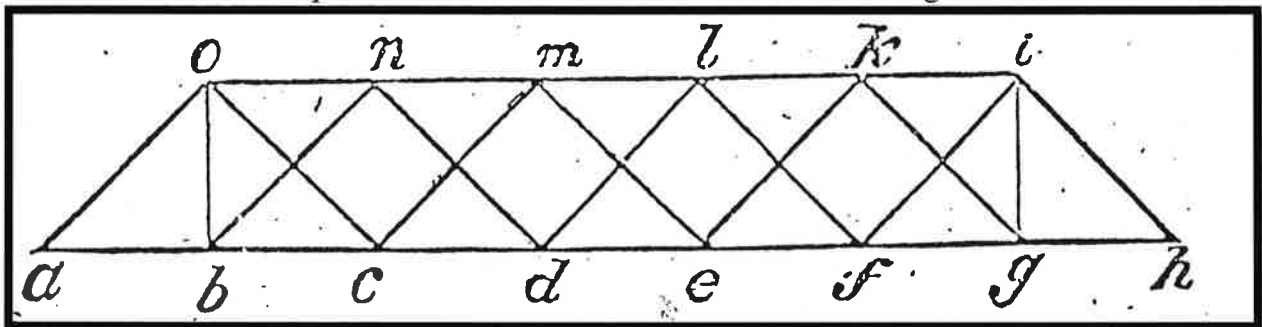


Whipple Patent Arch Bridge adopted by Canal Commissioners in 1855

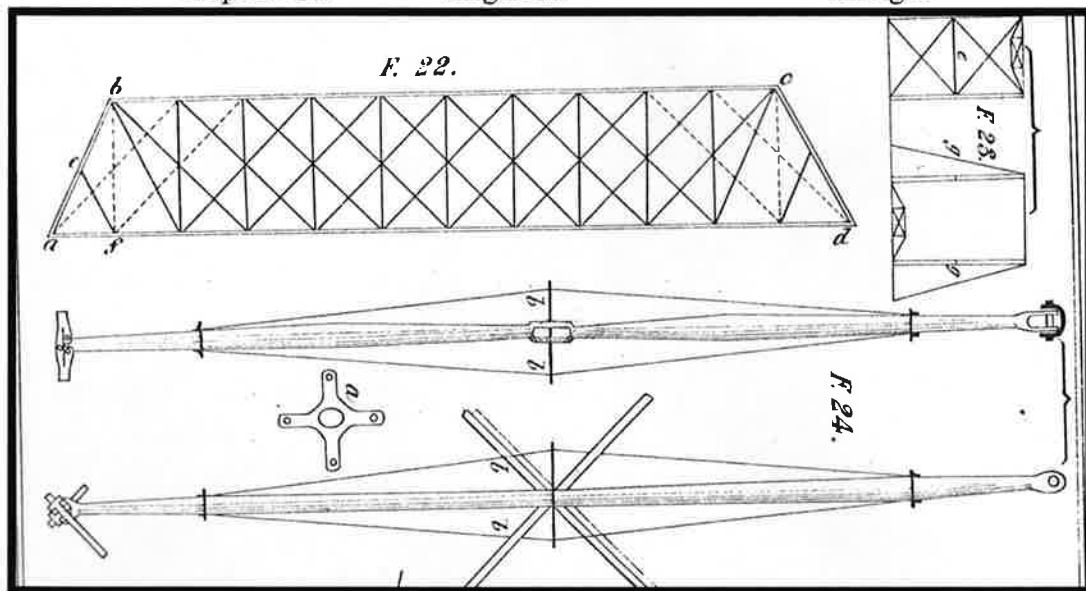
In 1847 Whipple wrote his Book on Bridge Building based upon his intention to show that his bowstring truss was the best form available in terms of efficient use of material. He wrote, "prior to 1846, or thereabouts, I had regarded the arch formed truss as probably, if not self evidently, the most economical that could be adopted; and at about that time I undertook some investigations and computations with the expectation of being able to demonstrate such to be the fact, but on the contrary the result convinced me that the trapezoidal form, with parallel chords and diagonal members, either with or without verticals, was theoretically more..."



Trapezoidal with verticals from 1847 Book on Bridges



Trapezoidal without diagonals from 1847 Book on Bridges



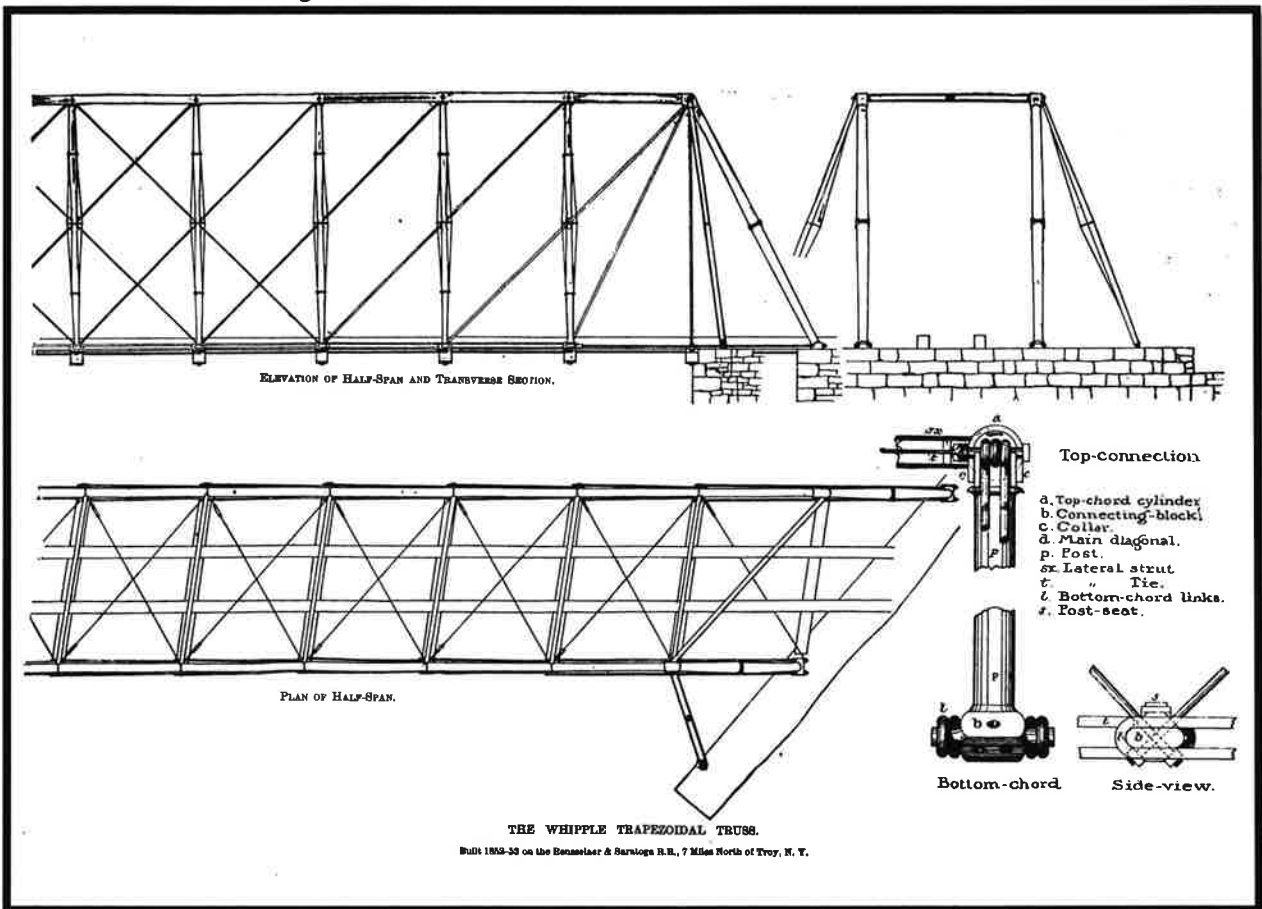
Whipple Double Intersection Truss from 1847 Book on Bridges

He determined that the height of his truss should be approximately  $1/7$  of the span and that the diagonals should be close to a  $45^\circ$  angle. As the span length got longer the height of the truss increased. To keep his  $45^\circ$  angles for his diagonals, his panel lengths got long. This resulted in his top chord compression members being increased in size to prevent lateral buckling. In addition, he needed a much heavier deck structure given the increased panel length. To address these problems he developed what he called a double canceled truss (later

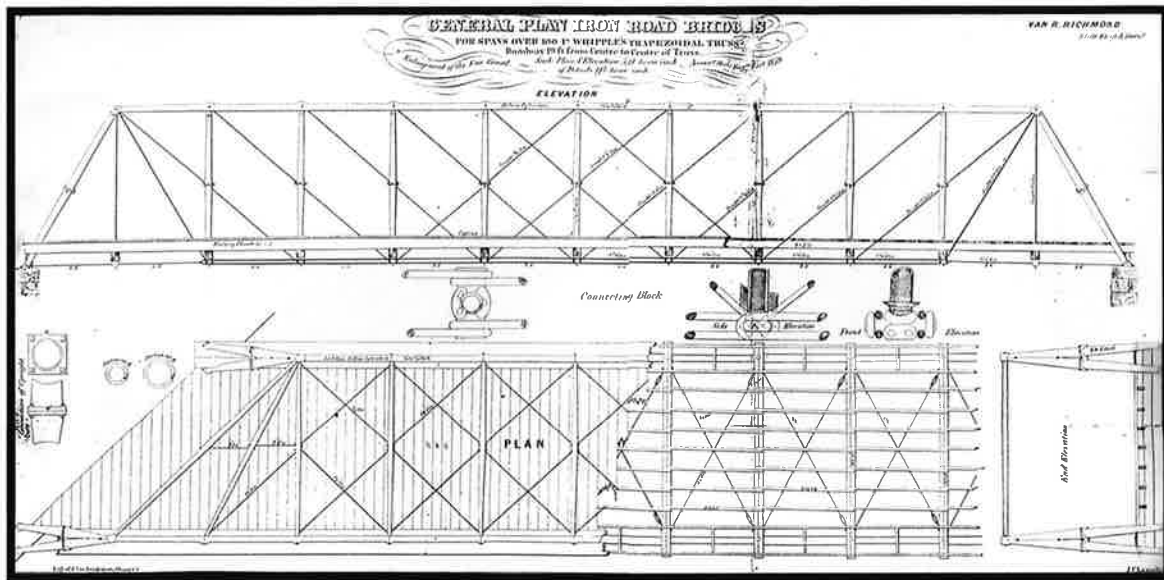
double intersection truss) with the diagonals crossing two panels.

His first double intersection bridge in iron crossed the Enlarged Erie Canal just north of its intersection with the Champlain Canal on the then Rensselaer & Saratoga Railroad. It was located just East of lock 2 and was built in 1852-53. The top chords and braced verticals were cast iron cylinders with the lower chord junction blocks also of cast iron. The diagonals and lower chord were wrought iron.

The bridge was 150 feet in length (pin to pin) with a clear span of 147 feet and was built on a 44° skew. It was for a single track carrying 2,000 pounds per foot, which was Whipple's standard railroad loading at the time.



Rensselaer & Saratoga Railroad Bridge, across Erie Canal at West Troy, New York



Plan adopted by Erie Canal Commissioners for spans >100'

Whipple built several trapezoidals over the Erie Canal and elsewhere for carriage traffic, but he didn't build another for railroad purposes for many years until he built one in Utica, New York with a span of 123'. Many others, including the Erie Canal Commissioners, picked up on his design that he never took time to patent, even though many writers call it a Whipple Patent Bridge.

John W. Murphy was the next engineer to use the trapezoidal plan. He entered the Rensselaer Institute at the age of 19 in April 1847 and graduated in April 1848 with two degrees, a B.N.S. (Bachelor of Natural Science) and a C.E. degree. He went to work as second assistant and later resident engineer on the eastern section of the Western Division of the Erie Canal Enlargement and was involved with Whipple building his bridges at Albion and Holley in the late 1840s. In 1856 he started building iron bridges on what was to become known as the Murphy-Whipple plan. His first was a 165' span bridge over the Delaware, at Easton, for the Lehigh Valley Railroad and then one of 160' span for the Illinois Central Railroad. Murphy retained the Whipple pattern, using cast-iron cylinders for his top chord and verticals, but he used slightly different links for the lower chord and diagonals while replacing Squire's cast-iron trunnions with wrought-iron pins. When Whipple was asked about Murphy later on in life after Murphy died he wrote:

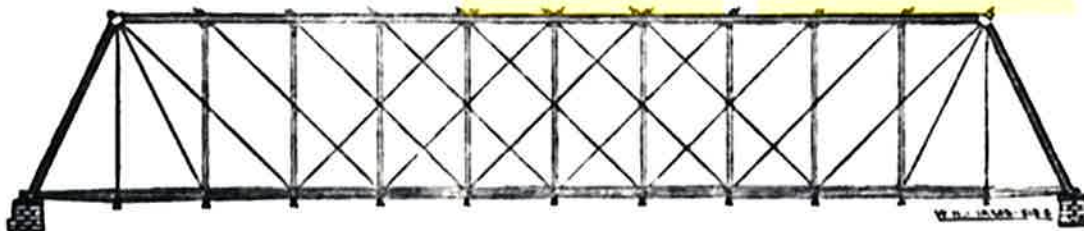
I first met John W. Murphy about the year 1850 or 1851. I learned that he thought well of my book and my bridges, whence I inferred, of course, that he was a man of discrimination and ability, and as he afterwards talked up iron bridges and Whipple bridges in Pennsylvania, he was of service to the cause and to me. Iron bridges "took" in Pennsylvania rather better than in New York, and Murphy, with others, formed a partnership for building iron bridges, and purchased my patent (covering the arch truss only). In the year 1859, or thereabouts, he built a few bridges, which they were pleased to designate as Murphy-Whipple bridges, to which I made no objections, though it has perhaps been the means of disseminating false impressions. "Murphy-Whipple bridges,"

properly considered, simply means bridges built by Murphy upon plans and principles originated by Whipple. My relations with Mr. Murphy were most friendly, and he conceded to me all my claims to originality in the bridge question.

Murphy would later replace the cast iron members with wrought iron compression members built up with Phoenix Column segments.

James W. Shipman and John D. Hutchinson were builders of the Bridge Street Bridge. Shipman was the nephew of Squire Whipple and had worked with his father in Springfield Center and Vanhornsville New York. He then went west to work with the Coshocton Iron and Steel works in Coshocton, Ohio and the Cincinnati Bridge Company prior to forming the New York Bridge Company. Hutchinson was the son of John D. Hutchinson who built many Whipple Bowstring trusses across the enlarged Erie Canal in the 1850s and 1860s. He was also associated with Shipman in the Cincinnati Bridge Company. While with the Cincinnati Bridge Company they had also been in charge of building Roebling Suspension Bridges across the Great Miami River at Franklin, Ohio and across the Connecticut River at Turners Falls, Massachusetts. The Company went bankrupt shortly after and they reemerged as the New York Bridge Company.

## **CINCINNATI BRIDGE COMPANY.**



MANUFACTURERS AND BUILDERS OF

### **Whipple's Iron Truss & Arch Bridges,**

FOR RAILWAYS AND HIGHWAYS; ALSO,

**ROEBLING'S CELEBRATED STEEL WIRE SUSPENSION BRIDGES.**

**ALL KINDS BRIDGE IRONS MADE TO ORDER.**

**Only best quality material used. Send notice of Bridge Lettings.**

J. W. **SHIPMAN**, President and Engineer.

H. A. **MANNING**, Sec. and Treas.

V. **PALMER**.

F. N. **PALMER**.

} Gen. Agents.

J. D. **HUTCHINSON**, Vico-Pres't and Eastern Manager, Peekskill N. Y.

Address, **CINCINNATI BRIDGE CO.**, 31½ West 3d Street, **Cincinnati, C.**

Former Company of Shipman & Hutchinson

The New York Bridge Company started building Whipple bridges that used all wrought iron with the compression members built up of riveted plates, channels and angle irons. An



advantage of this was that a paintbrush could reach every square inch of the member. An advertisement of the Company is shown below.

*New York Bridge Co.,*  
**CONTRACTORS, BUILDERS,**  
**and**  
**ENGINEERS,**

J. D. HUTCHINSON.      J. W. SHIPMAN.      ~~110 Broadway~~  
 Oppen St.      110 Broadway.      NEW YORK.

Gentlemen:

*We are prepared to furnish the Whipple Iron Truss and Arch Bridges, of any desired length of span and capacity, on short notice, as well as the celebrated "Rolling" Steel Wire Cable Suspension Bridges for long spans, where the nature of bottom makes it difficult to put in masonry, or at localities where it is deemed inexpedient to obstruct the flow of water by putting in piers; also wood and combination bridges. We invite examination of the many bridges in use, put up by us, of the above named plans, and will be pleased to show our work to all parties who may favor us with a call. Plans, Specifications and estimates furnished on short notice.*

*Notices of all Bridge Projects and Lettings will be esteemed a favor.*  
 Very Truly Yours,

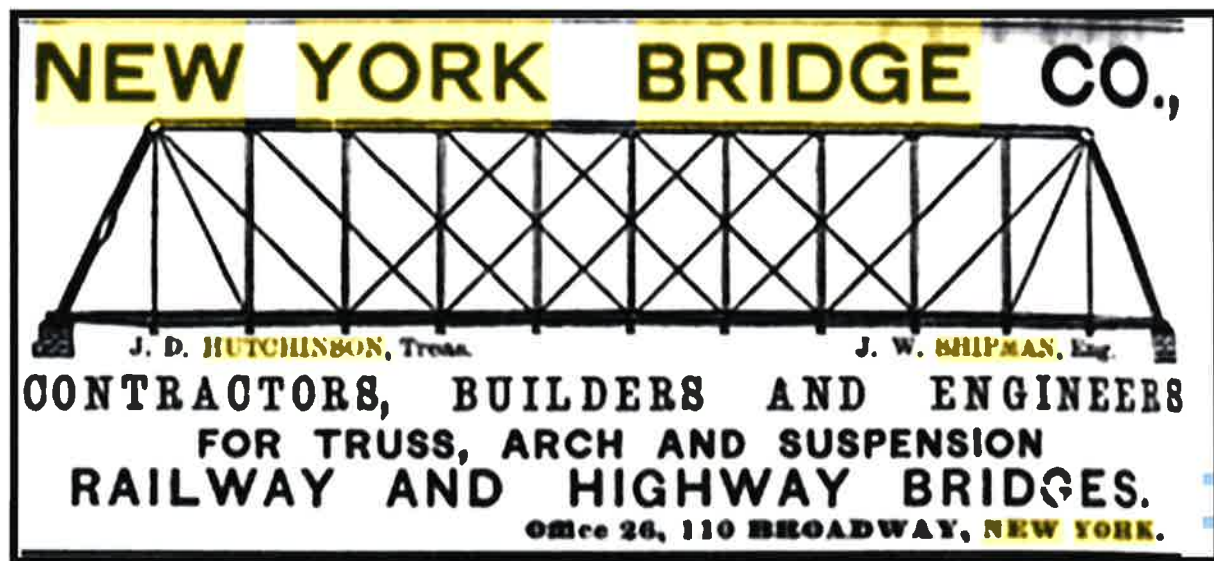
Dec. 1, 1877.

New York Bridge Company Advertisement 1877

Engineering News reported on May 24, 1879,

The New York Bridge Co., of this city, has closed a contract with Chas. M. Wolcott of Matteawan, Dutchess Co., in this state, for the construction of a first-class wrought iron truss bridge of 104 feet span, together with the abutments therefor, over the Fishkill Creek, near A.T. Stewart & Co's carpet mills at Glenham, N.Y.

Charles M. Wolcott was a 19<sup>th</sup> Century industrialist who owned a part of the New York Rubber Company and the Matteawan Manufacturing Company (a wool hat manufacturer) in the area. He had an estate called Rosemeath located on Wolcott Avenue in Fishkill Landing. Matteawan and Fishkill Landing were later merged to form Beacon in 1913. Glenham is a hamlet near Beacon. A. T. Stewart who was a New York City merchant with a plant on Fishkill Creek also owned plants in the area. In some early reports the bridge was known as Wolcott's Bridge after its owner. The announcement did not say what a first-class wrought iron truss bridge look like. They could have built a 104' span bowstring similar to that adopted by the Erie Canal Commissioners or an iron Pratt truss that was common at the time. But instead, they chose a Whipple Double Intersection Truss with eight panels, and even though it was on the short side for that style truss. It may have been the shortest, and lightest, one of its kind ever built and surely is the oldest of its kind in the United States.



1880 Advertisement

The New York Bridge Company went out of business shortly after the bridge was built and James W. Shipman went on his own for a time and later associated with the Penn Bridge Company. Two other bridges associated with Shipman survive. A Whipple Bowstring Bridge on the Campus of Union College has the nameplate Shipman & Son, Springfield Center. A bridge on the Campus of Ohio State University in Newark was built by the Coshocton Iron Works with whom he was associated. They were both moved from previous locations and restored. Hutchinson has one other extant bowstring bridge; the two span Shaw Bridge in Claverack, New York. It was built in 1870 and is in the process of being rehabilitated in place.

The Bridge Street Bridge is one of oldest, if not the oldest, Whipple Double Intersection truss in New York. Being at its original location is also of historical significance. The Riverside Bridge in Connecticut is 8 years younger (1871) and is a Whipple Double Intersection truss but does not have the distinctive inclined end post. It has cylindrical cast iron top chords, verticals and end posts with wrought iron diagonals and lower chord. It was moved to its current location in 1895. Another example, similar to the Bridge Street Bridge is the 126' span, nine panel Poffenberger Road Bridge, near Jefferson, Maryland over the Catoctin Creek built in 1878 by the

Penn Bridge Company of Beaver Falls, Pennsylvania. It differs in that the diagonals are adjustable in length by screw ends on the upper chord, and in general it is a more complex construction, particularly at the junction of the inclined end post and top chord. On the Bridge Street Bridge the diagonals connect to a pin at both ends and are not adjustable. The lower chords, etc., are similar.

Given its age, connection to Squire Whipple, and its unique truss style at its original location, the Bridge Street Bridge it is a structure well worth restoring and put into use as a pedestrian/bicycle bridge to serve the citizens of Beacon for another 100 years.

## Photographic Documentation of Bridge Street Bridge, Beacon, NY

### General Views of Bridge



West Portal 2018



East Portal 2018





East Portal 1978 NYSDOT



West Portal 1978 NYSDOT





Side View looking Northerly



Side View Looking Southerly



Bridge Plaque East End



Bridge Plaque West End



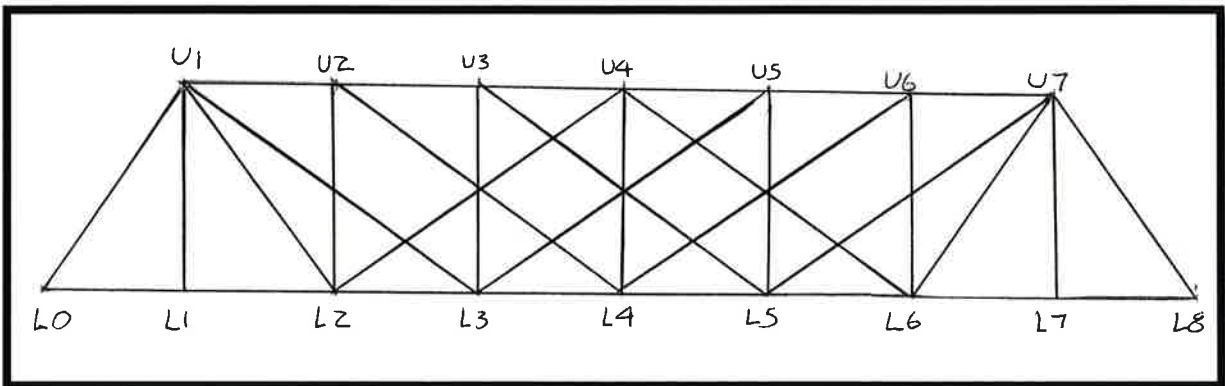


Plaque at top Ends of Truss giving date of construction and Finial.



## Structural Details

A description of the main structural elements of the bridge follows,



Truss Numbering System. East on left or Fishkill Landing end of Bridge.



Panel L6, U6, U7, L7 (same as L1, U1, U2, L2)



Inclined End Post (top chord identical) L0-U1, L8-U7

These bridge elements consist of a pair of 8" Phoenix Iron Company channels topped with a 12" x 1/4" plate. On the lower flanges of the channels 5" x 12" x 1/4" plates spaced at 4'-0" are used to maintain the spacing of the channels



Inclined end post showing rust bulge, pack rust between top plate and channels, lead paint shown.





Damaged Inclined End Post, Southwest corner of bridge

### **Pins**

Two (2) inch diameter wrought iron pins connect the diagonals and lower chord links together. In addition, the vertical posts are seated on the pins. U-bolts also bear on the pins to support the wrought iron cross beams. The ends of the pins are threaded and held in place by nuts. Very little of the pins are visible to the eye, but those that are visible appear to be intact. A closer look should be made after sand blasting the bridge (if it is decided to sand blast at this time). The fact that there is no sign of deflection, etc. of the bridge indicates that they are most likely performing their design function. If the town is concerned about the pins they should be tested using the FHWA Guidelines for the Ultrasonic Testing of Hanger Pins, Publication No FHWA-HRT-04-042. This testing is beyond the scope of this report.

### **Rivets**

The ½" rivets appear to be sound with no observed loosening, fracturing, etc. A sampling was tested with a hammer and the rest by visual observation.

### **Vertical Posts**

These posts consist of two 5" channels riveted together with single lattice bars. At the top end and bottom end of the channels slots were cut and semicircular holes were drilled to engage the 2" diameter pins. These views also show that there is no physical connection between the verticals and the diagonals. They also show the method used to keep the diagonal spacing.



Vertical Posts and brackets for diagonals



Bottom of posts setting on lower chord pins, and U-Bolts (note bent lower chord member)



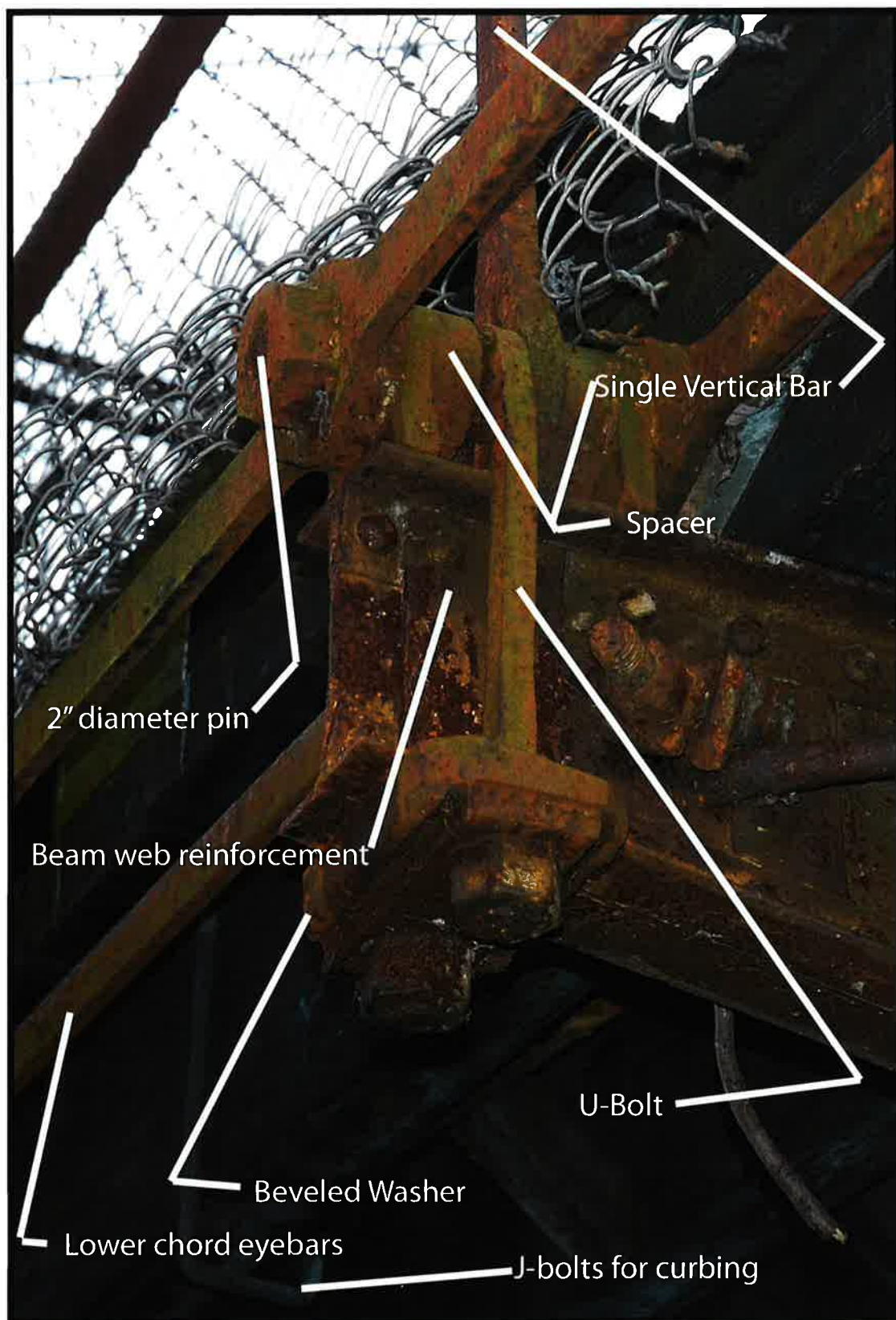
Lower chord eyebars



Lower chord eyebars, diagonals, post, diagonal cross bracing, tapered washer and J-bolts to anchor curbing to stringers. L2, L6 (typical) (the web plate at the ends of some of the beams show some section loss at the very ends of the beams).



Top view lower chord eyebars, diagonals, vertical post, latticing and floor beam connection



Close up of U-bolt hangers, tapered washers and reinforced end of cross beam (Joint L7 North)

## Top chord connections



Connection between inclined end post and top chord showing diagonals, vertical and cast iron portal bracing and cross truss.



Connection vertical post and top chord showing top chord bracing beam and diagonals.





Portal Bracing, wrought iron truss and ornate cast iron tracery (Knee braces)



Cast Iron Tracery - Bolted to Cross Truss and Inclined End Post.

This bracing consists of a variable depth cross truss, built up with angles and double latticing. This cross truss also supports the bridge plaque. Cast iron tracery connects (bolts) to both the inclined end posts, on brackets riveted to the member, and the bottom flanges of the cross truss. In combination these elements keep the main trusses in a vertical position.



## Bridge Seats

The cast iron bridge seats connect the ends of the lower chord eyebars, with a pin, and the inclined end posts. As can be seen below the webs of the inclined post channels have been reinforced with 6" plates riveted in place to increase the bearing area of the member. An unusual feature of the bridge is that its seats are not anchored to the masonry or sitting on a nest of rollers which was common at the time. In other words the bridge sits on masonry with no physical connection other than gravity.

### Southwest Corner



Southwest bridge seat end and side views



Southwest bridge seat under view (note poison ivy root system)  
Northwest Corner







Northwest Bridge Seat



Image under northwest bridge shoe showing bearing surface on cast iron shoe, lower chord links. Note there is no additional bearing plate added to inside face of channels. Pin behind cross plate. Angle on bottom to receive hand railing

Northeast Corner



Northeast bridge seat

Southeast Corner







Southeast bridge seat end and side views



Underside of Southeast bridge seat. Note broken 5 " x 12" plate that should be replaced with new plate farther up the member.

## Deck Construction

The variable depth 18' long wrought iron crossbeams are hung from pins on the lower chord with U-bolts. They in turn support 14- 4" x 11 1/4" wooden stringers (apparently creosoted). The stringers appear to be in good condition with little sign of decay. Transverse to the stringers, the decking consists of 3" x 11" planks spiked to the stringers. The under floor diagonal bracing consists of 7/8" diameter bars and wooden bridging. A wooden curb is set on the decking and is anchored to the stringers below with J-bolts.

The decking is worn in two tracks and some members are rotting on the surface but generally the wood is sound and firmly attached to the stringers. The maximum depth of rut is approximately 1 1/2" with the edges of the planking and along the centerline at, or near, original elevation. The centerline of the southerly rut is about 6' in from the edge with the centerline of the northerly rut another 4+ feet to the north.



Deck with ruts, with some decay in the rut where water puddles. Depth of rut ~1 1/2".

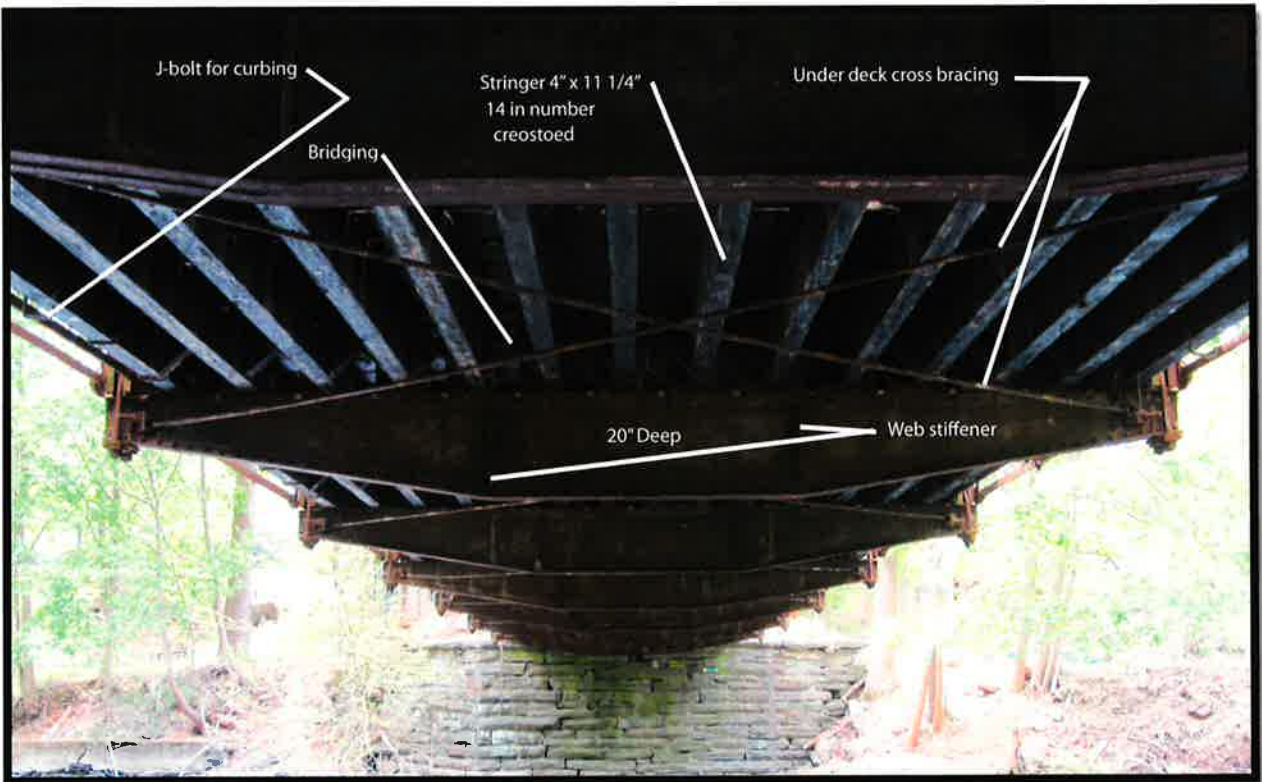




Rut on northerly side of centerline of the bridge showing ~1 ½" depression.



Deck and Curb 1978 NYSDOT



Deck Construction showing iron cross beams, diagonal bracing, stringers and bridging.



Wooden decking, curb and pipe railing, diagonal, note little decay along edges of decking. Note also organic material collecting in joints. It will be noted later on that this material should be power washed away to minimize further decay in the joint.



## Abutments

### West

This abutment is built of cut stone and the joints mortared up. It is 21' 3" wide with wing walls of 11' 4" on the south and 15' 5" on the north. Exposed stone varies from 7' 0" to 10' 7" high. The end of the truss is set back ~2' 3" from the face of the wall.



Southerly Wing wall, showing good line of face of abutment



Face of west abutment showing pointed stonework



North wing wall of westerly abutment



## East

This abutment is also built of cut stone with the joints mortared. The creek waterline flows along the face of the stonework, but there is no sign of significant erosion. It is also 21' 3" wide with wing walls of 16' 7" on the south and about the same on the north. The end of the truss is set back ~2' 7" from the face of the wall making the distance between abutments approximately 100'.



East abutment taken from west abutment



Southerly wing wall, tree should be removed as it is displacing the stonework and stone pushed back to original position



Face of easterly wing wall, excellent condition



BIN Number of Bridge

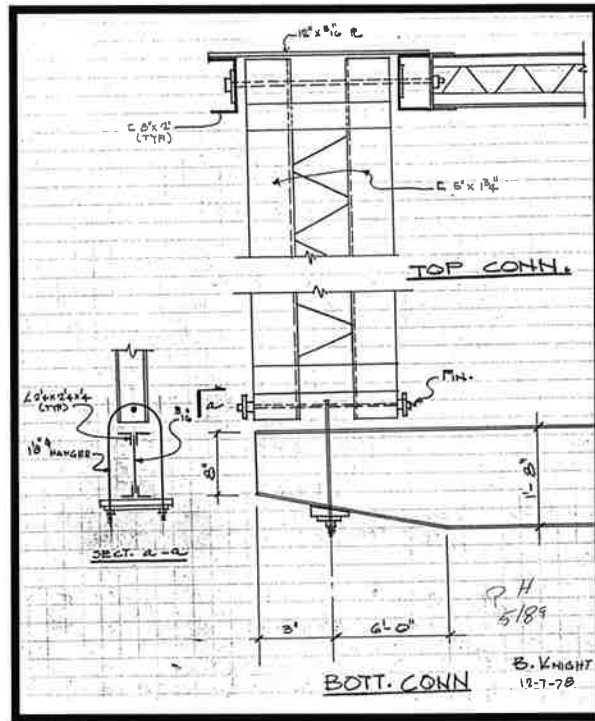
Hand-drawn plan view of a road layout. The drawing shows a central road with several cross-streets and a bridge. Key features include:

- Top Section:** A north arrow pointing upwards, labeled "105° - 0°". Below it, a label "13° - 0° (TYP)".
- Left Side:** A label "E. BRG" near the top. Further down, a label "10° - 0° (TYP)" is shown next to a line segment.
- Central Road:** A horizontal road with several cross-streets labeled "E. BRG-1", "E. BRG-2", "E. BRG-3", "E. BRG-4", "E. BRG-5", "E. BRG-6", "E. BRG-7", and "E. BRG-8".
- Right Side:** A label "E. BRG-2" near the top. Further down, a label "10° - 0°" is shown next to a line segment.
- Bottom Section:** A label "10° - 0° (TYP)" is shown next to a line segment. Below the road, a label "PLAN" is written, followed by "N.T.B.". To the right, a handwritten note "P.H. 5/189" is visible.
- Annotations:**
  - A label "9' x 5' TIMBER CURB" with an arrow pointing to a curved line on the left side of the road.
  - A label "10' x 6' TIMBER DISC" with an arrow pointing to a circular feature in the center of the road.
  - A label "10' x 6' TIMBER STRUNGERS @ 1'-2" O.C." with an arrow pointing to a rectangular feature in the center of the road.
  - A label "TIMBER CURB" with an arrow pointing to a curved line on the right side of the road.
  - A label "DIRECTION OF ORIENTATION" with an arrow pointing to the right.
  - A label "HEAD WAY" with an arrow pointing to the top of the road.
  - A label "E. BRG" with an arrow pointing to the right side of the road.
  - A label "E. BRG-2" with an arrow pointing to the right side of the road.
  - A label "E. BRG-8" with an arrow pointing to the right side of the road.

[illegible]

38





NYSDOT Inspection sketch 1978 and repeated in 1989 Inspection

The State of New York DOT inspected the bridge in 1978, 1985, 1987 and 1989 after it was abandoned. The 1978 report included the sketches shown above as well as some of the pictures shown in the Photographic Documentation section. Most of the inspections did not mention any specific problems only giving a rating of each part of the bridge.

The main item of concern in the 1989 inspection report was in what they called the primary members. They noted, "built in 1879 and with total absence of paint, the structural steel [wrought iron] is remarkable in that it has so little section loss, minor in most cases except as follows,

1. All four end posts have had repair plates welded to both the webs and to the top flanges.
2. All four end posts have 100% thickness loss in the top flange plate near the end of plate at bearing.
3. Member U1L1 [our U7L8] has been hit and deflected in turn deflection and skewing the floor beam connection at L2 [our L8]. The joint is still fast.
4. Top flange of the top chord of both trusses is rippled from crevice corrosion full length."

No inspections have been held since 1989 as the bridge was listed as abandoned. They did issue a Safety Alert as the bridge was still being used by pedestrians and the chain link fence that was strapped to the truss work and was not functional.

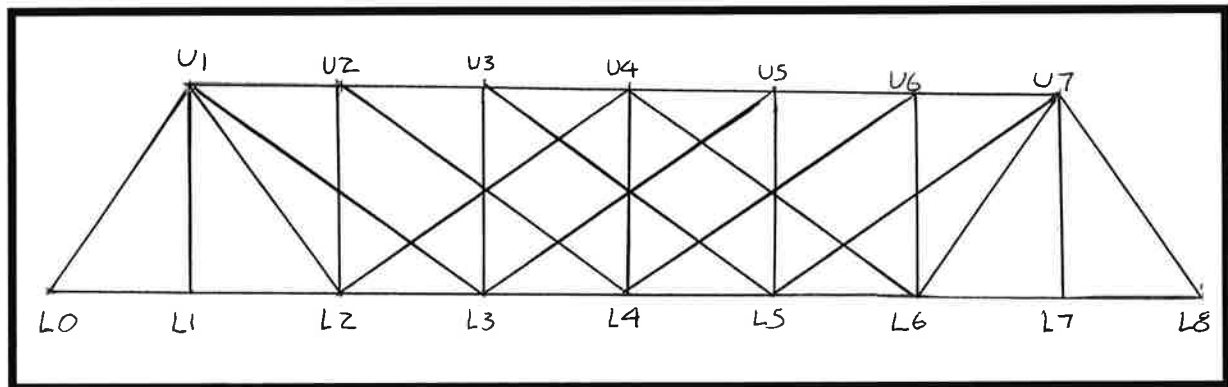
These comments are still valid in 2018 thirty years after these reports. My dimensions of the bridge generally agree with those of the State Engineers. Note they had the bridge in a north south direction while I assumed an east west orientation.

### **1977 Report**

In 1977 a report on the bridge was submitted by Eberlin & Eberlin, PC, Consulting Engineers, Planners and Landscape Architects, 30 East 42<sup>nd</sup> Street, New York, New York, 10007. After a search by the City the file, which was supposed to have been filed with the Churchill Bridge, was not found.



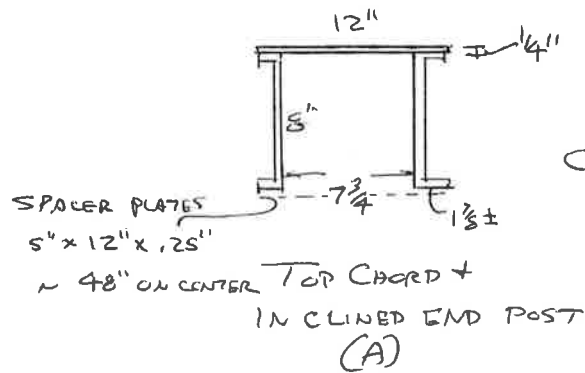
## Structural Analysis



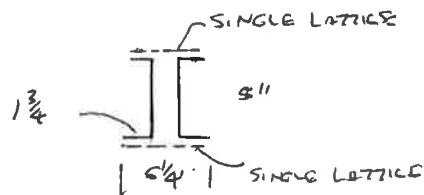
Truss Numbering System

TRUSS MEMBER INFORMATION SHEET		
Member #	Description of member	Size members
L0-L1	Two rectangular bars	2@ .60" x 1.82"
L1-L2	Two rectangular bars	2@ .692" x 1.82"
L2-L3	Two rectangular bars	2@ .875" x 2.607"
L3-L4	Two rectangular bars	2@ .875" x 2.607"
L4-L5	Two rectangular bars	2@ .875" x 2.607"
L5-L6	Two rectangular bars	2@ .875" x 2.607"
L6-L7	Two rectangular bars	2@ .692" x 1.82"
L7-L8	Two rectangular bars	2 @ .60" x 1.82"
U1-U2	Two chanel, top plate, lattice	see attached sketch a
U2-U3	Two chanel, top plate, lattice	see attached sketch a
U3-U4	Two chanel, top plate, lattice	see attached sketch a
U4-U5	Two chanel, top plate, lattice	see attached sketch a
U5-U6	Two chanel, top plate, lattice	see attached sketch a
U6-U7	Two chanel, top plate, lattice	see attached sketch a
L0-U1	Two chanel, top plate, lattice	see attached sketch a
U1-L1	One Square bar	1.05" x 1.05"
U1-L2	Two rectangular bars	2 @ 1.5" x .5"
U1-L3	Two rectangular bars	2 @ 1.5" x .5"
U2-L2	Two latticed chanel	see attached sketch b
U2-L4	Two round bars	2 @ 1.5" x .5"
U3-L3	Two latticed chanel	see attached sketch b
U3-L5	Two rectangular bar	2 @ 1.28" x .52"
U4-L6	One round bar	0.718"
U4-L4	Two latticed chanel	see attached sketch b
L2-U4	One round bar	0.718"
L3-U5	Two rectangular bars	2 @ 1.5" x .5"
L4-U6	Two rectangular bars	2 @ 1.5" x .5"
U5-L5	Two latticed chanel	see attached sketch b
U5-L3	Two rectangular bars	2 @ 1.28" x .52"
L5-U7	Two rectangular bars	2 @ 1.5" x .5"
U6-L6	Two latticed chanel	see attached sketch b
L6-U7	Two rectangular bars	2 @ 1.5" x .5"
U7-L7	One square bar	1.05" x 1.05"
U7-L8	Two chanel, top plate, lattice	see attached sketch a
Floor Beams	Trapezoidal built up beam	see attached sketch c
Stringers size	14 beams	4" x 11.25"
Stringers spacing		14.5"
Bracing top, truss	Round bars crossed	.874"
Bracing Cross bear	four angles latticed	see attached sketch d
Bracing deck diag.	Round bars crossed	0.875"
Truss Height		18'
Truss spacing		17'
Width of decking	Boards	16'
Decking	Boards	3" x 11.5"
Curb to curb		14' 5"

Member Properties



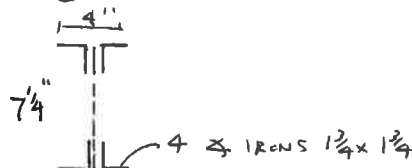
CHANNEL = 8" DEEP, 1 FLOOR 1 1/8"  
THICKNESS ~ .376  
PHOENIX SECTION



CHANNELS 8" DEEP, 1 3/4" LE  
THICKNESS ~ .376

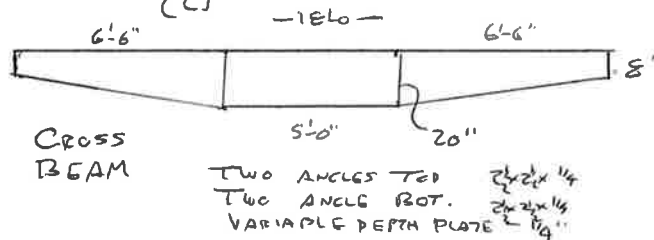
POSTS

(B)



CROSS BRACE  
TOP CHORD

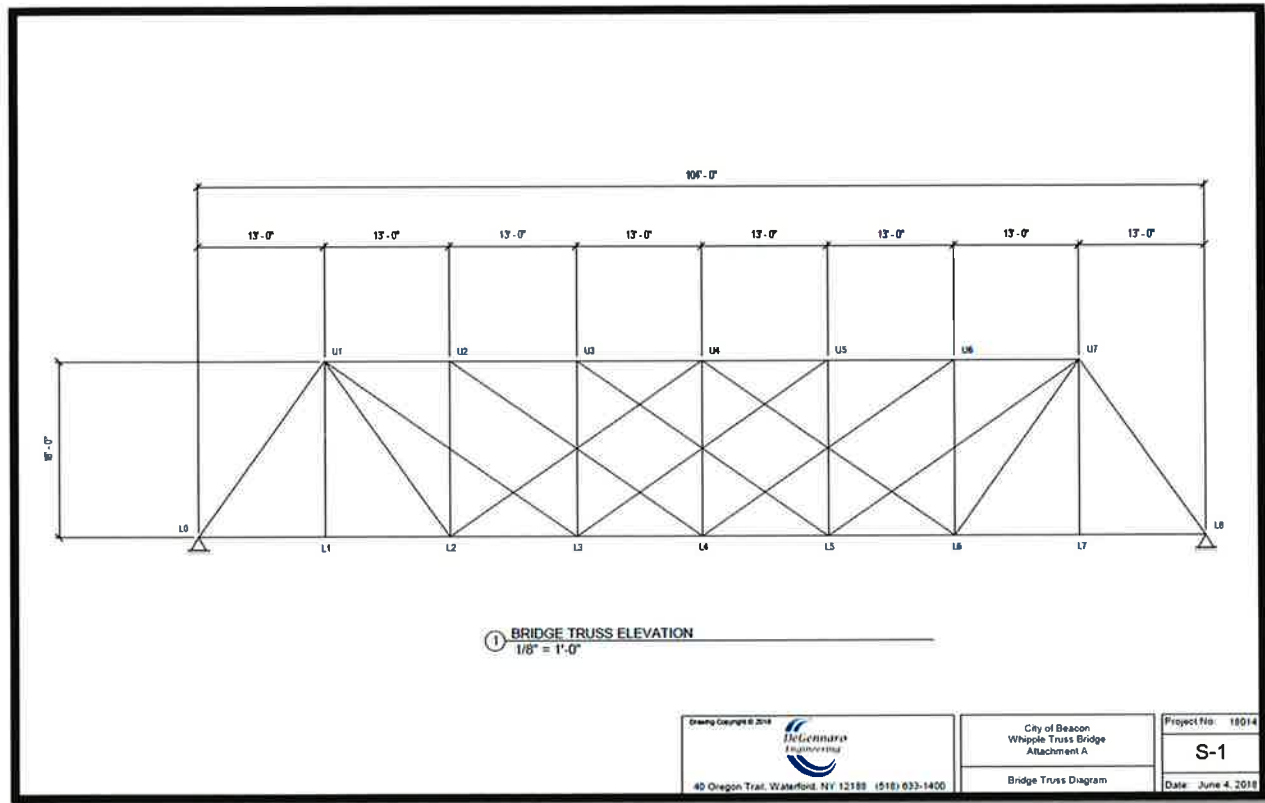
(C)



(D)

Detail Sketches of built up members

## Dan DeGennaro Report



Bridge truss diagram

### Report

**To:** Dr. Frank Griggs, Jr. Dist. M. ASCE

**From:** Daniel J. DeGennaro, PE

**Subject:** Bridge Street Whipple Truss Bridge, Beacon, NY  
Preliminary Bridge Truss Analysis  
DE Project No. 18014

**Date:** June 2, 2018

The Bridge Street Bridge is a single-span, Whipple-type truss bridge built by the New York Bridge Company in 1879 that is located in Beacon, NY. The bridge has span of 104-ft and crosses over the Fishkill Creek on Bridge Street. The purpose of this memo is to document a preliminary structural analysis completed on the bridge to assist with rehabilitation planning for reuse of the bridge for pedestrians. Refer to Attachment A for a diagram of the bridge truss.

Based on provided field measured dimensions, the bridge trusses were analyzed to determine the load on each truss member. The computer program Risa-3D was used for the analysis. The calculated load on each member was compared to an allowable load to determine if allowable stresses were exceeded.

The dead load used in the analysis includes the self-weight of bridge components with 21 psf used for the wood decking and stringers.

The live load used in the analysis is 85 pounds per square foot, which is the required pedestrian bridge design live load in accordance with the American Association of State Highway and Transportation Officials (AASHTO) Guide Specification for the Design of Pedestrian Bridges.

Two separate load live load cases were considered on the bridge truss. Case 1 analysis used a 14'-5" wide deck subject to an 85 psf live load. Case 2 analysis used a 11'-0" wide deck subject to an 85 psf live load. The results of Case 1 and Case 2 analysis are summarized in Table 1 and 2. The analysis assumes that the bridge will not be subject to vehicular live load and that bollards or other guards will be constructed to prevent vehicle access.

The capacity of the individual truss members is based upon the allowable stress method. The following material properties were used for wrought iron:

- Allowable tensile stress = 12.5 ksi
- Allowable compressive force top chord = 12 ksi
- Allowable compressive force verticals = 4.9 ksi
- Modulus of Elasticity = 28,000 ksi

The material properties and allowable stresses used are based upon historical references for material in general at the time the bridge was originally constructed and are not based on testing actual samples of material taken from the bridge.

As shown in the results on Table 1, a pedestrian live load of 85 psf on a 14'-5" wide wood deck results in a demand / capacity ratio greater than 1.0 on six of the members on each bridge truss. A demand / capacity ratio of 1.10 is calculated for two of the bottom chord members, a demand capacity ratio of 1.17 for two of the diagonal members, and a demand capacity ratio of 1.12 for two of the diagonal members. Based on the calculated stresses a 14'-5" wide deck is not recommended since the demand ratio is greater than 1.00 for six of the truss members.

A live load on a 11-ft wide wood deck results in a demand ratio of less than 1.0 for all members as indicated on Table 2. This analysis indicates that the trusses are adequate to support an 11-ft wide wood deck and the required live load. An updated and final structural analysis will be required during the bridge rehabilitation design phase.



BEACON PEDESTRIAN BRIDGE  
 TRUSS MEMBER AXIAL FORCES  
 LOAD CASE 1: DEAD LOAD + 85 PSF LIVE LOAD ON 14'-5" WOOD DECK  
 June 4, 2018

TABLE 1

	Member	Dead Load + Live Load (kips)	Allowable Member Capacity	Ratio of Demand / Capacity	Member Size	Member Area (sq. inch)
Bottom Chord	L0-L1	30.14	27.300	1.10	(2) 0.60" x 1.82" Rect Bars	2.184
	L1-L2	30.11	31.488	0.96	(2) 0.692" x 1.82" Rect Bars	2.519
	L2-L3	42.92	57.025	0.75	(2) 0.875" x 2.607" Rect Bars	4.562
	L3-L4	58.61	57.025	1.03	(2) 0.875" x 2.607" Rect Bars	4.562
	L4-L5	58.61	57.025	1.03	(2) 0.875" x 2.607" Rect Bars	4.562
	L5-L6	42.92	57.025	0.75	(2) 0.875" x 2.607" Rect Bars	4.562
	L6-L7	30.11	31.488	0.96	(2) 0.692" x 1.82" Rect Bars	2.519
	L7-L8	30.14	27.300	1.10	(2) 0.60" x 1.82" Rect Bars	2.184
Top Chord	U0-U1	-51.62	-114.36	0.45	Type A - Built-up 8" Double Channels w/ Top Plate	9.53
	U1-U2	-60.08	-114.36	0.53	Type A - Built-up 8" Double Channels w/ Top Plate	9.53
	U2-U3	-68.65	-114.36	0.60	Type A - Built-up 8" Double Channels w/ Top Plate	9.53
	U3-U4	-70.14	-114.36	0.61	Type A - Built-up 8" Double Channels w/ Top Plate	9.53
	U4-U5	-70.14	-114.36	0.61	Type A - Built-up 8" Double Channels w/ Top Plate	9.53
	U5-U6	-68.65	-114.36	0.60	Type A - Built-up 8" Double Channels w/ Top Plate	9.53
	U6-U7	-60.08	-114.36	0.53	Type A - Built-up 8" Double Channels w/ Top Plate	9.53
	U7-L8	-51.62	-114.36	0.45	Type A - Built-up 8" Double Channels w/ Top Plate	9.53
Verticals	U1-L1	10.74	13.813	0.78	1.05" x 1.05" Rect Bar	1.105
	U2-L2	-6.93	-17.297	0.40	Type B Built-up Double 5" Channels	3.53
	U3-L3	-2.16	-17.297	0.12	Type B Built-up Double 5" Channels	3.53
	U4-L4	-0.96	-17.297	0.06	Type B Built-up Double 5" Channels	3.53
	U5-L5	-2.16	-17.297	0.12	Type B Built-up Double 5" Channels	3.53
	U6-L6	-6.93	-17.297	0.40	Type B Built-up Double 5" Channels	3.53
	U7-L7	10.74	13.813	0.78	1.05" x 1.05" Rect Bar	1.105
	U1-L2	21.98	18.750	1.17	(2) 1.5" x 0.5" Rect Bars	1.5
Diagonals	U1-L3	20.99	18.750	1.12	(2) 1.5" x 0.5" Rect Bars	1.5
	U2-L4	10.46	18.750	0.56	(2) 1.5" x 0.5" Rect Bars	1.5
	U3-L5	1.85	16.625	0.11	(2) 1.28" x 0.52" Rect Bars	1.33
	U4-L2	0.00	5.000	0.00	0.718" Dia Bar	0.4
	U4-L6	0.00	5.000	0.00	0.718" Dia Bar	0.4
	U5-L3	1.85	16.625	0.11	(2) 1.28" x 0.52" Rect Bars	1.33
	U6-L4	10.46	18.750	0.56	(2) 1.5" x 0.5" Rect Bars	1.5
	U7-L5	20.99	18.750	1.12	(2) 1.5" x 0.5" Rect Bars	1.5
	U7-L6	21.98	18.750	1.17	(2) 1.5" x 0.5" Rect Bars	1.5
End Reaction		42.11				

Positive Force = Tension

Negative Force = Compression

Wrought Iron Allowable Tension Force = 12,500 psi

Wrought Iron Allowable Compressive Force = 12,000 psi for Top Chord and 4,900 psi for Verticals

Dead Load = 21 PSF for Wood Decking and Stringers, Selfweight of Members, 20 PLF for guardrail with 16'-0" Trib width

Live Load Width = 16'-0" - guardrails = 14'-5"

14' 5" Deck

BEACON PEDESTRIAN BRIDGE  
 TRUSS MEMBER AXIAL FORCES  
 LOAD CASE 2: DEAD LOAD + 85 PSF LIVE LOAD ON 11'-0" WOOD DECK  
 June 4, 2018

TABLE 2

	Member	Dead Load + Live Load (kips)	Allowable Member Capacity	Ratio of Demand / Capacity	Member Size	Member Area (sq. inch)
Bottom Chord	L0-L1	21.86	27.300	0.80	(2) 0.60" x 1.82" Rect Bars	2.184
	L1-L2	21.85	31.488	0.69	(2) 0.692" x 1.82" Rect Bars	2.519
	L2-L3	31.13	57.025	0.55	(2) 0.875" x 2.607" Rect Bars	4.562
	L3-L4	42.55	57.025	0.75	(2) 0.875" x 2.607" Rect Bars	4.562
	L4-L5	42.55	57.025	0.75	(2) 0.875" x 2.607" Rect Bars	4.562
	L5-L6	31.13	57.025	0.55	(2) 0.875" x 2.607" Rect Bars	4.562
	L6-L7	21.85	31.488	0.69	(2) 0.692" x 1.82" Rect Bars	2.519
	L7-L8	21.86	27.300	0.80	(2) 0.60" x 1.82" Rect Bars	2.184
Top Chord	U0-U1	-37.61	-114.36	0.33	Type A - Built-up 8" Double Channels w/ Top Plate	9.53
	U1-U2	-46.62	-114.36	0.41	Type A - Built-up 8" Double Channels w/ Top Plate	9.53
	U2-U3	-49.84	-114.36	0.44	Type A - Built-up 8" Double Channels w/ Top Plate	9.53
	U3-U4	-50.91	-114.36	0.45	Type A - Built-up 8" Double Channels w/ Top Plate	9.53
	U4-U5	-50.91	-114.36	0.45	Type A - Built-up 8" Double Channels w/ Top Plate	9.53
	U5-U6	-49.84	-114.36	0.44	Type A - Built-up 8" Double Channels w/ Top Plate	9.53
	U6-U7	-46.62	-114.36	0.41	Type A - Built-up 8" Double Channels w/ Top Plate	9.53
	U7-U8	-37.61	-114.36	0.33	Type A - Built-up 8" Double Channels w/ Top Plate	9.53
Verticals	U1-L1	7.52	13.813	0.54	1.05" x 1.05" Rect Bar	1.105
	U2-L2	-5.28	-17.297	0.31	Type B Built-up Double 5" Channels	3.53
	U3-L3	-1.77	-17.297	0.10	Type B Built-up Double 5" Channels	3.53
	U4-L4	-0.93	-17.297	0.05	Type B Built-up Double 5" Channels	3.53
	U5-L5	-1.77	-17.297	0.10	Type B Built-up Double 5" Channels	3.53
	U6-L6	-5.28	-17.297	0.31	Type B Built-up Double 5" Channels	3.53
	U7-L7	7.52	13.813	0.54	1.05" x 1.05" Rect Bar	1.105
	U1-L2	15.94	18.750	0.85	(2) 1.5" x 0.5" Rect Bars	1.5
Diagonals	U1-L3	15.26	18.750	0.81	(2) 1.5" x 0.5" Rect Bars	1.5
	U2-L4	7.62	18.750	0.41	(2) 1.5" x 0.5" Rect Bars	1.5
	U3-L5	1.34	16.625	0.08	(2) 1.28" x 0.52" Rect Bars	1.33
	U4-L2	0.00	5.000	0.00	0.718" Dia Bar	0.4
	U4-L6	0.00	5.000	0.00	0.718" Dia Bar	0.4
	U5-L3	1.34	16.625	0.08	(2) 1.28" x 0.52" Rect Bars	1.33
	U6-L4	7.62	18.750	0.41	(2) 1.5" x 0.5" Rect Bars	1.5
	U7-L5	15.26	18.750	0.81	(2) 1.5" x 0.5" Rect Bars	1.5
	U7-L6	15.94	18.750	0.85	(2) 1.5" x 0.5" Rect Bars	1.5
End Reaction		30.73				

Positive Force = Tension

Negative Force = Compression

Wrought Iron Allowable Tension Force = 12,500 psi

Wrought Iron Allowable Compressive Force = 12,000 psi for Top Chord and 4,900 psi for Verticals

Dead Load = 21 PSF for Wood Decking and Stringers, Selfweight of Members, 20 PLF for guardrail

11' Deck

## Structural evaluation, recommendations and Tentative Cost Estimates

I made an intensive visual evaluation of the entire structure first globally and then in detail. Globally I found the trusses to be perfectly plumb indicating no lateral shifting. There was no sign of settlement or deflection of the trusses indicating they were performing their design function regarding their ability to carry their loads successfully. All of the diagonal bars are taut with no sign of section loss that would impact their capacity to resist tension loads.

I then studied the connections with special attention paid to the ends of the truss where it sits on the masonry abutment, as it is generally the case that if a bridge fails it is in the connections. It was difficult to get a good look at some of the lower chord connections due to the chain link fencing mounted on the bridge. In spite of that, I was able to closely inspect each connection from the deck. There was no indication of cracking on any of the lower chord eyebars, diagonals or verticals. Another closer investigation of these connections should be made in the future if the bridge is sandblasted and prior to painting. The top chord connections also were in excellent condition.

Next, I made observations of each bridge element between connections. The only problems observed were at the bridge seats and inclined end post area at each corner of the bridge. At the southwest end of the bridge the inclined end post had been hit by a motor vehicle in the past. This impact not only deformed the inside channel of the member but shifted the member on the cast iron shoe such that the channels do not have full bearing on the shoe. This impact also shifted the bridge joint L7 and twisted to a small degree the end of the cross beam.



Damaged inclined end post, southwest corner of bridge. Also previously welded plate at top end of image. Some yellow lead paint remains. The lower ~8' of the inclined end posts were painted yellow for visibility purposes





End post shifted on cast iron shoe resulting in less than full bearing. Note web plate riveted on web of channel to increase bearing still has full bearing. Member was not deflected transversely, only longitudinally.

On the other three inclined posts, where they connect with cast iron shoes, the top plate of the member had partly corroded through as can be seen above. This corrosion is mainly cosmetic and does not greatly impact the load carrying capacity of the inclined end chords, as the top plate's primary function is to maintain the orientation and separation of the two channels. One quarter inch  $\frac{1}{4}$ " cover plates should, however be welded on the existing top flange plates as described below. The angle iron on the northeast and southeast inclined end post should be removed in order to place new cover plates. On the southwest end the plate should be  $\frac{1}{2}$ " thick and in direct contact with the cast iron bridge shoe to make up for some of the bearing area lost on the lower flange of the channels.

### **Rehabilitation – General**

It is assumed the City wants to maintain the historical aspects of this 140-year old wrought iron bridge that is setting on the original abutments and maintains the original design elements from 1879.

The existing decking is much wider than needed for a pedestrian/bicycle bridge. The report by Dan DeGennaro, PE indicates a narrow (11' curb to curb) deck would keep the loads in the truss members in a safe range while the existing 14' 5" deck would over load some members. It is therefore recommended that the deck width be narrowed to 12' (~11' curb to curb) from the existing 16'. This will also accentuate the late 19<sup>th</sup> century lower chord wrought iron truss details. In addition, it will, as noted, cut down on the dead load and the potential live load reducing the loading on the bridge trusses. It will also make it possible to have the bridge seats



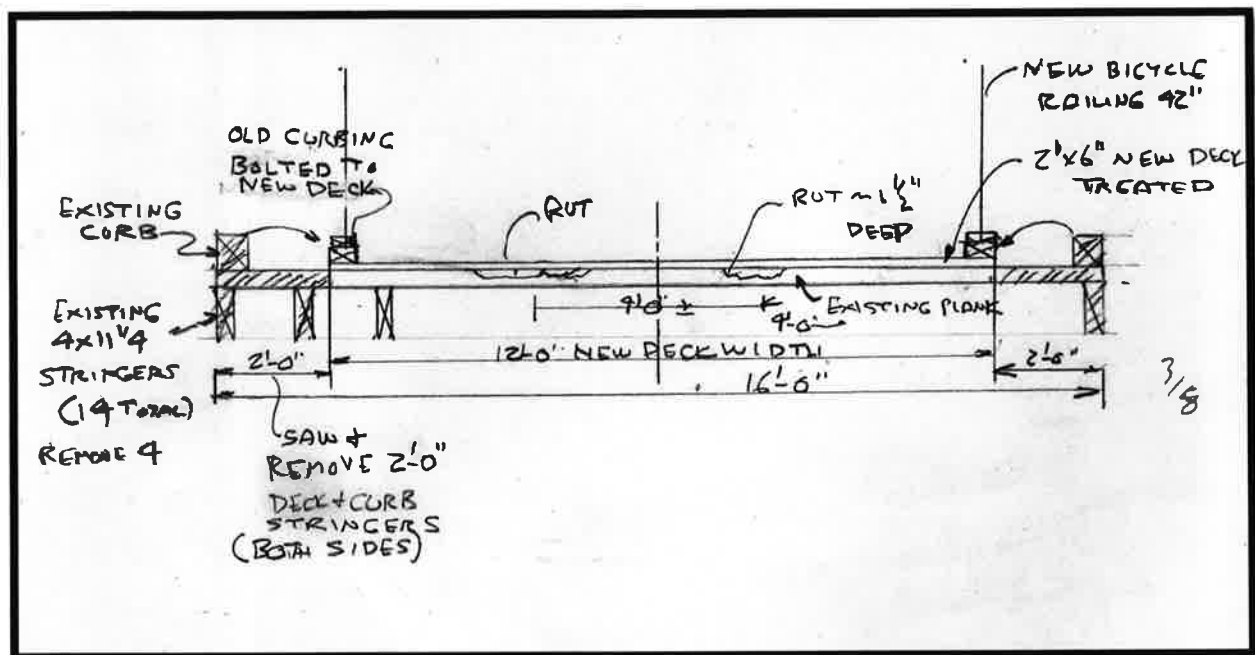
entirely in the open thus minimizing corrosion in the future. It is further recommended that a new pedestrian/bicycle railing be placed on the bridge.

The restoration can be carried out in two ways. Proposal 1 would get the bridge back in use the fastest and at the lowest cost while Proposal 2 would restore the bridge to its near original condition.

A recommended sequence of actions for Proposal 1 is as follows,

### **Proposal 1**

1. Pressure wash decking removing any material between the deck planks as well as any decayed wood on the planks. Drill holes in each plank at the low spot of the ruts to permit drainage.
2. At the lower ends of the northwest, northeast and southeast inclined end posts weld 8" x 32" x 1/4" mild steel plates to span the corroded portions. (I would suggest a 3/32" - 7018 electrode.) On the southwest inclined end post weld an 8" x 32" x 1/2" plate to add bearing area to replace the bearing area on the lower flange of the channels. Weld new under lattice plate at the southeast bridge seat. Remove angle iron on the top chord of the northeast and southeast ends of the trusses.
3. Straighten the channel flange, jack and heat method, and top plate of the inclined post at the southwest corner of the bridge. It may be prudent to support U7 with a crane during this process.
4. Remove soil, etc. around existing cast iron end shoes.
5. Remove chain link fencing and existing railing.
6. Remove outer 2' 0" of existing decking on each side of bridge as shown below.
7. Shim tire rut depressions with two longitudinal treated lumber, ~2" x 6", spaced ~4' 0" apart, as necessary to support new decking on an even plane. Screw 2" x 6" treated decking to existing planks. Space new decking pieces so every other joint lines up with existing planking joints below for drainage purposes.
8. Install old curbing to new decking as shown below. Place new curbing as required matching existing.
9. Install new 42" high bicycle railing.



Suggested Deck Structure Based Upon Covering Existing Decking

It will be necessary to modify the existing approaches to fit a new grade and width of deck. Bollards should be placed on the centerline of the approaches to keep vehicles off the bridge. All of this work can be accomplished with town personnel or specialty contractors.

A variation on this proposal would be to remove the existing curb and deck planking completely saving the curbing for reuse. The next steps would be to remove the outer two stringers on each side of the bridge and screwing a new 12' wide deck of treated 2" x 6" boards on the existing stringers. The old curbing would then be placed on the new deck and the railing mounted to the curbing.

## Proposal 2

This proposal assumes that the city chooses to replace the entire wooden deck structure and replace it with new treated wood. A recommended sequence of action is as follows,

1. At the lower ends of the northwest, northeast and southeast inclined end posts weld 8" x 32" x 1/4" mild steel plates to span the corroded portions. (I would suggest a 3/32" - 7018 electrode.) On the southwest inclined end post weld an 8" x 32" x 1/2" plate to add bearing area to replace the bearing area on the lower flange of the channels. Weld new under lattice plate at the southeast bridge seat. Remove angle iron on the top chord of the northeast and southeast ends of the trusses.
2. Straighten the channel flange, jack and heat method, and top plate of the inclined post at the southwest corner of the bridge. It may be prudent to support U7 with a crane during this process.
3. Remove soil, etc. around existing cast iron end shoes.
4. Remove chain link fencing and existing railing.

5. Flatten all rust bulges on the top chords and inclined end posts using a method similar to that shown on the YouTube---<https://www.youtube.com/watch?v=k3qC-pXYqqw>.
6. Sand blast ironwork in accordance with blast-cleaned steel (SSPC-SP6). Lead paint exists on the bridge, and all necessary steps must be taken to protect the water in the Fishkill Creek. (After sandblasting the iron work must be inspected for any cracking of the truss members, etc. by the Engineer) (The Department of the Interior does not like sand blasting but in my mind it is the only appropriate way to prepare the bridge for painting.)
7. The ironwork shall be painted with a three-coat system using a zinc-rich primer, an epoxy intermediate, and a polyurethane topcoat such as Tenemec Series 90-97 Tnemec-Zinc, Series 1075 Endura-Shield II, Series 1072 Fluoronar.
8. The color of the bridge to be selected by the City of Beacon. The usual colors were silver, gray, red or black. I personally like gray.
9. Remove existing planking, curbing, etc.
10. Remove wooden stringers.
11. Place new treated wood stringers 4" x 8" at 16" spacing.
12. Screw new decking 2" x 6" planks to stringers.
13. Bolt old curbing to decking.
14. Place standard 42" high bicycle railing.

It will also be necessary to modify the existing approaches to fit a new grade and width of deck. A steel bollard should be placed on the centerline of the approaches to keep vehicles off the bridge. All of this work can be accomplished with town personnel or specialty contractors.

### Cost Estimates

The figures given below are estimates of probable cost based upon my experience and some reference to current bidding on similar bridges and are not based upon any competitive bidding by contractors. As I mentioned at our meeting of 5/29/18 much of this work in proposal #1 could be done by highway, or other town, employees.

#### Proposal 1

Pressure wash entire deck-----	\$500
Remove chain link fencing and old railing-----	\$1,000
Repair work (welding, etc.) to inclined end posts-----	\$4,000
Remove and store existing curbing for later reuse-----	\$2,000
Cut and remove 2' 0" of decking and two stringers each side of bridge -----	\$4,000
Supply and place new 2" x 6" decking 1,248 sf @ \$10/sf-----	\$12,480
Install old curbing and any new curbing-----	\$2,000
Supply and place new bicycle railings 220 lf @ \$100/lf-----	\$22,000
Install bollards at each end of bridge 2 @ \$500-----	\$1,000
Provide 10' wide approaches to each end of bridge, asphalt?-----	<u>\$2,000</u>
Total	\$50,980

No general contractor needed for this work. The city would negotiate with subcontractors directly as required and supervise the work with their own personnel.

#### Proposal 2

Remove chain link fencing and old railing-----	\$1,000
Repair work (welding, etc.) to inclined end posts-----	\$4,000
Remove all rust bulges on top chord and inclined end posts-----	\$9,600
Remove and store existing curbing for later reuse-----	\$2,000
Remove and dispose of old decking and stringers-----	\$9,600
Sandblast and paint all iron members 10,000sf at \$25/sf-----	\$250,000
Entire new decking 1,296 sf @ \$20/sf-----	\$25,920
Install old curbing and any new curbing-----	\$2,000
Supply and place new bicycle railings 220 lf @ \$100/lf-----	\$22,000
Install bollards at each end of bridge 2 @ \$500-----	\$1,000
Provide 10' wide approaches to each end of bridge, asphalt?-----	<u>\$2,000</u>
	Total \$329,120

If this was all contracted out General Contractors fees, etc. should be added which could amount to over 20%.

On the painting I did get one estimate from P. S. Buckel, Inc. for \$300 - \$400,000. I think some competitive bidding would get the price down to the \$250,000 I estimated.

In addition to the above the masonry should be pointed where required and the tree close to the masonry at the southeast corner should be removed and the stone block moved back into alignment.



## Conclusion

The bridge is in remarkable condition for a bridge approaching its 140<sup>th</sup> birthday. The iron work, if rehabilitated in the manner recommended, will last for many more years. The two proposals submitted range from a low \$51,000 to a high of around \$330,000.

The work could also be carried out in stages combining the two proposals. The entire work for proposal #1 could be carried out initially with a new deck overlaid on the existing deck and new railings, etc. installed.

The second phase would be the flattening of the rust bulges for \$9,600 followed by sandblasting and painting of the bridge in the amount of \$250,000. With this completed the bridge would be restored to its near original condition and appearance and have a life span of many decades, yes even centuries. It would join other New York Whipple Bridges as the 1860s Union College Bowstring by Shipman & Son, a National Historic Civil Engineering Landmark, the Claverack, Shaw Bridge built by John Hutchinson, The Aldrich Change Bridge in Palmyra by John Hutchinson in 1858, The Boonville Whipple across the Black River Canal (formerly the Talcottville Bridge) and the Vischer's Ferry Whipple Bridge (formerly at Sprakers Basin and later across the Cayadutta Creek in Fonda) by Whipple himself in 1869. All of these were moved and restored at new locations with the exception of the Shaw Bridge which is being rehabilitated in place. The writer has been involved with all of these bridges and has written extensively on Whipple and his works.

The bridge would surely be eligible for listing on the National Register being the last of its kind in its original location and based upon the design of Squire Whipple, the Father of the Iron Truss Bridge. As a bridge it is of greater significance than the former Tioronda Bridge that was on the National Register. It would also, in the mind of the writer, be eligible as a National Historic Civil Engineering Landmark by the American Society of Civil Engineers.

The writer stands ready to assist the City of Beacon in future planning for the restoration of the bridge.

**City of Beacon Council Agenda**  
**7/2/2018**

**Title:**

**A resolution authorizing the execution of an agreement with Dr. Francis E. Griggs, Jr. concerning the Tioronda Avenue Bridge**

**Subject:**

**Background:**

**ATTACHMENTS:**

Description	Type
Reso Tioronda Bridge	Resolution

**CITY OF BEACON**

**CITY COUNCIL**

Resolution No. \_\_\_\_\_ of 2018

**RESOLUTION AUTHORIZING EXECUTION OF AGREEMENT  
WITH DR. FRANCIS E. GRIGGS, JR. CONCERNING THE TIORONDA  
AVENUE BRIDGE**

**WHEREAS**, the City of Beacon seeks to enter into an Agreement with Dr. Francis E. Griggs, Jr. to perform a visual examination of the existing bridge across Fishkill Creek known as the Tioronda Avenue Bridge (the “Bridge”) and prepare a final report setting forth possible rehabilitation options for the Bridge.

**WHEREAS**, the Agreement also includes the preparation of plans and specifications to rehabilitate the Bridge; and

**WHEREAS**, the total cost of the services rendered pursuant to this Agreement shall not exceed \$13,000.

**NOW THEREFORE BE IT RESOLVED**, that the City Council of the City of Beacon hereby authorizes the execution of an Agreement with Dr. Francis E. Griggs, Jr. for the services described herein.

**BE IT FURTHER RESOLVED**, that the Agreement shall be subject to review and approval by the City Administrator and the City Attorney as to form and substance.

Resolution No. _____ of 2018		Date: <u>2018</u>		<input type="checkbox"/> Amendments <input type="checkbox"/> Not on roll call.				<input type="checkbox"/> 2/3 Required <input type="checkbox"/> 3/4 Required	
Motion	Second	Council Member	Yes	No	Abstain	Reason	Absent		
		Terry Nelson							
		Jodi McCredo							
		George Mansfield							
		Lee Kyriacou							
		John Rembert							
		Amber Grant							
		Mayor Randy Casale							
<b>Motion Carried</b>									





**City of Beacon Council Agenda**  
**7/2/2018**

**Title:**

**A resolution to set a public hearing for July 16, 2018 to receive public comment on a Special Use Permit application for the 1181 North Avenue**

**Subject:**

**Background:**

**ATTACHMENTS:**

Description	Type
Reso_PH 1181 North Ave	Resolution

**CITY OF BEACON  
CITY COUNCIL**

**RESOLUTION NO. \_ OF 2018**

**RESOLUTION TO SCHEDULE A PUBLIC HEARING FOR JULY 16, 2018 TO  
RECEIVE PUBLIC COMMENT ON A SPECIAL USE PERMIT APPLICATION  
FOR 1181 NORTH AVENUE**

**NOW, THEREFORE, BE IT RESOLVED**, that the City Council of the City of Beacon hereby schedules a public hearing for July 16, 2018 to receive public comment on a special use permit application for 1181 North Avenue.

<b>Resolution No. _____ of 2018                      Date: <u>2018</u></b>							
<div style="display: flex; justify-content: space-between;"><div><input type="checkbox"/> Amendments <input type="checkbox"/> Not on roll call <input type="checkbox"/> On roll call</div><div><input type="checkbox"/> 2/3 Required <input type="checkbox"/> 3/4 Required</div></div>							
Motion	Second	Council Member	Yes	No	Abstain	Reason	Absent
		Terry Nelson					
		Jodi McCredo					
		George Mansfield					
		Lee Kyriacou					
		John Rembert					
		Amber Grant					
		Mayor Randy J. Casale					
<b>Motion Carried</b>							

**City of Beacon Council Agenda**  
**7/2/2018**

**Title:**

**A resolution to set a public hearing on July 16, 2018 to receive public comment on a Special Use Permit application for 850 Wolcott Ave**

**Subject:**

**Background:**

**ATTACHMENTS:**

Description	Type
Reso_PH 850 Wolcott Ave	Resolution



**CITY OF BEACON  
CITY COUNCIL**

**RESOLUTION NO. \_ OF 2018**

**RESOLUTION TO SCHEDULE A PUBLIC HEARING FOR JULY 16, 2018 TO  
RECEIVE PUBLIC COMMENT ON A SPECIAL USE PERMIT APPLICATION  
FOR 850 WOLCOTT AVENUE**

**NOW, THEREFORE, BE IT RESOLVED**, that the City Council of the City of Beacon hereby schedules a public hearing for July 16, 2018 to receive public comment on a special use permit application for 850 Wolcott Avenue.

<b>Resolution No. _____ of 2018                      Date: <u>2018</u></b>							
<div style="display: flex; justify-content: space-between;"><div><input type="checkbox"/> Amendments <input type="checkbox"/> Not on roll call <input type="checkbox"/> On roll call</div><div><input type="checkbox"/> 2/3 Required <input type="checkbox"/> 3/4 Required</div></div>							
Motion	Second	Council Member	Yes	No	Abstain	Reason	Absent
		Terry Nelson					
		Jodi McCredo					
		George Mansfield					
		Lee Kyriacou					
		John Rembert					
		Amber Grant					
		Mayor Randy J. Casale					
<b>Motion Carried</b>							

**City of Beacon Council Agenda**  
**7/2/2018**

**Title:**

**A resolution to set a public hearing on July 16, 2018 to receive public comment on a Special Use Permit application for the Edgewater project**

**Subject:**

**Background:**

**ATTACHMENTS:**

Description	Type
Reso_PH Edgewater	Resolution

**CITY OF BEACON  
CITY COUNCIL**

**RESOLUTION NO. \_ OF 2018**

**RESOLUTION TO SCHEDULE A PUBLIC HEARING FOR JULY 16, 2018 TO  
RECEIVE PUBLIC COMMENT ON A SPECIAL USE PERMIT APPLICATION  
FOR THE EDGEWATER PROJECT**

**NOW, THEREFORE, BE IT RESOLVED**, that the City Council of the City of Beacon hereby schedules a public hearing for July 16, 2018 to receive public comment on a special use permit application for the Edgewater project.

<b>Resolution No. _____ of 2018</b>								<b>Date: <u>2018</u></b>	
<input type="checkbox"/> Amendments								<input type="checkbox"/> 2/3 Required	
<input type="checkbox"/> Not on roll call								<input type="checkbox"/> 3/4 Required	
<input type="checkbox"/> On roll call									
Motion	Second	Council Member	Yes	No	Abstain	Reason	Absent		
		Terry Nelson							
		Jodi McCredo							
		George Mansfield							
		Lee Kyriacou							
		John Rembert							
		Amber Grant							
		Mayor Randy J. Casale							
<b>Motion Carried</b>									

**City of Beacon Council Agenda**  
**7/2/2018**

**Title:**

**A resolution to adopt as the names of private streets, Coyne Hill Road and Liam Drive for E911 purposes**

**Subject:**

**Background:**

**ATTACHMENTS:**

Description

Reso naming of streets

Type

Resolution





**CITY OF BEACON**  
**CITY COUNCIL**  
**RESOLUTION NO. \_\_\_\_\_ OF 2018**

**A RESOLUTION TO ADOPT NAMES OF PRIVATE STREETS FOR E911 PURPOSES**

**Be it resolved**, that the Mayor and City Council adopt Coyne Hill Road as the name of the private street in the Knevels Avenue and Tioronda Avenue Subdivision and adopt the name of Liam Drive for the private Entrance Drive of the West End Lofts Site Plan and Subdivision Development; and

**be it further resolved**, that the City Clerk provide a copy of this resolution to the Dutchess County's 9-1-1 Emergency Communications Center, the Chief of Police, the Fire Department Chief, the City Assessor, the Building Department, the Highway Department, the City of Beacon School District and the Beacon Volunteer Ambulance Corp.

Resolution No. _____ of 2018		Date: <u>2018</u>					
<input type="checkbox"/> Amendments						<input type="checkbox"/> 2/3 Required	
<input type="checkbox"/> Not on roll call.		<input type="checkbox"/> On roll call				<input type="checkbox"/> 3/4 Required	
Motion	Second	Council Member	Yes	No	Abstain	Reason	Absent
		Terry Nelson					
		Jodi McCredo					
		George Mansfield					
		Lee Kyriacou					
		John Rembert					
		Amber Grant					
		Mayor Randy Casale					
<b>Motion Carried</b>							

**City of Beacon Council Agenda**  
**7/2/2018**

**Title:**

**A resolution authorizing entering into subordination agreement with the Kearney Realty and Development Group, Inc. and modification to agreement**

**Subject:**

**Background:**

**ATTACHMENTS:**

Description	Type
Reso_Kearney	Resolution

**CITY OF BEACON  
CITY COUNCIL**

**RESOLUTION NO. \_\_\_\_ OF 2018**

**AUTHORIZING ENTERING INTO SUBORDINATION AGREEMENT WITH THE  
KEARNEY REALTY AND DEVELOPMENT GROUP, INC. AND MODIFICATION TO  
AGREEMENT**

**WHEREAS**, on March 28, 2018, the City of Beacon conveyed real property known and designated as proposed Lot No. 2 on a certain subdivision map entitled “Final Plat Prepared for The West End Lofts, etc.,” dated March 21, 2018, filed in the Office of the Dutchess County Clerk on March 27, 2018 as Map No. 9899A; and

**WHEREAS**, the Deed conveying said property contained certain terms and conditions which included a right of reversion and that the Certificate of Occupancy of the market rate building to be constructed on Lot 2 to be obtained within twenty months of issuance of the building permit; and

**WHEREAS**, the Kearney Realty and Development Group advises that its lender will not make a construction loan unless the City’s right of reversion contained with the Deed is subordinated to the Lender’s mortgage and the time period for it to obtain the Certificate of Occupancy is extended to 22 months from the date the building permit is issued.

**NOW, THEREFORE, BE IT RESOLVED**, that the City Council of the City of Beacon hereby authorizes the City Administrator, subject to the approval of the City Attorney, to sign the Subordination Agreement with the Kearney Realty and Development Group such that the City’s right under its restrictive covenant contained in the conveyance deed are subordinate to the rights of the Lender, but that the Kearney Realty and Development Group, Inc. is obligated to comply with all such conditions; and

**BE IT FURTHER RESOLVED**, that paragraph 4 of Schedule B to the Conveyance Deed is modified to provide that “Grantee must diligently pursue construction of the market rate building and obtain a Certificate of Occupancy from the market rate building within twenty-two months of issuance of the building permit for Lot 2” and that all other conditions remain unmodified.

Resolution No. _____ of 2018		Date: <u>2018</u>					
<input type="checkbox"/> Amendments						<input type="checkbox"/> 2/3 Required	
<input type="checkbox"/> Not on roll call.		<input type="checkbox"/> On roll call				<input type="checkbox"/> 3/4 Required	
Motion	Second	Council Member	Yes	No	Abstain	Reason	Absent
		Terry Nelson					
		Jodi McCredo					
		George Mansfield					
		Lee Kyriacou					
		John Rembert					
		Amber Grant					
		Mayor Randy Casale					
<b>Motion Carried</b>							

**City of Beacon Council Agenda**  
**7/2/2018**

**Title:**

**A resolution authorizing easement agreement for existing sanitary sewer main at 135-137 Spring Valley Street**

**Subject:**

**Background:**

**ATTACHMENTS:**

Description	Type
Reso Spring Valley sewer easement	Resolution
Spring Valley sewer easement	Backup Material



**CITY OF BEACON  
CITY COUNCIL**

Resolution No. \_\_\_\_\_ of 2018

**RESOLUTION AUTHORIZING EASEMENT AGREEMENT FOR EXISTING  
SANITARY SEWER MAIN AT 135-137 SPRING VALLEY STREET**

**WHEREAS**, on May 10, 2016 the City of Beacon Planning Board approved a two-lot subdivision at property located at 135-137 Spring Valley Street and designated on the Tax Map as Parcel 6054-37-070632 (the “Property”) as set forth in a Preliminary and Final Subdivision Plat Approval Resolution (the “Resolution”) signed on June 2, 2018; and

**WHEREAS**, the Resolution is subject to a condition that the Applicant submit to the City a Sanitary Sewer Easement Agreement which would provide the City with written, recorded easement rights to the existing 24” CIP sanitary sewer main that traverses the rear of the subject property along Fishkill Creek; and

**WHEREAS**, in satisfaction of the condition of the Resolution, the Applicant submitted an “Agreement Granting Sewer Line Easement,” which has been reviewed by the City Attorney’s office as to form and found to be acceptable and the metes and bounds description for the easement has been reviewed by the City Engineer’s office and found to be accurate.

**NOW THEREFORE, BE IT RESOLVED THAT**, the City Council hereby authorizes the Mayor and/or City Administrator to sign the Easement Agreement for said purpose, along with all documents as may be necessary for the recording of such Agreement, subject to review and approval by the City Attorney.

Resolution No. _____ of 2018		Date: <u>2018</u>					
<input type="checkbox"/> Amendments				<input type="checkbox"/> 2/3 Required			
<input type="checkbox"/> Not on roll call.		<input type="checkbox"/> On roll call		<input type="checkbox"/> 3/4 Required			
Motion	Second	Council Member	Yes	No	Abstain	Reason	Absent
		Terry Nelson					
		Jodi McCredo					
		George Mansfield					
		Lee Kyriacou					
		John Rembert					
		Amber Grant					
		Mayor Randy Casale					
<b>Motion Carried</b>							

## AGREEMENT GRANTING SEWER LINE EASEMENT

This Easement made the \_\_\_\_ day of \_\_\_\_\_, 2018, by and between JOHN MILANO, JR., residing at 29 Lydia Drive, Beacon, New York 12508, as "Grantor", and the CITY OF BEACON, a municipal corporation having its principal offices at One Municipal Plaza, Beacon, Dutchess County, New York 12508 as "Grantee".

### WITNESSETH:

WHEREAS, Grantor is the sole owner in fee simple of certain real property located in the City of Beacon, Dutchess County, New York, as more fully shown and designated as tax map numbers 130200-6054-37-070632 and known as 135-137 Spring Valley Street, which property was acquired by deed dated October 5, 1993 and recorded December 1, 1993 in Liber 1936 at page 653 in the Dutchess County Clerk's Office; and

WHEREAS, by Resolution adopted on JUNE 2, 2016 by the City of Beacon Planning Board granted Grantor Final Subdivision Plat Approval to subdivide the parcel; said parcels appear on the plans entitled "Subdivision Plat Milano Subdivision", and recorded in the Dutchess County Clerk's Office as Map Number \_\_\_\_; and

WHEREAS, the aforesaid Final Subdivision Plat Approval was granted on the condition that an easement be granted to the City of Beacon for access over the Grantor's property for maintenance of sewer lines; and

WHEREAS, Grantor is willing to give Grantee a sewer easement over, on and under certain portions of the Green property as more particularly described in the legal description in Schedule "A" attached hereto and made a part hereof (hereinafter referred to as "Easement Area"), for the above stated purpose.

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and other good and valuable consideration, given by the Grantee to the Grantor, the receipt and sufficiency of which is hereby acknowledged, the parties hereby agree as follows:

1. Grantor does hereby grant, sell, release and convey to Grantee, its successors and assigns forever, a sewer easement ("Sewer Easement") as dedicated and described in Schedule "A" ("Easement Area"), for the purpose of using, inspecting, maintaining, repairing and replacing the sewer trunk line for the transportation of sewage. The Sewer Easement shall include with it the right to enter and remain upon the property for the purposes of carrying out the activities authorized pursuant to this Agreement. Except as provided in the aforementioned Approved Plans, Grantor agrees that no structures of any kind shall be erected, constructed, maintained or reconstructed over Easement Area. Grantor shall neither cause nor allow any act or omission that would unreasonably interfere with Grantee's ability to exercise its rights pursuant to this Agreement.

2. Grantee hereby covenants and agrees that whenever it excavates or otherwise disturbs the surface of the Easement Area, it shall, at its own cost and expense and to the extent practicable, restore the Easement Area to its pre-disturbed condition upon completing whatever work necessitated the disturbance.

3. Grantor, for itself and its heirs, successors and assigns, reserves the right to fully use and enjoy the Easement Area herein described, subject to the terms of this Agreement.

4. The rights and obligations set forth herein shall be covenants running with the land and shall be binding upon and inure to the benefit of the parties hereto and their respective heirs, successors and assigns. Any deed for the sale, purchase or exchange of any real property

affected by this Agreement, shall incorporate language giving notice thereof to the prospective purchaser.

5. This Agreement may not be altered, modified, amended, waived, extended, changed, discharged, or terminated except in writing signed by the parties hereto, which consent shall not be unreasonably withheld by either party.

6. If any provision of the foregoing is deemed unenforceable by the final judgment of a court of competent jurisdiction, the balance of this Agreement shall remain in full force and effect.

7. This Agreement shall be promptly recorded at Grantor's sole cost and expense in the Office of the Dutchess County Clerk, Division of Land Records. Grantor shall provide Grantee with proof of such recording within thirty (30) days after recording.

WHEREFORE, the parties have signed this Agreement as of the day and year first above written.



John Milano, Jr.

CITY OF BEACON

By \_\_\_\_\_



State of New York, County of Dutchess, ss:

On the 12 day of June in the year 2018 before me, the undersigned, personally appeared John Milano, Jr., personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

NICOLE CORNEYEA  
NOTARY PUBLIC-STATE OF NEW YORK  
No. 01CO6263347  
Qualified in Dutchess County  
My Commission Expires 06-11-2020

Nicole Corneyea  
Notary Public

State of New York, County of Dutchess, ss:

On the       day of       in the year 2018 before me, the undersigned, personally appeared       of the City of Beacon personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

\_\_\_\_\_  
Notary Public

**Gary R. LaTour**  
**NEW YORK STATE LICENSED LAND SURVEYOR**  
**License No. 049457**  
**273 East Main Street**  
**Beacon, New York 12508-3515**

July 31, 2017

**UTILITY EASEMENT - JOHN MILANO, JR. TO THE CITY OF BEACON**

All that certain tract or parcel of land situate in the **City of Beacon**, County of Dutchess and State of New York, being a 20 feet wide utility easement crossing Lots 1 and 2 as shown on a map entitled "**Subdivision Plat, Milano Subdivision**" and filed in the Dutchess County Clerk's Office on \_\_\_\_\_ as Map # \_\_\_\_\_, said easement being more particularly bounded and described as follows:

**Beginning** at a point in the northeasterly line of lands now or formerly of Brunelli (Liber 1997 page 437) distant North 50-56-40 West 127.92 feet from its intersection with the northwesterly line of Spring Valley Street, and running from thence along the northeasterly line of said Brunelli, North 50-56-40 West 20.06 feet; thence running through Lots 1 and 2 on said Milano subdivision plat, North 43-23-00 East 130.13 feet and North 62-28-00 East 75.67 feet to a point in the southwesterly line of lands now or formerly of Burns (Document #02-2006-3059); thence along the same, South 41-40-00 East 20.62 feet; thence running through Lot 2, South 62-28-00 West 77.34 feet to a point in the northeasterly line of Lot 1; thence running through Lot 1, South 43-23-00 West 125.25 feet to the point of beginning.

**Containing** 4,084 square feet or 0.094 acres of land.

**Being a portion of** the premises conveyed by the First Federal Savings and Loan Association of Rochester to John Milano, Jr. by deed dated October 5, 1993 and recorded in the Dutchess County Clerk's Office on December 1, 1993 in Liber 1936 of Deeds at page 653 (Document #02-1993-7967).





**City of Beacon Council Agenda**  
**7/2/2018**

**Title:**

**A resolution authorizing the Mayor or City Administrator to accept the bid results and execute a contract with A Plus Striping, Inc. for stop bars, crosswalks and parking lines**

**Subject:**

**Background:**

**ATTACHMENTS:**

Description

Reso\_strop bars, etc

Type

Resolution

**CITY OF BEACON  
CITY COUNCIL**

**RESOLUTION NO. \_ OF 2018**

**RESOLUTION AUTHORIZING THE MAYOR TO ACCEPT THE BID RESULTS AND  
EXECUTE A CONTRACT WITH THE LOWEST RESPONSIBLE BIDDER FOR STOP  
BARS, CROSSWALKS AND PARKING LINES**

**Be it resolved**, that the Mayor is authorized to accept the lowest responsible bid submitted by A Plus Striping, Inc. for Stop Bars, Crosswalks, and Parking Lines in the amount of \$1.63 total per linear foot.

**Be it also resolved**, that the Mayor is hereby authorized to execute a contract with said bidder for performance of said work.

<b>Resolution No. _____ of 2018</b>		<b>Date: <u>2018</u></b>					
<input type="checkbox"/> Amendments		<input type="checkbox"/> 2/3 Required					
<input type="checkbox"/> Not on roll call		<input type="checkbox"/> 3/4 Required					
<input type="checkbox"/> On roll call							
Motion	Second	Council Member	Yes	No	Abstain	Reason	Absent
		Terry Nelson					
		Jodi McCredo					
		George Mansfield					
		Lee Kyriacou					
		John Rembert					
		Amber Grant					
		Mayor Randy J. Casale					
<b>Motion Carried</b>							



**City of Beacon Council Agenda**  
**7/2/2018**

**Title:**

**A resolution authorizing the Mayor or City Administrator to accept the bid results and execute a contract with A. Colarusso and Son for asphalt milling of various streets**

**Subject:**

**Background:**

**ATTACHMENTS:**

Description	Type
Reso Asphalt milling	Resolution

**CITY OF BEACON  
CITY COUNCIL**

**RESOLUTION NO. \_ OF 2018**

**RESOLUTION AUTHORIZING THE MAYOR TO ACCEPT THE BID RESULTS AND  
EXECUTE A CONTRACT WITH THE LOWEST RESPONSIBLE BIDDER FOR  
ASPHALT MILLING OF VARIOUS STREETS**

**Be it resolved**, that the Mayor is authorized to accept the lowest responsible bid submitted by A. Colarusso and Son for Asphalt Milling of Various Streets in the City of Beacon in the amount of \$4800 daily 8-hour rate; \$790.00/hour overtime rate and mobilization included at no additional charge.

**Be it also resolved**, that the Mayor is hereby authorized to execute a contract with said bidder for performance of said work.

<b>Resolution No. _____ of 2018</b>								<b>Date: <u>2018</u></b>	
<input type="checkbox"/> Amendments								<input type="checkbox"/> 2/3 Required	
<input type="checkbox"/> Not on roll call								<input type="checkbox"/> 3/4 Required	
<input type="checkbox"/> On roll call									
Motion	Second	Council Member	Yes	No	Abstain	Reason	Absent		
		Terry Nelson							
		Jodi McCredo							
		George Mansfield							
		Lee Kyriacou							
		John Rembert							
		Amber Grant							
		Mayor Randy J. Casale							
<b>Motion Carried</b>									

**City of Beacon Council Agenda**  
**7/2/2018**

**Title:**

**A resolution authorizing the Mayor or City Administrator to accept the bid results and execute a contract with Safety Marking, Inc. for street lines**

**Subject:**

**Background:**

**ATTACHMENTS:**

Description	Type
Reso_street lines	Resolution

**CITY OF BEACON  
CITY COUNCIL**

**RESOLUTION NO. \_ OF 2018**

**RESOLUTION AUTHORIZING THE MAYOR TO ACCEPT THE BID RESULTS AND  
EXECUTE A CONTRACT WITH THE LOWEST RESPONSIBLE BIDDER FOR STREET  
LINES**

**Be it resolved**, that the Mayor is authorized to accept the lowest responsible bid submitted by Safety Marking, Inc. for Street Lines in the amount of \$.224 total per linear foot.

**Be it also resolved**, that the Mayor is hereby authorized to execute a contract with said bidder for performance of said work.

<b>Resolution No. _____ of 2018</b>								<b>Date: <u>2018</u></b>	
<input type="checkbox"/> Amendments								<input type="checkbox"/> 2/3 Required	
<input type="checkbox"/> Not on roll call								<input type="checkbox"/> 3/4 Required	
<input type="checkbox"/> On roll call									
Motion	Second	Council Member	Yes	No	Abstain	Reason	Absent		
		Terry Nelson							
		Jodi McCredo							
		George Mansfield							
		Lee Kyriacou							
		John Rembert							
		Amber Grant							
		Mayor Randy J. Casale							
<b>Motion Carried</b>									

**City of Beacon Council Agenda**  
**7/2/2018**

**Title:**

**A resolution to accept the proposal for park restoration at Green Street Park**

**Subject:**

**Background:**

**ATTACHMENTS:**

Description	Type
Reso_Green St Park	Resolution
Green St Proposal	Backup Material





**CITY OF BEACON  
CITY COUNCIL  
RESOLUTION NO. \_ OF 2018**

**A RESOLUTION TO ACCEPT THE PROPOSAL FOR THE DESIGN OF PARK  
RESTORATION AT GREEN STREET PARK**

**Be it resolved**, that the Beacon City Council hereby accepts the proposal from One Nature and Hudson Land Design for restoration of the Green Street Park.

<b>Resolution No. _____ of 2018</b>								<b>Date: <u>2018</u></b>	
<input type="checkbox"/> Amendments								<input type="checkbox"/> 2/3 Required	
<input type="checkbox"/> Not on roll call								<input type="checkbox"/> 3/4 Required	
<input type="checkbox"/> On roll call									
Motion	Second	Council Member	Yes	No	Abstain	Reason	Absent		
		Terry Nelson							
		Jodi McCredo							
		George Mansfield							
		Lee Kyriacou							
		John Rembert							
		Amber Grant							
		Mayor Randy J. Casale							
<b>Motion Carried</b>									

# Proposal for Park Restoration at Green Street Park, Beacon, NY

May 18, 2018

## Introduction

Green Street Park is a well-loved community park in Beacon, NY. Over the past 30 years, the park has slowly been upgraded to include a playground, picnic shelter, security fencing, and other features. The City and community members wish to upgrade the park to make a higher quality visitor experience and establish a long term, multi-phase vision for the park.

Our Team (One Nature and Hudson Land Design) are Beacon-based companies with proven track records creating and restoring public parks. Our close-proximity and community-oriented approach makes us uniquely qualified to design and envision a compelling restoration of this important local park.

## Scope of Work

### Task 1: Create a Park Master Plan \$2,500

One Nature will work closely with Beacon Parks and Recreation and other stakeholders as needed to develop an overall vision for the entire Park. This will include upgrades to existing facilities, new site features and/or facilities, and an overall planting plan. Concept-level construction budgets will be assigned to this plan. The plan will include at least one overhead, bird's eye rendering, one street level rendering suitable for public presentation purposes, additional graphics as necessary, and a 2-3 page descriptive narrative.

We will submit drafts for review prior to finalizing the master plan.

### Task 2: Develop Concept and Final Design Drawings for the Southwest Corner of the Park \$10,000

In partnership with Hudson Land Design Engineering, PC, we will design a construction ready project for the southwest corner of the park. The anticipated budget for construction of this design is \$60,000. Plans will be stamped and certified by a NYS Professional Engineer. This work will result in bid-ready construction documents and specifications. We will develop a base plan using 2' LIDAR interpolated topography. If necessary, the design will include ad-alternate project components to ensure the core part of the project can be constructed with available funding. The design will address the following project elements:

- 1) **Create parking on Union Street side of the park.** Number of spaces and location (on street or interior to the park) are to-be-determined.
  - a) On-street parallel spaces would be preferable and lowest cost. However, location of bedrock and ada access requirements may make parallel spaces undesirable. If – after design investigations are complete- parallel parking spaces will not work, we will design a driveway from Union Street into the park that re-purposes an existing asphalt lot for parking. There is plenty of room in the existing lot for a few parking spaces, and the rest of the asphalt can be converted to a better use; and,
  - b) The number of spaces, and their dimensions, will be determined by the City of Beacon for our team to integrate into the design.
- 2) **A formal entrance area to the park on Union Street side.**

- a) Using accessible pavement surfaces, plantings, and other to-be-determined design components, we will design a proper park entrance to create a focused park entry point and a starting point for accessibility.
- 3) **Reconstruct the Prospect Street retaining wall, including fencing.**
  - a) The existing timber retaining wall is in disrepair, this wall will be removed (or encapsulated) and replaced by an alternative retaining method. The new retaining wall may be stepped to avoid hazardous drop-offs, interplanted, and otherwise designed in a thoughtful way so that the southwest street corner is beautified.
- 4) **Addition of trees to the park, number to be determined.**
  - a) The park has, over time, lost many of its large shade trees. Our plan will specific located, and provide construction details to replace lost trees.
- 5) **Removal and replacement of some sections of existing fence to create a more open and visually attractive southwest corner of the park.**
  - a) While fences are required for safety reasons along some sections of the park, the existing fence is much taller than needed and some sections are in such disrepair that they must be replaced. In addition, the replacement of the existing retaining wall will require some fence to be destroyed. Our design will include new fencing as needed.
- 6) **Additional design elements** may be added based on our project team's recommendations, feedback from the City and other stakeholders. These additional elements MIGHT include: a new staircase to enter from the southern section of the park, additional plantings, storm water management green infrastructures (such as rain gardens), decorative features, benches, etc.

Location, context, and potential for vandalism will be considered for all design features.

To achieve the above scope of work, we anticipate the total construction document set to include the following plans:

- a. Existing conditions plan
- b. Soil erosion and sediment control plan
- c. Grading and drainage plan
- d. Layout plan
- e. Planting plan
- f. Pavement plan
- g. Details (as needed, especially related to replacement retaining wall)

In addition, our team will develop a list of quantities and materials suitable for a construction bid process. It is assumed that the total disturbance will not exceed 1-acre, and therefore, a Stormwater Pollution Prevention Plan (SWPPP) will not be required; however, it is anticipated that some stormwater treatment will be incorporated into the design such as rain gardens and/or bioswales.

Plans will be submitted at Concept, 50% and Final levels of completion for review by the City.

### **Task 3: Provide Oversight and Direction During Construction Installation \$2,000**

Once construction begins, our project team will provide up to 20 hours of bidding assistance, on-site instruction, and construction walkthroughs.

**TOTAL PROPOSED FEE \$14,500**

#### **Task 4 (Optional, price not included in this quote): Provide Landscape Installation Services.**

As a bonded and licensed General contractor and a Landscape Contractor, One Nature can provide construction services to install all parts of the project design. If desired, we can work on this project with a design/build. If it is determined to instead use a design-bid approach, we will happily work with whatever contractor (s) you select.

### **LIMITATIONS AND EXCLUSIONS:**

One Nature and our Project Partners offer a variety of services to suit the varying needs of clients. Although risk can never be eliminated, more detailed and extensive investigations may yield more information, which may help understand and manage the degree of risk. Since such detailed services involve greater expense, we rely on our clients' participation in determining the level of service which provides adequate information for their purposes at acceptable levels of risk. We will perform services in a manner consistent with the regular standards of care and skill exercised by members of the profession practicing under similar conditions in the geographic vicinity and at the time the services will be performed. No warranty or guarantee, expressed or implied, is part of the services offered by this proposal, nor does it create any fiduciary responsibility to the client.

1. Client is responsible for site access. Any delays due to site access will result in schedule delays and additional fees.
2. Meetings with any contractors, building inspectors, or regulatory agency representatives unless explicitly stated herein.
3. Subsurface Sewage System Disposal System (SSDS, aka septic system) investigation or engineering, Geotechnical engineering or investigation, environmental services, traffic engineering, wetland delineations or studies, utility investigation, civil engineering, hydrogeology, noise studies and abatement, Environmental Impact Statements (EIS), National Environmental Policy Act (NEPA) services, surveying, and architectural services, or any other services not explicitly included herein.
4. Permit applications or presentations to any municipal or regulatory agencies, except those explicitly included herein.
5. Utility location or clearance. Client is responsible for utility clearance and markout. Our project team shall not be held liable for any loss caused by a damaged utility.
6. Preparation of Contract Documents and/or Bid Services Support, except those explicitly included herein.
7. Construction evaluation and support, including pre-construction meetings or construction oversight.
8. Unless construction observation is authorized, our project team will not prepare an engineer's certification report or As-Built drawings.
9. Court appearances, attorney interviews, depositions, or other proceedings for legal

support, or any other litigation support services not explicitly included herein.

10. Submittal of a completed application or application fees.

11. Preparation of a boundary and/or topographic survey. GIS Lidar 2' interpolated contours will be used for design purposes.

12. Preparation of a SWPPP or drainage report.



**City of Beacon Council Agenda**  
**7/2/2018**

**Title:**

**A resolution authorizing the Mayor or City Administrator to sign an agreement with Complus for parking ticket collection**

**Subject:**

**Background:**

**ATTACHMENTS:**

Description	Type
Reso_complus	Resolution
Complus Agreement	Agreement

**CITY OF BEACON  
CITY COUNCIL**

Resolution No. \_\_\_\_\_ of 2018

**RESOLUTION AUTHORIZING THE MAYOR OR CITY  
ADMINISTRATOR TO SIGN AN AGREEMENT WITH COMPLUS FOR  
PARKING TICKET COLLECTION**

**WHEREAS**, the City of Beacon desires to access a parking ticket management system and have use of the associated equipment and related software related to parking ticket processing

**NOW, THEREFORE**, be it resolved that the Mayor or City Administrator is authorized to sign and execute an agreement with COMPLUS to provide such services in accordance with their proposal; and

**BE IT FURTHER RESOLVED**, that the Agreement shall be subject to review and approval by the City Administrator and the City Attorney as to form and substance.

Resolution No. _____ of 2018		Date: <u>2018</u>					
<input type="checkbox"/> Amendments		<input type="checkbox"/> On roll call		<input type="checkbox"/> 2/3 Required			
<input type="checkbox"/> Not on roll call.				<input type="checkbox"/> 3/4 Required			
Motion	Second	Council Member	Yes	No	Abstain	Reason	Absent
		Terry Nelson					
		Jodi McCredo					
		George Mansfield					
		Lee Kyriacou					
		John Rembert					
		Amber Grant					
		Mayor Randy Casale					
<b>Motion Carried</b>							

AGREEMENT BY AND BETWEEN  
CITY OF BEACON, NY (CLIENT)  
AND  
COMPLUS DATA INNOVATIONS, INC. (COMPLUS)

**FASTTRACK™ SERVICES AGREEMENT**

This **FastTrack™ Services Agreement** (this “Agreement”) is made and entered into on \_\_\_\_ day of \_\_\_\_\_, 2018, by and between Complus Data Innovations, Inc. (“COMPLUS”), with offices at 120 White Plains Road, Tarrytown, New York 10591, and CITY OF BEACON, NY (“CLIENT”), with offices at 1 Municipal Plaza, Beacon, NY 12508.

RECITALS

WHEREAS, COMPLUS is the developer and provider of the **FastTrack™** Parking Ticket Management System, a password-protected software application for the processing of parking tickets and permit payments that COMPLUS makes available for client use through a network connection (“**FastTrack™**”);

- WHEREAS, COMPLUS is a provider of certain Equipment related to parking ticket processing;
- WHEREAS, COMPLUS is the developer and provider of certain Software related to the Equipment; and
- WHEREAS, CLIENT desires to access and use **FastTrack™** and use the Equipment and related Software.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is acknowledged, the parties hereto agree as follows:

AGREEMENT

1. Access Rights to **FastTrack™**.

- (a) Subject to and conditioned on CLIENT’s compliance with the terms and conditions of this Agreement, COMPLUS hereby authorizes CLIENT to access and use **FastTrack™** through the Client Portal during the Term, solely in connection with CLIENT’s business. **FastTrack™** is authorized for use and is not sold to CLIENT. CLIENT acknowledges that **FastTrack™** is the sole property of COMPLUS and that nothing in this Agreement grants any right, title or interest in or to (including any license under) any intellectual property rights in or relating to **FastTrack™**, whether expressly, by implication, estoppel or otherwise. All right, title and interest in and to **FastTrack™** are and will remain with COMPLUS, including any changes, modifications or enhancements to **FastTrack™** that are requested by CLIENT during the Term.



- (b) COMPLUS shall use commercially reasonable efforts to provide CLIENT the services described on Schedule I of this Agreement in accordance with the terms and conditions hereof, including services related to hosting, managing, operating, maintaining and making **FastTrack™** available to CLIENT for remote electronic access and use by CLIENT. COMPLUS will provide CLIENT with remote access to **FastTrack™** through CLIENT's network connection to a specific Citrix-based portal (the "Client Portal"). The Client Portal may only be installed on a limited number of authorized machines as indicated on Schedule I of this Agreement ("Authorized Machines"). COMPLUS shall use commercially reasonable efforts to provide access to **FastTrack™** 23 1/2 hours per day, seven days a week. Notwithstanding the foregoing, **FastTrack™** will be unavailable daily from 2:00 a.m. until 2:30 a.m. Eastern Time due to daily maintenance. COMPLUS will not be responsible for any downtime arising in connection with the Internet service providers, utilities companies and/or CLIENT's internal network.
- (c) Use of the Client Portal is subject to the terms of this Agreement. Access to the Client Portal is for the sole purpose of providing CLIENT access to **FastTrack™**. Within the Client Portal, CLIENT may create user specific accounts ("User Accounts") for the individuals authorized by CLIENT to use **FastTrack™** through the Client Portal ("Authorized Users"). The number of Authorized Users that may access **FastTrack™** through the Client Portal at any one time shall be limited to the specific number of licensed **FastTrack™** sessions set forth on Schedule I of this Agreement ("Sessions").
- (d) CLIENT shall (i) be responsible for creating and managing User Accounts for the Authorized Users, (ii) be responsible for ensuring that all Authorized Users comply with the terms and conditions of this Agreement, (iii) be responsible for the accuracy, quality and legality of Client Data and the means by which CLIENT acquires Client Data, (iv) use commercially reasonable efforts to prevent unauthorized access to or use of the Client Portal or **FastTrack™**, and notify COMPLUS promptly of any such unauthorized access or use and (v) use **FastTrack™** only in accordance with the terms of this Agreement and all applicable laws and government regulations.

## 2. Equipment and Software.

- (a) COMPLUS will provide to CLIENT all handhelds, phones or printers and other equipment (collectively, the "Equipment") and the associated pre-installed COMPLUS proprietary ticket issuance software ("Software"), each as listed on Schedule I of this Agreement. Subject to and conditioned on CLIENT's compliance with the terms and conditions of this Agreement, COMPLUS hereby grants CLIENT a limited license to use the Software during the Term, solely in connection with CLIENT's use of the Equipment and **FastTrack™** and solely in connection with CLIENT's business. CLIENT acknowledges that the Equipment and the Software are the sole property of COMPLUS and that nothing in this Agreement grants any right, title or interest in or to (except for the limited license granted in this Section 2(a)) any intellectual property rights in or relating to the Equipment or the Software, whether expressly, by implication, estoppel or otherwise. All right, title and interest in and to the Equipment and the Software are and will remain with COMPLUS, including any changes, modifications or enhancements to the Equipment or the Software that are requested by CLIENT during the Term.

- (b) Upon receipt, CLIENT shall promptly acknowledge, on the form attached as Exhibit A, receipt of all such Equipment and Software and that such Equipment and Software are in good working order. CLIENT acknowledges that the Equipment and the Software are the property of COMPLUS, and CLIENT agrees to exercise reasonable care of the Equipment and the Software while such Equipment and Software are in CLIENT's possession.
- (c) COMPLUS will be responsible for the maintenance and repairs of the Equipment resulting from normal use. Repairs, which in the reasonable opinion of COMPLUS are required as a result of an accident, neglect or misuse of the Equipment (including, without limitation, a repair arising from or in connection with the use by CLIENT of software other than the Software provided by COMPLUS and/or use of the Equipment by CLIENT other than in connection with **FastTrack™**) shall be made at the sole expense of CLIENT. All costs and expenses related to the repair or replacement of the Equipment that is required as the result of an accident, neglect or misuse will be billed to CLIENT. This includes, but is not limited to, the actual cost of the repair or replacement of the Equipment, along with shipping expenses, travel expenses and labor costs (each, if required). Travel expenses, if required, must be pre-approved by CLIENT before repairs will be scheduled.
- (d) CLIENT shall (i) be responsible for ensuring that all CLIENT users of the Equipment and the Software comply with the terms and conditions of this Agreement, (ii) be responsible for the accuracy, quality and legality of Client Data and the means by which CLIENT acquires Client Data, (iii) use commercially reasonable efforts to prevent unauthorized access to or use of the Equipment and the Software, and notify COMPLUS promptly of any such unauthorized access or use and (iv) use the Equipment and the Software only in accordance with the terms of this Agreement and all applicable laws and government regulations.

3. Authorization Limitations and Restrictions. CLIENT shall not, and shall not permit any other person to, access or use **FastTrack™**, the Equipment or the Software except as expressly permitted by this Agreement. All rights not expressly authorized or granted to CLIENT by this Agreement are reserved for COMPLUS. For purposes of clarity and without limiting the generality of the foregoing, CLIENT shall not, except as this Agreement expressly permits:

- (a) copy, modify or create derivative works or improvements of **FastTrack™** or the Software;
- (b) rent, lease, lend, sell, sublicense, assign, distribute, publish, transfer or otherwise make available **FastTrack™** or the Software to any person, including on or in connection with the Internet or any time-sharing, service bureau, software as a service, cloud or other technology or service;
- (c) reverse engineer, disassemble, decompile, decode, adapt or otherwise attempt to derive or gain access to the source code of **FastTrack™** or the Software, in whole or in part;
- (d) bypass or breach any security device or protection used by **FastTrack™** or the Software or access or use **FastTrack™** other than by an Authorized User through the use of his or her own then valid User Account;
- (e) input, upload, transmit or otherwise provide to or through **FastTrack™** or the Software, any information or materials that are unlawful or injurious or contain, transmit or activate any harmful code;



- (f) damage, destroy, disrupt, disable, impair, interfere with or otherwise impede or harm in any manner **FastTrack™**, the Software or COMPLUS' provision of services to any third party, in whole or in part;
- (g) remove, delete, alter or obscure any trademarks, specifications, documentation, EULA, warranties or disclaimers, or any copyright, trademark, patent or other intellectual property or proprietary rights notices from **FastTrack™**, the Equipment or the Software;
- (h) access or use **FastTrack™**, the Equipment or the Software in any manner or for any purpose that infringes, misappropriates or otherwise violates any intellectual property right or other right of any third party (including by any unauthorized access to, misappropriation, use, alteration, destruction or disclosure of the data of any other COMPLUS client) or that violates any applicable law;
- (i) access or use **FastTrack™** or the Software for purposes of competitive analysis of **FastTrack™** or the Software, the development, provision or use of a competing software service or product or any other purpose that is to COMPLUS' detriment or commercial disadvantage; or
- (j) otherwise access or use **FastTrack™**, the Equipment or the Software beyond the scope of the authorization granted under [this](#) Agreement.

4. Equipment Repairs; Software Modifications. Repairs to the Equipment or re-installation and/or modification of the Software, which are required as a result of changes, modifications or enhancements made by or on behalf of CLIENT, shall be made at the sole expense of CLIENT. This includes, but is not limited to, the actual cost of the repair or replacement of such Equipment, along with shipping expenses, travel expenses and labor costs (each, if required). Travel expenses, if required, must be pre-approved by CLIENT before repairs will be scheduled.

5. Additional Services. Additional services requested by CLIENT that are not described in this Agreement must be submitted in writing by CLIENT to COMPLUS. COMPLUS will prepare a statement of work along with a detailed cost estimate to be approved in writing by CLIENT prior to the implementation of said changes or additions. This includes, but is not limited to, requests for additional Equipment, installation of additional Sessions, CLIENT requested changes, modifications or enhancement to FastTrack™ or the Software or changes, modifications or enhancements and/or relocation of the Equipment or the Client Portal.

6. Exclusive Provider; Responsibilities. CLIENT will use COMPLUS as its exclusive provider for the processing of parking tickets. CLIENT will be responsible for (i) the entry of all handwritten parking tickets into the Client Portal, unless otherwise set forth on Schedule I of this Agreement, (ii) all other non-processing functions related to parking tickets, including the updating and disposition of parking tickets and (iii) the accuracy of the information and Client Data related to such tickets. For the avoidance of doubt, COMPLUS shall not be responsible or liable for the validity or accuracy of any Client Data or information provided to COMPLUS by CLIENT, including, without limitation, the information on the parking tickets.

7. Compliance with Laws and Regulations COMPLUS agrees to maintain **FastTrack™** to conform in all material respects to all federal, state and local laws and regulations. COMPLUS shall use commercially reasonable efforts to perform nightly tape backups and to mirror its data center off-site for disaster recovery purposes.

8. Reporting.

- (a) COMPLUS will use commercially reasonable efforts to furnish CLIENT with or provide CLIENT access to digital copies of the following reports on a monthly basis:
  - Aging of Account Receivables;
  - Officer and PEO Performance Reports;
  - Detail of Outstanding Tickets;
  - Year to Date Paid Summary Report.
- (b) To the extent CLIENT desires additional reporting beyond the reports described in Section 8(a), CLIENT must submit a written request to COMPLUS describing CLIENT's additional reporting needs. COMPLUS will use good faith efforts to evaluate such request and, if applicable, will prepare a statement of work that will include what reporting/report(s) may be provided by COMPLUS, a cost estimate for any work required to create or implement such reporting/report(s) and an estimated schedule to perform such work. CLIENT must approve each such statement of work in writing prior to any work commencing to create or implement such reporting/report(s).
- (c) If requested by CLIENT, COMPLUS will prepare all Delinquent Notices and Notice of Violations for outstanding tickets issued to vehicles bearing State of New York plates and out-of-state plates (to the extent allowed by each state's DMV) to the last known registered owner(s). CLIENT will be responsible for postage of such notices. COMPLUS shall prepare and CLIENT shall approve any and all language contained in such notices. State agency approval will also be obtained where applicable. Such notices shall comply with state rules and regulations in all material respects.

9. Training; Support. Throughout the Term, COMPLUS will provide training at CLIENT's offices for **FastTrack™**, the Equipment and the Software. COMPLUS will provide reference manuals describing the features and operations of **FastTrack™**, the Equipment and the Software. COMPLUS will provide updates to the system as they become available. Throughout the Term, COMPLUS will provide support assistance from field supervisors and by telephone at no charge to CLIENT during the hours of 8:30 a.m. to 5:00 p.m. (Eastern Time) Monday through Friday (with the exception of all state and nationally recognized holidays).

10. Indemnity.

- (a) CLIENT agrees to indemnify, defend and hold harmless COMPLUS, its officers, agents and employees, from any claims, controversies, lawsuits, liabilities or expenses incurred by or brought against COMPLUS by third parties in any way related to COMPLUS' service and/or this Agreement, except where said claims, controversies or lawsuits are the result of the gross negligence or willful misconduct on the part of

COMPLUS. This provision shall survive the termination of this Agreement.

- (b) COMPLUS agrees to indemnify, defend and hold harmless CLIENT, its officers, agents and employees from any claims, controversies, lawsuits, liabilities or expenses incurred by or brought against CLIENT by third parties in any way related to COMPLUS' gross negligence or willful misconduct in the performance of its services under this Agreement. This provision shall survive the termination of this Agreement.

11. Fees. CLIENT agrees to the fee schedule set forth on Schedule II of this Agreement, for the use of **FastTrack™**, the Equipment and the Software. Invoices will be submitted on a monthly basis, payable within thirty (30) days upon receipt.

12. Payment Processing. COMPLUS uses Parking Ticket Payment, LLC for all online credit card processing. Parking Ticket Payment, LLC is a Level 1 Service Provider solely dedicated to providing a method to collect online payments for all of COMPLUS' clients. COMPLUS shall not be responsible or liable for the security of cardholder data that is processed and transmitted through the Parking Ticket Payment, LLC web sites on CLIENT's behalf and for maintaining all applicable PCI DSS requirements.

13. Upon the execution by both parties of this Agreement, a ninety (90) day period for the implementation of the services described on Schedule 1 shall commence. This Agreement will remain in effect for a period of three (3) years beginning on the earlier of (i) the date on which the implementation of the Services is complete or (ii) the end of the ninety (90) day implementation period (such date, the "Effective Date", and such three (3) year term, the "Initial Term"). On the third (3rd) anniversary of the Effective Date, and on each anniversary date thereafter, this Agreement will automatically renew for a one (1) year period upon the same terms and conditions (the "Renewal Term") (the Initial Term and each Renewal Term collectively, the "Term"). If either CLIENT or COMPLUS does not wish for any such renewal, such party must notify the other party in writing of its intention not to renew this Agreement no later than ninety (90) days prior to any such anniversary date, in which case this Agreement shall terminate on such anniversary date. In the event of termination, CLIENT will return to COMPLUS within ten (10) days of the termination of this Agreement all Equipment, peripherals, manuals and all other materials provided to CLIENT by COMPLUS, all of which shall be returned to COMPLUS in good working order. In the event of termination, and provided that there are no outstanding invoices and CLIENT has returned all equipment in good working order, CLIENT will be provided with, at no cost, a computer database containing parking ticket information compiled for CLIENT by COMPLUS during the Term.

#### 14. Proprietary Rights

- (a) All right, title and interest in and to **FastTrack™**, the Equipment and the Software, including all



intellectual property rights therein, are and will remain with COMPLUS. CLIENT has no right, license or authorization with respect to **FastTrack™**, the Equipment or the Software, except as expressly set forth in Section 1(a) or Section 2 of this Agreement. All other rights in and to **FastTrack™**, the Equipment or the Software are expressly reserved by COMPLUS.

- (b) As between CLIENT and COMPLUS, CLIENT is and will remain the sole and exclusive owner of all right, title and interest in and to all Client Data, including all intellectual property rights relating thereto, subject to the rights and permissions granted in Section 14(c).
- (c) CLIENT hereby irrevocably grants all such rights and permissions in or relating to Client Data: (i) to COMPLUS and COMPLUS' employees, agents or independent contractors as are necessary or useful to provide FastTrack™, the Equipment or the Software and (ii) to COMPLUS as are necessary or useful to enforce this Agreement or to exercise its rights and perform its obligations under this Agreement.

## 15. Confidentiality of Information.

- (a) Each of COMPLUS and CLIENT agrees to comply with state and federal regulations regarding the confidentiality of information. Each of COMPLUS and CLIENT further agrees that, except as otherwise expressly provided herein, the information provided by CLIENT and/or the DMV, including the names and addresses and associated information of persons and entities that have received tickets ("Client Data"), shall remain confidential and shall not be sold or shared with any other non-party, company or entity for any purpose, including, but not limited to, marketing, sales, solicitations, collection agencies and/or credit bureaus. This Section 15 shall survive the termination of this Agreement.
- (b) As used herein, "Confidential Information" means all confidential information disclosed by a party (the "Disclosing Party") to the other party (the "Receiving Party"), whether orally or in writing, that is designated as confidential or that reasonably should be understood to be confidential given the nature of the information and the circumstances of disclosure. Confidential Information of CLIENT shall include Client Data; Confidential Information of COMPLUS shall include **FastTrack™** and its related documentation and the Software; and Confidential Information of each party shall include the terms and conditions of this Agreement, as well as business and marketing plans, technology and technical information, product plans and designs and business processes disclosed by the Disclosing Party to the Receiving Party. Confidential Information (other than Client Data) shall not include information that (i) is or becomes generally known by the public without breach of any obligation owed to the Disclosing Party, (ii) was rightfully known to the Receiving Party without restriction on use or disclosure prior to such information's being disclosed or made available to the Receiving Party in connection with this Agreement, (iii) was or is received by the Receiving Party on a non-confidential basis from a third party that was not or is not, at the time of such receipt, under any obligation to maintain its confidentiality or (iv) was or is independently developed by the Receiving Party without reference to or use of any Confidential Information.
- (c) The Receiving Party shall use the same degree of care that it uses to protect the confidentiality of its own confidential information of like kind (but in no event less than reasonable care) and agrees (i) not to use any Confidential Information of the Disclosing Party for any purpose outside the scope of this Agreement and (ii) except as otherwise authorized by the Disclosing Party in writing, to limit access to Confidential Information of the Disclosing Party to those of its employees, contractors and agents who

need such access for purposes consistent with this Agreement and who have signed confidentiality agreements with the Receiving Party containing protections no less stringent than those herein.

- (d) If the Receiving Party is required to disclose any Confidential Information by any law, regulation, subpoena, order, decree or decision or other process of law, the Receiving Party will provide the Disclosing Party with prior written notice and a reasonable opportunity to seek a protective order and the Receiving Party shall furnish only that portion of the Confidential Information that the Receiving Party is advised by counsel is required to be disclosed by all applicable laws and regulations.

16. Relationship of the Parties. COMPLUS is an independent contractor, and neither COMPLUS nor its staff shall be deemed to be employed by CLIENT.

17. Governing Law; Submission to Jurisdiction. This Agreement and the rights and obligations of the parties and their successors and assigns hereunder shall be interpreted, construed and enforced in accordance with the laws of the State of Delaware without regard to its choice and/or conflict of laws provisions. Any legal action resulting from, arising under, out of or in connection with, directly or indirectly, this Agreement shall be commenced exclusively in any Delaware state court located in New Castle County, Delaware. All parties to this Agreement hereby submit themselves to the jurisdiction of any such court, and agree that service of process on them in any such action, suit or proceeding may be effected by the means by which notices are to be given under this Agreement. In the event of litigation by a party hereto to enforce its rights hereunder, the prevailing party shall be entitled to recover its reasonable attorneys' fees, costs and expenses.

18. Notices. All notices, requests, demands and other communications required or permitted hereunder shall be in writing and shall be deemed to have been duly given if delivered by hand, email or mailed, express, certified or registered mail, return receipt requested, with postage prepaid, or sent priority next day delivery by a nationally recognized overnight courier service that regularly maintains records of items picked up and delivered to the parties at the addresses first set forth above or to such other person or address as a party shall notify the other in writing. Notices delivered personally, by mail or by email shall be deemed communicated as of the date of actual receipt and notices sent by courier shall be deemed communicated as of the date one (1) business day after pick-up.

19. Tax Exemption. CLIENT is a tax exempt entity under the rules of the Internal Revenue Service and will provide COMPLUS with a copy of its tax exempt status upon request.

20. Disclaimer of Warranties. ACCESS TO **FastTrack™**, THE EQUIPMENT AND ANY RELATED MATERIALS (INCLUDING THE SOFTWARE) IS PROVIDED "AS IS" AND, TO THE EXTENT PERMITTED BY LAW, COMPLUS HEREBY DISCLAIMS ALL WARRANTIES, WHETHER EXPRESS, IMPLIED, STATUTORY OR OTHER, AND COMPLUS SPECIFICALLY DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A



PARTICULAR PURPOSE, TITLE AND NON-INFRINGEMENT, AND ALL WARRANTIES ARISING FROM COURSE OF DEALING, USAGE OR TRADE PRACTICE. WITHOUT LIMITING THE FOREGOING, COMPLUS MAKES NO WARRANTY OF ANY KIND THAT **FastTrack™**, THE EQUIPMENT OR ANY RELATED MATERIALS (INCLUDING THE SOFTWARE) OR ANY PRODUCTS OR RESULTS OF THE USE THEREOF, WILL MEET CLIENT'S OR ANY OTHER PERSON'S REQUIREMENTS, OPERATE WITHOUT INTERRUPTION, ACHIEVE ANY INTENDED RESULT, BE COMPATIBLE OR WORK WITH ANY SOFTWARE, SYSTEM OR OTHER SERVICES OR BE SECURE, ACCURATE, COMPLETE, FREE OF HARMFUL CODE OR ERROR FREE.

21. Limitations of Liability. Any claim that can be brought by CLIENT under or relating to this Agreement must be brought within one (1) year of the action or omission underlying such claim. NEITHER PARTY SHALL BE LIABLE HEREUNDER FOR ANY INDIRECT, SPECIAL OR CONSEQUENTIAL LOSS OR DAMAGES OR LOST PROFITS OR LOST SAVINGS, EVEN IF THE OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. EXCEPT FOR INDEMNIFICATION OBLIGATIONS HEREUNDER, IN NO EVENT SHALL EITHER PARTY'S AGGREGATE LIABILITY FOR ANY MATTER ARISING OUT OF THE SUBJECT MATTER OF THIS AGREEMENT, WHETHER IN CONTRACT, TORT OR OTHERWISE, EXCEED THE AMOUNT OF THE FEES PAID BY CLIENT TO COMPLUS UNDER THIS AGREEMENT. EXCEPT AS OTHERWISE EXPRESSLY PROVIDED IN THIS AGREEMENT, THE REMEDIES PROVIDED HEREIN ARE THE PARTIES' SOLE AND EXCLUSIVE REMEDIES.

22. Entire Agreement. This instrument contains the entire agreement between the parties as to the subject matter herein and supersedes all prior agreements, whether oral or written, between the parties hereto. This Agreement may be modified only by a written instrument signed by all the parties hereto.

23. Counterparts. This Agreement may be executed in counterparts, each of which shall be deemed an original and all of which taken together shall constitute one and the same agreement. Delivery of an executed counterpart of this Agreement by facsimile shall be equally as effective as delivery of a manually executed counterpart of this Agreement.

24. E-Sign Disclosure and Consent. If this Agreement is to be executed electronically, CLIENT hereby agrees as follows:

- (a) CLIENT hereby gives its affirmative consent to execute this Agreement and to receive any related records and communications electronically. By consenting, CLIENT also represents that it has full authority to execute this Agreement electronically under applicable local law and regulations, including any under any applicable municipal procurement requirements.
- (b) CLIENT may withdraw its consent to receive records and communications electronically by contacting COMPLUS in the manner described in Section 18 of this Agreement. CLIENT's withdrawal of consent will cancel CLIENT's agreement to receive electronic records and communications. Withdrawal of consent

to future use of electronic signatures or receipt of records and communications electronically will not revoke electronic execution of this Agreement or any prior agreement or invalidate receipt of records in electronic format prior to such withdrawal. CLIENT may request a paper copy of any records and communications by contacting COMPLUS in the manner described in Section 18 of this Agreement.

- (c) CLIENT is responsible for providing COMPLUS with true, accurate and complete contact information, including an email address, and maintaining and updating promptly any changes in such contact information. CLIENT may update its contact information by contacting COMPLUS in the manner described in Section 18 of this Agreement.
- (d) COMPLUS reserves the right, in its sole discretion, to discontinue the provision of electronic records and communications, or to terminate or change the terms and conditions on which COMPLUS provides electronic records and communications. COMPLUS will provide CLIENT with notice of any such termination or change as required by law.
- (e) CLIENT acknowledges and agrees that CLIENT's consent to electronic records and communications is being provided in connection with a transaction affecting interstate commerce that is subject to the federal Electronic Signatures in Global and National Commerce Act (the "Act"), and that CLIENT and COMPLUS both intend that the Act apply to the fullest extent possible to validate the parties' ability to conduct business by electronic means. CLIENT agrees that, in consenting to electronic signatures and records, CLIENT will not challenge the validity of this Agreement solely on the basis that it was executed electronically.

The signing of the enclosed copy and returning to COMPLUS will indicate CLIENT's acceptance of this Agreement, and the terms and conditions contained herein.

Accepted by:

	COMPLUS DATA INNOVATIONS, INC.	CITY OF BEACON, NY
SIGNATURE		
NAME	Ariel Kunar	
TITLE	Chief Executive Officer	
DATE		

# SCHEDULE I TO THE FASTTRACK™ SERVICES AGREEMENT

## **SERVICES:**

COMPLUS shall use commercially reasonable efforts to provide CLIENT the following services:

- Hosting, managing, operating, maintaining and making **FastTrack™** available to CLIENT for remote electronic access and use by CLIENT.
- Hosted portal to support online and phone payment options.
- Data Entry of all handwritten tickets
- Nationwide registered owner name retrieval
- Generating and mailing of violation notices
- Customer call center services
- Payment processing for all mail n payments
- Unlimited training and support

## **EQUIPMENT:**

The following Equipment and Software will be provided to CLIENT for the sole purpose of parking ticket issuance and processing.

Name	QTY
Client Portal License(s) - includes access to FastTrack and Crystal Reports	2
Monitor 23-24"	1
N5 Batteries	4
N5 Carry Case	4
N5 Screen Protector	4
N5 Strap	4
N5 with scanner & dock	4
Personal Computer(s)	1
Tip License (\$11.00/pc x # of pc x months)	2

AUTHORIZED MACHINES: The Client Portal may only be installed on two (2) authorized machines.

## SCHEDULE II TO THE FASTTRACK™ SERVICES AGREEMENT

### FEE SCHEDULE

Description	Fee
Complus Services	24% of revenue collected
Advanced Collections	40% of revenue collected
Handheld Ticket Stock	included
Data Plans	included
Postage	reimbursable to Complus

Warning Tickets: In the event that CLIENT elects to issue warning tickets, COMPLUS will bill CLIENT \$1.45 for each issued warning ticket issued.

DMV Fees: DMV Fees are paid for by COMPLUS. However, COMPLUS reserves the right to pass along to CLIENT, and CLIENT agrees to pay COMPLUS, any increases charged by the various DMV agencies to provide registered owner's names and addresses after the first (1st) year of this Agreement.

COMPLUS and its affiliates have developed and programmed **FastTrack™** and are solely responsible for its functionality, and to make any and all necessary changes to ensure it conforms to all federal, local and State of NY laws, rules and regulations, as well as any and all banking rules and regulations that pertain to all forms of credit card payment, including VISA, MASTERCARD and Discover.

### Processing Fee Schedule for Online Payments:

- \$3.50 per parking ticket/code violation paid through COMPLUS' web interface.
- 3.5% per permit payment paid through COMPLUS' web interface.

The term "Processing Fee" as referenced in this Agreement a fee paid by the end user of the online payment service for parking ticket payment and permit payment transactions.



COMPLUS may change this processing fee schedule upon no less than thirty (30) days written notice to CLIENT, and CLIENT may terminate the credit card payment provisions of this Agreement if CLIENT notifies COMPLUS in writing prior to the effective date of such fee schedule change of its election to so terminate such provisions (which termination will be effective on such effective date).

COMPLUS will be the credit card merchant for these transactions and CLIENT will only be responsible for allowing chargebacks to be withdrawn from the account in the event a cardholder requests to have the transaction reversed according to credit card rules, regulations and timetables and to allow for the chargeback fee to also be withdrawn from the account under the same rules, regulations and timetables. For chargeback transactions, any tickets that were paid for said transactions will be reinstated in ***FastTrack™*** and become subject to further collection efforts.

Equipment Fees:

Any handheld(s) that become lost or stolen will be the sole responsibility of the CLIENT and will be billed to the CLIENT at a cost of \$4,500 per unit.

**City of Beacon Council Agenda**  
**7/2/2018**

**Title:**

**Approval of Minutes from June 18, 2018**

**Subject:**

**Background:**

**ATTACHMENTS:**

Description

Minutes\_June\_18\_2018

Type

Minutes

**CALL TO ORDER**

Mayor Casale called the meeting to order at 7:00 PM

**PLEDGE OF ALLEGIANCE**

Mayor Casale led the Pledge of Allegiance

A moment of silence was observed for those who serve and have served in the United States military

**ROLL CALL**

Present:

Councilmembers George Mansfield, At Large (GM); Terry Nelson, Ward One (TN); John Rembert, Ward Two (JR); Jodi McCredo, Ward Three (JM); Amber Grant, Ward Four (AG); and Mayor Randy Casale (RC) Total: 6, **quorum present**

Not present:

Lee Kyriacou, At Large (LK) - excused

Also Present:

City Administrator Anthony Ruggiero (AR); City Attorney Nick Ward-Willis (NWW)

**1<sup>ST</sup> OPPORTUNITY FOR PUBLIC COMMENT**

Speakers:

- Dennis Pavelock spoke about the annual fireworks
- April Farley invited the Council to the next meeting of the Southern Dutchess NAACP; spoke about Juneteenth, "Keep the Families Together Act" and the MTA tunnel
- Stosh Yankowski spoke about the recently passed CMS local law and 4 story buildings
- Justin Skinner spoke about the negative effects prepared food vendors at the Farmer's Market have on his business
- Jason Hughes spoke about the City's action against him and related attorney fees
- Sharon Watts spoke about brush dumping on a vacant lot next to hers
- Theresa Kraft spoke about Beacon's rate of development
- Justin Fowler spoke about food vendors at the Beacon Farmer's Market

**PUBLIC PRESENTATIONS**

- ACE program Dutchess County

**PUBLIC HEARINGS****1. Public Hearing on a proposed local law to create Section 223-26.4 of the Code of the City of Beacon, concerning Small Cell Wireless Facilities**

Speakers:

- Scott Olsen, attorney for Verizon, thanked NWW for working with him. Explained that he and Verizon feel the draft law as written is discriminatory and that the fees are excessive.
- Stosh Yankowski spoke about his critique of the draft local law, concerns related to small cell technology and the aesthetics of the equipment. Offered a photo (attached) to the Council showing small cell wireless equipment on poles in Newburgh.
- Hope Turino spoke about the health risks of 5G technology.
- Theresa Kraft spoke against the placement and installation of cell towers.

⇒ A motion was made by GM, seconded by JR to adjourn the public hearing on Small Cell Facilities to July 16, 2018. The motion was carried unanimously by voice vote.

## 2. Public Hearing on proposed local law to amend Chapter 195 of the Code of the City of Beacon, concerning Lot Line Adjustments

Speakers:

- Paul Supple, real estate transactional attorney spoke on behalf of his client David Smolen who owns an existing non-conforming lot.
- Noelle Foster asked for consideration for existing non-conforming lots.
- Theresa Kraft expressed concern for the encouragement of subdivisions and overdevelopment.

⇒ A **motion was made** by JM, seconded by AG **to adjourn** the public hearing on Lot Line Adjustments to July 2, 2018. The **motion was carried** unanimously by voice vote.

## REPORTS

### Council

- AG – Would like a review of the property with the dead trees Sharon Watts spoke about. Xxxxxx the Tioronda Bridge and reminded everyone of the Community Choice Aggregation (CCA) informational meeting being held at the Howland Public Library on 6/24 from 1-3 PM.
- JR – Reported getting noise complaints from constituents and asked about City noise ordinances
- GM – no report
- JM – Requested public send concerns or issues to her via email so she can respond directly. Shared that there are cooling centers available in Cold Spring at the American Legion, Philipstown xxx and Blodgett Library in Fishkill.
- TN – Residents of Monnell complaining of increased noise from the bridge. Received complaints of speeding on West Church Street and requested the Traffic Safety Committee discuss this at their next meeting.

### City Administrator

- AR announced that there will be fireworks July 1<sup>st</sup> with food, fun and games. Details will be available on the City website.

### Mayor

- Congratulated the students who participated in the ACE program as well as the graduating class of 2018. Congratulated 17-year-old Beacon High student Lenny Torres on being drafted by the Cleveland Indians. Announced he will not be here for the next Council meeting and that GM will be Acting Mayor.

## LOCAL LAWS AND RESOLUTIONS

### 1. Resolution to adopt a local law to amend Chapter 195 of the Code of the City of Beacon concerning Lot Line Adjustments

⇒ Tabled.

### 2. Resolution to authorize Mayor or City Administrator to sign an agreement with Millennium Strategies for Grant Writing and Administrative Services

⇒ A **motion was made** by TN, seconded by JR **to adopt**. The **motion was carried** unanimously by roll call vote.

**3. A resolution recommending city council and planning board consider requiring that on certain projects a copy of the site plan and architectural renderings of the project be posted on the property at the commencement of construction**

- ⇒ Prior to voting the Council agreed to amend the language in the resolution, striking out “to consider”
- ⇒ A **motion was made** by GM **to adopt** amended resolution, seconded by TN. The **motion was carried** unanimously by voice vote.

**4. Resolution authorizing execution of license agreement for dumpsters**

- ⇒ A **motion was made** by TN **to adopt**, seconded by GM. The **motion was carried** unanimously by voice vote.

**5. A resolution to set a public hearing for July 16th to receive public comment on a proposed local law to amend Chapter 191, Article II and Chapter 192, Section 30 concerning Street and Sidewalk Opening Permits**

- ⇒ A **motion was made** by TN **to adopt**, seconded by JM. The **motion was carried** unanimously by voice vote.

**APPROVAL OF MINUTES**

- ⇒ A **motion was made** by AG, seconded by TN **to approve** the minutes from June 4, 2018. The **motion was carried** by voice vote.

**BUDGET AMENDMENTS**

- ⇒ A **motion was made** by JM, seconded by TN **to approve**. The **motion was carried** unanimously by roll call vote.

**2<sup>ND</sup> OPPORTUNITY FOR PUBLIC COMMENT**

Speakers

- James Pentalo talked about the ferry landing property; 5G technology; keeping spaces open for public use and redesign of the MTA station.

**ADJOURNMENT**

- ⇒ A **motion was made** by JM, seconded by TM to adjourn. **Motion was carried** unanimously by voice vote. **Meeting was adjourned** at 8:47 PM.

Next Council Workshop is June 25<sup>th</sup> at 7:00 PM.

Next Council Meeting is July 2<sup>nd</sup> at 7:00 PM.

A video recording of this meeting in its entirety can be found here -<http://www.cityofbeacon.org/Government/videos.htm>

Submitted by Lisa Edelson



Please ~PRINT~ your name **CLEARLY** so we can spell it correctly in the record.

Thank you!

Please check:

PRINTED Name	General Comment	Public Hearing	Address	Preferred contact info
1 NOE BAXTER ✓	✓		7 RYAN AVE	440-6384
2 SCOTT GILSON ✓		✓	5 PAC. JACOBI DR.	
3 DENNIS PAVELOCK ✓	✓		34 JUDSON ST	
4 APRIL O'FARLEY ✓	✓		BENSON, NJ	
5 STOSH YANKOWSKI ✓	✓	✓	S. CHESTNUT ST.	
6 JUSTIN SKINNER ✓	✓	✓	PROSPECT ST	
7 JASON HUGHES ✓	✓		16 HANNA LN	
8 HAZEL TURNER ✓		✓		
9 DAVID SMOLEN ✓		✓	4 DEW/NOT ST	
10 SHARON WATTS ✓	✓		44 MASTERS PL	845.831.8168
11 NELLE FOSTER ✓		✓	45 BACON ST	518-274-2518
12 LUSHITA FOWLER ✓		✓	144 MAIN ST	845-214-4772
13 ERESA KRAST ✓	✓	✓	LIBERTY ST.	

June 18, 2018  
Hope Terina

From: ~~Kathryn Stauffer~~  
Subject: Dafna Tachover gives testimony to Michigan House Energy Policy Committee on the dangers of 5G  
Date: June 17, 2018 at 8:33 PM  
To:

Hello Friends,

We are so proud of Dafna Tachover for all her hard work on behalf of the EHS Community.

She spent 6 weeks lecturing in the state of Michigan and then several more in the state of Oregon.

She has been giving her whole life to the cause. We are grateful.

Dafna Tachover gives testimony to Michigan House Energy Policy Committee on the dangers of 5G:  
<https://www.youtube.com/watch?v=ITo7imWb5bM>

Please support Dafna Tachover & "We are the Evidence."

<https://wearetheevidence.org>

Sincerely,

Kathryn Stauffer

# Planetary Emergency

## PLANETARY EMERGENCY

The Earth needs your help. Now.

Many are the assaults on our planet. The oceans—Jacques Cousteau said it already in 1970—are dying. The majestic wilderness is no more. The very oxygen we breathe is being converted to carbon dioxide.

Others are wrestling with those problems, and they are not going to be solved overnight. But there is one that must be: we must leave space alone.

On March 29, 2018, the Federal Communications Commission gave its approval to SpaceX's plan to launch an unprecedented 4,425 satellites into low orbit around the Earth. And that's only the beginning. SpaceX has applied to the FCC to increase the number of satellites to 12,000 in order to provide "ultrafast, lag-free Internet" to every square inch of the earth. 5G from space. SpaceX's CEO, Elon Musk, has announced his intention to begin launches in 2019, to begin operating as soon as he has about 100 satellites in orbit, and to have at least 800 satellites up and running by 2020. The name of SpaceX's project is "Starlink."

The global electrical circuit, which sustains all life, is about to be seriously disturbed unless we act.

### Recent History

In 1997, in my first book, *Microwaving Our Planet*, in the last chapter, titled "The Danger from Satellites," I wrote: "The proliferation of satellites we are about to witness—unless this world wakes up soon—is mind boggling, and nobody seems to have considered that popping thousands of them up there like so much confetti might have consequences for our atmosphere and our climate." I wrote about the expected ozone loss; the destruction of the Van Allen belts; global warming from the addition of water vapor to the stratosphere; toxic wastes; groundwater pollution; space junk; microwave radiation; and the vandalism of the night sky. My 1997 book is posted here, courtesy of the Spanish website AVAATE, one of the best websites on this issue: [www.avaate.org/IMG/doc/Microwaving\\_Our\\_Planet\\_firstenberg.doc](http://www.avaate.org/IMG/doc/Microwaving_Our_Planet_firstenberg.doc)

A year later the radiation problem asserted itself. On September 23, 1998, the world's first satellite phones became operational. Service was provided by 66 satellites in low orbit around the Earth, launched by the Iridium Corporation. They unleashed a new kind of rain that turned the sky red and emptied it of birds for a couple of weeks.

A six-nation telephone survey was done of electrically sensitive people, support groups, and nurses and physicians serving this population. The results: 86% of electrically sensitive people and a majority of patients and support group members became ill on Wednesday, September 23 exactly, with typical symptoms of electrical illness including headaches, dizziness, nausea, insomnia, nosebleeds, heart palpitations, asthma attacks, ringing in the ears, etc. Follow-ups revealed that some of these people were acutely ill for up to three weeks. Some were so sick they weren't sure they would live. In the United States the national death rate rose by 4% to 5% for two weeks. During those two weeks, very few birds were seen in the sky and thousands of homing pigeons failed to return home in pigeon races throughout much of the country. This was all documented in *No Place to Hide, Vol. 2, No. 1, Feb. 1999, pp. 3-4*.

The second satellite service, Globalstar, began commercial service on Monday, February 28, 2000. Widespread reports of nausea, headaches, leg pain, respiratory problems, depression, and lack of energy began on Friday, February 25, the previous business day, and came from people both with and without electrical sensitivity. See *No Place To Hide, Vol. 2, No. 3, March 2000, p. 18*.

Iridium, which had gone bankrupt in the summer of 1999, was resurrected by a contract with the United States Armed Forces. On March 30, 2001, commercial service resumed. Again the sky turned red. Again came reports of nausea, flu-like illness and feelings of oppression. But the events that made the news were catastrophic losses of race horse foals that were reported throughout the United States and as far away as Peru. On June 5, 2001, Iridium added data and Internet to its satellite phone service. Again came widespread reports of nausea, flu-like illness and oppression, and this time also hoarseness. See *No Place To Hide, Vol. 3, No. 2, Nov. 2001, p. 15*.

Additional details are provided in chapter 17 of my new book, *The Invisible Rainbow: A History of Electricity and Life*.<sup>[\*]</sup>

Between 2001 and now, our skies have not essentially changed. Iridium and Globalstar, operating 66 and 40 satellites respectively, are still the only providers of satellite phones. The amount of data raining on us all from space is still dominated by those two fleets. The predicted fleets of thousands of satellites have not materialized. But they are about to now, unless we stop them. Everything we know and love is at stake—not just hawks and geese, pigeons and race horses, not just the human race, but life itself. This is a mortal threat not just to our children and grandchildren, but to all of us, immediately, within two years.

### The Details

The biggest threats are from Boeing, OneWeb, and SpaceX, all of which have similar applications before the FCC. SpaceX's 12,000 satellites will operate in two constellations, at 700 miles and 210 miles in altitude. They will operate at millimeter wave frequencies and they will be phased arrays. Each satellite will have thousands of antenna elements that will aim focused, steerable beams at any desired point on the surface of the earth. Each beam from the 4,425 satellites already approved at the 700-mile height would have a maximum effective radiated power of up to 8,800 watts. The revised application for 12,000 satellites is requesting an increase to 5,000,000 watts per beam (for the upper constellation of



4,425 satellites) and 500,000 watts per beam (for the lower constellation of 7,518 satellites). The satellites will communicate both with individual users and with gateway earth stations, of which there will be several hundred just in the United States.

OneWeb's founder and Executive Chairman is Greg Wyler. So far, OneWeb has applied to the FCC for only 4,540 satellites, but it is partnering with Airbus, which will build the satellites; Blue Origin, a subsidiary of Amazon, which will provide the rockets; and Virgin Galactic, which will launch them. Its investors include Qualcomm, Hughes Network Systems, Intelsat of Luxembourg, Marker LLC of Israel, Grupo Salinas of Mexico, SoftBank of Japan, Bharti Enterprises of India, and Coca-Cola. It received a license from the FCC for 720 low-orbit satellites in June 2017, but has already sold most of their capacity to Honeywell and other companies. Honeywell plans to use satellite transmissions to supply fast Internet to business, commercial, and military aircraft worldwide. On January 4, 2018 OneWeb filed an application for an additional fleet of 2,560 medium-orbit satellites, and on March 19, 2018 it filed an application for 1,260 additional low-orbit satellites. It is now touting its enterprise as an essential element of the worldwide rollout of 5G technology. Like SpaceX, OneWeb's satellites will have antennas in phased arrays and use the millimeter wave spectrum. Their maximum effective power will be 6,000 watts. OneWeb intends to launch 36 satellites every 21 days beginning in the last quarter of 2018, and to begin service with the first few hundred satellites in 2019.

Boeing, which has its own plans for a fleet of 2,956 low-orbit satellites, and already has FCC approval for them, may now be backing OneWeb. In December, Boeing asked permission from the FCC to transfer its license for the 2,956 satellites to a company named SOM1101 LLC. Greg Wyler, the founder of OneWeb, is the sole owner of SOM1101.

A fourth company, Telesat Canada, was granted an FCC license on November 3, 2017. It plans to have a minimum of 117 satellites up and running by 2021. It intends to add satellites "as needed" to increase capacity. These satellites will also be phased arrays and they will also be for global internet to "unserved and underserved" communities, businesses, governments and individuals. They will have a maximum effective power of 8,000 watts.

Iridium, in an effort to compete with all these new companies, is presently in process of replacing its original fleet with a new fleet of 66 satellites called Iridium Next that will offer additional services.

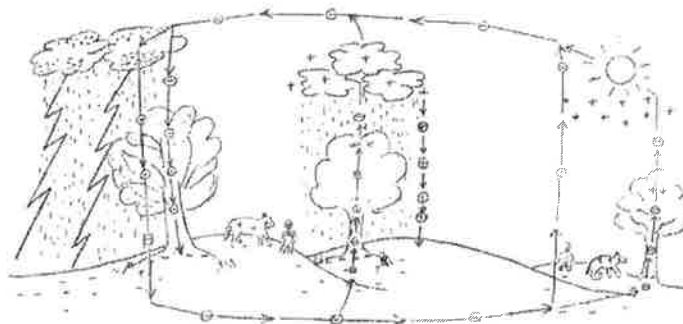
These five companies together have approved and pending applications before the FCC for almost 20,000 low and medium orbit satellites to provide Internet to the world from space.

If 66 satellites providing only voice communication caused widespread illness and mortality among birds, horses, and people, what will a 20,000-satellite Internet-in-the-Sky do to us all?

### The Way to Understanding

The original Iridium satellites were (and are still) at 1,000 watts of effective power and 483 miles in altitude. They are spread out around the Earth so that only one satellite is above any given point on the earth at any time. If a 1,000-watt tower were to be placed on a mountaintop that was 483 miles from the nearest person, no one would be alarmed. Why, then, worry about satellites in space? Five million watts is a lot scarier, but even a 5-million-watt beam from 700 miles away will produce a power level of only 13 picowatts (trillionths of a watt) per square centimeter on the ground, a level that is far below the levels most of us are exposed to already from WiFi, cell phones, and cell towers.

The answer has to do with what atmospheric physicists call the global electrical circuit, and with what Chinese medicine calls qi. Electricity is not only something "out there" that powers our lights and machinery, it is the force that orchestrates growth and healing and keeps us alive. The global electrical circuit flows through the earth, up to the sky in thunderstorms, through the ionosphere, and back down to earth through the atmosphere and through our bodies. The current enters our bodies through the top of our head, circulates through our acupuncture meridians, and reenters the earth through our feet. In addition to direct current, it contains 8 Hz, 14 Hz, 20 Hz, 26 Hz, and 33 Hz components. These ELF frequencies are the Schumann resonances, and are identical to the brain wave frequencies of every animal. It also contains VLF frequencies. These are generated by lightning, vary seasonally, and regulate our annual biorhythms. We pollute this circuit at our peril.



From *The Invisible Rainbow: A History of Electricity and Life* (2017) [1]  
Chapter 9, "Earth's Electric Envelope"

The strength of the atmospheric electrical current is between 1 and 10 picoamperes (trillionths of an ampere) per square meter. Dr. Robert Becker found that 1 picoampere is all the current that is necessary to stimulate healing in frogs. (R.O. Becker and G. Selden, *The Body Electric*, New York: Morrow 1985, p. 142; R.O. Becker and A.A. Marino, *Electromagnetism and Life*, Albany: State University of New York Press 1982, pp. 49-51). It is these tiny currents that keep us alive and healthy.

The experiences of astronauts are a clue to the importance of the global electrical circuit to terrestrial life. The International Space Station is not

completely outside of it; the Schuman resonances are clearly detectable even at that altitude, but they are greatly diminished. In the Space Station, astronauts' circadian rhythms are disrupted. See John R. Ball and Charles H. Evans, Jr., editors, *Safe Passage: Astronaut Care for Exploration Missions*, National Academies Press 2001. And Russian authors have noted that "a decrease in all physiological processes" occurs during space missions and that these changes are "identical to those that occur during the process of aging on Earth." (Irina M. Lirina et al., "Protein expression changes caused by spaceflight as measured for 18 Russian cosmonauts," *Nature, Scientific Reports* 7:8142 (2017)). It is doubtful that human beings could long survive if completely removed electrically from Earth, for example in a colony on Mars such as Elon Musk is also contemplating.

### Power Line Harmonic Radiation

Another piece of the puzzle is provided by research that has been done at Stanford University and elsewhere on the properties of the ionosphere and magnetosphere—the regions of space hundreds to thousands of miles above our heads that contain mostly electrons, protons, and other electrically charged ions.

It was discovered more than forty years ago that ELF and VLF radiation from all of the power lines on earth is reaching the ionosphere, and the magnetosphere above it, where it is being amplified up to one hundred thousand-fold by interaction with electrons. As a result, the earth's electromagnetic environment has been changed. The behavior of the magnetosphere, the structure of the Van Allen belts, the values of the Schumann resonances, and even the weather here on earth, have been altered. This phenomenon is called "power line harmonic radiation."

It was further discovered that the radiation from VLF radio stations is also amplified tremendously in the magnetosphere—so much so that a radio signal of 0.5 watts sent from an antenna in Antarctica can be detected by a receiver in northern Quebec.

### Dirty Electricity on the Global Circuit

What does this have to do with SpaceX and OneWeb? Or, to rephrase the question, if a single half-watt radio station broadcasting from the earth has a measurable effect on the magnetosphere, what effect will 20,000 satellites, some located directly in the ionosphere and some directly in the magnetosphere, each blasting out up to five million watts—what effect will that have on life below?

The answer has to do with the fact that the satellite signals—like all wireless signals today—will be pulsed at ELF and VLF frequencies. That is how the data will be sent. Like an AM radio, the ionosphere and magnetosphere will demodulate, or extract, the ELF and VLF components, and then amplify them tremendously. Until now nobody has looked for these effects from satellites. But a Stanford physicist with whom I have been corresponding explained why this could happen and showed me how to estimate the minimum power level that would be necessary. Iridium had enough power, and the new satellites will have more than enough power: as a rough estimate, the five-million-watt SpaceX beams will contain enough energy up to a distance of 135 miles from each satellite for their ELF/VLF components to be demodulated by the ionospheric plasma and then amplified in the magnetosphere.

The result is similar to how dirty electricity gets onto house wiring. All of the electronic equipment—dimmer switches, fluorescent lamps, computers, cell phone chargers, etc.—that are plugged into our walls, produce electronic noise that travels on the wiring, radiates into our homes, and makes us sick.

Except that now the dirty electricity will get onto our *bodies'* wiring. The noise from 20,000 satellites that are plugged into the ionosphere will pollute the global electrical circuit that we are all plugged into. It will kill us and it must be stopped.

It is not only the number of satellites but the number of customers they will serve that is the problem. A cell tower is more harmful than a radio station because instead of emitting just one signal it emits hundreds. Iridium is so impactful not only because it has 66 satellites but because it serves more than a million customers. Because of Iridium and Globalstar, standing barefoot on the earth is no longer as healthful and invigorating as it once was, anywhere on the planet. Grounding yourself increases the flow of qi through your body, but the qi now has electronic noise on it. SpaceX's initial goal is to sign up 40 million subscribers. If OneWeb signs up another 40 million, and one-tenth of the subscribers are online at any given time, electronic noise from an additional 8,000,000 signals, to start with, will pollute the global circuit.

There are other serious environmental impacts from the intensive use of space, some of which I outlined in my first book. For example, the rockets of both SpaceX and OneWeb will burn kerosene. Burning kerosene in space produces prodigious amounts of black soot, which accumulates in the stratosphere. Black carbon absorbs so much solar energy that its contribution to global warming is two million times greater per unit mass than carbon dioxide. Just 35 launches of SpaceX's Falcon Heavy rocket per year would produce an amount of warming roughly equal to the amount of warming produced in a year by the world's one billion cars. I am extrapolating from the estimates of Martin Ross of the Aerospace Corporation, which were made in 2012 when there were 25 launches per year of much smaller kerosene-burning rockets. (M. N. Ross and P. M. Sheaffer, "Radiative forcing caused by rocket engine emissions," *Earth's Future* 2: 177-196 (2014)).

As Ross points out, the problem of black soot could be solved, or at least reduced, by using a different type of fuel. The radiation problem, however, by definition cannot be solved, because the radiation is the product. The decision-makers and investors in these companies must be made to understand that they are playing with fire, and that what they are planning to do within the next two years will have fatal consequences.

The key players are:

For SpaceX:	Residence
<b>Chief Officers</b>	
Elon Musk, CEO	Bel Air, CA
Gwynne Shotwell, President and COO	Rolling Hills Estates, CA
Bret Johnson, CFO	Los Angeles area



**Board of Directors**

David S. Kidder, CEO of Bionic Solutions	Rye, NY
Luke Nosek, founder and partner of Gigafund	San Francisco, CA
Antonio Gracias, founder, Valor Equity Partners	Chicago, IL
Donald Harrison, Google's vice president for corporate development	Mountain View, CA
Kimbal Musk (Elon's younger brother)	Boulder, CO
Barry Schuler, advisor	Napa, CA

**Lead Investors**

Fidelity Investments (Abigail Johnson, CEO)	(Boston, MA)
Google (\$900 million)	
Nihal Mehta, founding partner of Eniac Ventures	New York, NY
Bracket Capital (Yalda Aoukar, CEO)	(London)

**For OneWeb:****Board of Directors**

Greg Wyler, Founder and Chairman	Stuart, FL
Eric Béranger, CEO	Paris, France
Thomas Enders, CEO of Airbus	Toulouse, France
Paul E. Jacobs (also on board of Dropbox)	Sacramento area
Alex Clavel, Head of Corporate Finance, SoftBank	Palo Alto, CA
Ohad Finkelstein, Co-Founder, Marker LLC	Israel
Ricardo Salinas, Founder of Grupo Salinas	Mexico City

**Large Investors**

Stephen Spengler, CEO of Intelsat	Luxembourg
Jeff Bezos, CEO of Amazon	Medina, WA
Richard Branson, CEO of Virgin Galactic	British Virgin Islands
Sunil Mittal, CEO of Bharti Enterprises	New Delhi, India
Dean Manson, Executive VP, Echo Star	Englewood, CO

**Biggest Customer**

Honeywell (Darius Adamczyk, CEO)	(Morris Plains, NJ)
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**Owner of Satellite License**

Boeing (Dennis Muilenburg, CEO)	(Collinsville, IL)
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All these people have families and children and have a stake in the future of the Earth. Some—for example, Kimbal Musk and his wife, Christiana—are long-time advocates for the environment and investors in environmental causes.

Please contact me if you want to help. What is needed is a team of dedicated people who can raise funds, mobilize scientists, petition governments, and call and meet with environmental organizations.

Also please contact me if you know any of the gentlemen or ladies I have listed above, or if you know someone who can get us an audience with one of them. All we need is one. An opening into that community of billionaires, to begin a dialogue that will save this planet.

Arthur Firstenberg, for  
Global Union Against Radiation Deployment from Space (GUARDS)  
May 14, 2018  
(505) 471-0129

[\*] *The Invisible Rainbow* is available at <http://www.cellphonetaskforce.org/buy-the-invisible-rainbow>

## 5G - FROM BLANKETS TO BULLETS

by Arthur Firstenberg

The single most important fact about 5G that nobody is talking about is called "phased array." It will totally change the way cell towers and cell phones are constructed and will transform the blanket of radiation which has enveloped our world for two decades into a million powerful beams whizzing by us at all times. Blake Levitt, author of *Electromagnetic Fields: A Consumer's Guide to the Issues and How to Protect Ourselves* (Harcourt Brace, 1995), brought this to my attention. A mutual friend, with whom I was speaking during the campaign to defeat S.B. 649 in California, passed on a message from Blake: "5G antennas will be phased arrays; Arthur will know what that means." And I did.

Phased arrays were one of the first things I learned about in the very beginning of my long, involuntary journey from medical student to campaigner against wireless technology. After I was injured by X-rays in 1980, I began to read everything I could get my hands on that had to do with electromagnetic radiation and its effects on life. And one of the first books I read was Paul Brodeur's *The Zapping of America* (W.W. Norton, 1977).

### Early warnings

Brodeur was a staff writer for the *New Yorker* who had purchased property on Cape Cod, Massachusetts, only to discover that 30 miles inland, across the bay from his future home, the Air Force was planning to construct the world's most powerful radar station. It was going to scan the Atlantic Ocean as a key early warning element protecting us against the threat of sea-launched ballistic missiles from the Soviet Union. Although it emitted an average power of only 145,000 watts, similar to some FM radio stations, it did not broadcast that energy from only a single antenna and it did not spread that energy out uniformly in all directions. Instead, it had 3,600 antennas arranged in two "phased arrays" of 1,800 antennas each. The antennas in each array worked together as a unit to focus all their energy into a narrow, steerable beam. Each beam had an effective power of four billion watts, and the peak radiation level exceeded 0.3 milliwatt per square centimeter—the FCC's safety limit today—at a distance of ten miles in front of the radar station. The facility was called PAVE PAWS (Precision Acquisition of Vehicle Entry Phased Array Warning System).

The Defense Department acknowledged in a 1975 report, quoted by Brodeur, that such systems "energize thousands of operational elements, are electronically steered at high search rates, and operate at a frequency range having a maximum whole body energy transfer to man and for which little bioeffects data exists."

Shortly after I read this, I discovered firsthand what some of the bioeffects were. Attempting to finish my M.D. almost cost me my life. I collapsed one day with all the symptoms of a heart attack, whereupon I resigned from school and moved up to Mendocino to recover. There I was in the path of the other PAVE PAWS, the one that scanned the Pacific Ocean. This PAVE PAWS was due east of Mendocino, in California's Central Valley at Beale Air Force Base. And for nine months, every evening at precisely 7:00 p.m., no matter where I was or what I was doing, my chest would tighten and I would be unable to catch my breath for the next two hours. At precisely 9:00 p.m., my body would relax and I could breathe. I lived in Mendocino from 1982 through 1984, and although I eventually recovered my health, I was always aware of an uncomfortable pressure in my chest whenever I was on the coast. I also lived in Mendocino from 1999 to 2004, and felt that same discomfort whenever I was there, and always felt it suddenly vanish when I drove out of range of PAVE PAWS, and suddenly return at the same point on my journey home.

### Directed beams

5G is going to be at a much higher frequency range, which means the antennas are going to be much smaller—small enough to fit inside a smartphone—but like in PAVE PAWS they are going to work together in a phased array, and like in PAVE PAWS they are going to concentrate their energy in narrow, steerable high power beams. The arrays are going to track each other, so that wherever you are, a beam from your smartphone is going to be aimed directly at the base station (cell tower), and a beam from the base station is going to be aimed directly at you. If you walk between someone's phone and the base station, both beams will go right through your body. The beam from the tower will hit you even if you are standing near someone who is on a smartphone. And if you are in a crowd, multiple beams will overlap and be unavoidable.

At present, smartphones emit a maximum of about two watts, and usually operate at a power of less than a watt. That will still be true of 5G phones, however inside a 5G phone there may be 8 tiny arrays of 8 tiny antennas each, all working together to track the nearest cell tower and aim a narrowly focused beam at it. The FCC has recently adopted rules allowing the effective power of those beams to be as much as 20 watts. Now if a handheld smartphone sent a 20-watt beam through your body, it would far exceed the exposure limit set by the FCC. What the FCC is counting on is that there is going to be a metal shield between the display side of a 5G phone and the side with all the circuitry and antennas. That shield will be there to protect the circuitry from electronic interference that would otherwise be caused by the display and make the phone useless. But it will also function to keep most of the radiation from traveling directly into your head or body, and therefore the FCC is allowing 5G phones to come to market that will have an effective radiated power that is ten times as high as for 4G phones. What this will do to the user's hands, the FCC does not say. And who is going to make sure that when you stick a phone in your pocket, the correct side is facing your body? And who is going to protect all the bystanders from radiation that is coming in *their* direction that is ten times as strong as it used to be?

And what about all the other 5G equipment that is going to be installed in all your computers, appliances, and automobiles? The FCC calls handheld phones "mobile stations." Transmitters in cars are also "mobile stations." But the FCC has also issued rules for what it calls "transportable stations," which it defines as transmitting equipment that is used in stationary locations and not in motion, such as local hubs for wireless broadband in your home or business. The FCC's new rules allow an effective radiated power of 300 watts for such equipment.

### Enormous power

The situation with cell towers is, if anything, worse. So far the FCC has approved bands of frequencies around 24 GHz, 28 GHz, 38 GHz, 39

GHz, and 48 GHz for use in 5G stations, and is proposing to add 32 GHz, 42 GHz, 50 GHz, 71-76 GHz, 81-86 GHz, and above 95 GHz to the soup. These have tiny wavelengths and require tiny antennas. At 48 GHz, an array of 1,024 antennas will measure only 4 inches square. And the maximum radiated power from a base station will probably not be that large—tens or hundreds of watts. But just as with PAVE PAWS, arrays containing such large numbers of antennas will be able to channel the energy into highly focused beams, and the *effective* radiated power will be enormous. The rules adopted by the FCC allow a 5G base station operating in the millimeter range to emit an effective radiated power of up to 30,000 watts per 100 MHz of spectrum. And when you consider that some of the frequency bands the FCC has made available will allow telecom companies to buy up to

3 GHz of contiguous spectrum at auction, they will legally be allowed to emit an effective radiated power of up to 900,000 watts if they own that much spectrum. The base stations emitting power like that will be located on the sidewalk. They will be small rectangular structures mounted on top of utility poles.

The reason the companies want so much power is because millimeter waves are easily blocked by objects and walls and require tremendous power to penetrate inside buildings and communicate with all the devices that we own that are going to part of the Internet of Things. The reason such tiny wavelengths are required is because of the need for an enormous amount of bandwidth—a hundred times as much bandwidth as we formerly used—in order to have smart homes, smart businesses, smart cars, and smart cities, i.e. in order to connect so many of our possessions, big and small, to the internet, and make them do everything we want them to do as fast as we want them to do it. The higher the frequency, the greater the bandwidth—but the smaller the waves. Base stations have to be very close together—100 meters apart in cities—and they have to blast out their signals in order to get them inside homes and buildings. And the only way to do this economically is with phased arrays and focused beams that are aimed directly at their targets. What happens to birds that fly through the beams, the FCC does not say. And what happens to utility workers who climb utility poles and work next to these structures everyday? A 30,000-watt beam will cook an egg, or an eye, at a distance of a few feet.

The power from a base station will be distributed among as many devices as are connected at the same time. When a lot of people are using their phones simultaneously, everyone's phone will slow down but the amount of radiation in each beam will be less. When you are the only person using your phone—for example, late at night—your data speed will be blisteringly fast but most of the radiation from the cell tower will be aimed at you.

#### **Deep penetration into the body**

Another important fact about radiation from phased array antennas is this: it penetrates much deeper into the human body and the assumptions that the FCC's exposure limits are based on do not apply. This was brought to everyone's attention by Dr. Richard Albanese of Brooks Air Force Base in connection with PAVE PAWS and was reported on in *Microwave News* in 2002. When an ordinary electromagnetic field enters the body, it causes charges to move and currents to flow. But when extremely short electromagnetic pulses enter the body, something else happens: the moving charges themselves become little antennas that re-radiate the electromagnetic field and send it deeper into the body. These re-radiated waves are called Brillouin precursors. They become significant when either the power or the phase of the waves changes rapidly enough. 5G will probably satisfy both requirements. This means that the reassurance we are being given—that these millimeter waves are too short to penetrate far into the body—is not true.

In the United States, AT&T, Verizon, Sprint, and T-Mobile are all competing to have 5G towers, phones, and other devices commercially available as early as the end of 2018. AT&T already has experimental licenses and has been testing 5G-type base stations and user equipment at millimeter wave frequencies in Middletown, New Jersey; Waco, Austin, Dallas, Plano, and Grapevine, Texas; Kalamazoo, Michigan; and South Bend, Indiana. Verizon has experimental licenses and has been conducting trials in Houston, Eufaula, and Cypress, Texas; South Plainfield and Bernardsville, New Jersey; Arlington, Chantilly, Falls Church, and Bailey's Crossroads, Virginia; Washington, DC; Ann Arbor, Michigan; Brockton and Natick, Massachusetts; Atlanta; and Sacramento. Sprint has experimental licenses in Bridgewater, New Brunswick, and South Plainfield, New Jersey; and San Diego. T-Mobile has experimental licenses in Bellevue and Bothell, Washington; and San Francisco.

— January 22, 2018

## STATEMENTS BY PHYSICIANS, SCIENTISTS AND HEALTH POLICY EXPERTS

**Andrew Weil, MD:**

"Electromagnetic pollution may be the most significant form of pollution human activity has produced in this [20th] century."  
<http://www.drweil.com/drw/uid/QAA26193>

**Robert Becker, Ph.D** Nobel Prize nominee noted for decades of research on the effects of electromagnetic radiation says,

"I have no doubt in my mind that, at present time, the greatest polluting element in the earth's environment is the proliferation of electromagnetic fields."

The following quotations are available at: [http://www.stralingsrisicos.nl/index.php?option=com\\_content&view=article&id=23&Itemid=6](http://www.stralingsrisicos.nl/index.php?option=com_content&view=article&id=23&Itemid=6)

**William Rea, MD** Founder & Director of the Environmental Health Center, Dallas Past President, American Academy of Environmental Medicine:

"Sensitivity to electromagnetic radiation is the emerging health problem of the 21st century. It is imperative health practitioners, governments, schools and parents learn more about it. The human health stakes are significant."

**Martin Blank, Ph.D** Associate Professor, Department of Physiology and Cellular Biophysics, Columbia University, College of Physicians and Surgeons; Researcher in Bioelectromagnetics; Author of the BioInitiative Report's section on Stress Proteins:

"Cells in the body react to EMFs as potentially harmful, just like to other environmental toxins, including heavy metals and toxic chemicals. The DNA in living cells recognizes electromagnetic fields at very low levels of exposure; and produces a biochemical stress response. The scientific evidence tells us that our safety standards are inadequate, and that we must protect ourselves from exposure to EMF due to power lines, cell phones and the like, or risk the known consequences. The science is very strong and we should sit up and pay attention."

**Olle Johansson, Ph.D.** Associate Professor, The Experimental Dermatology Unit, Department of Neuroscience, Karolinska Institute, Stockholm, Sweden; Author of the BioInitiative Report's section on the Immune System:

"It is evident that various biological alterations, including immune system modulation, are present in electrosensitive persons. There must be an end to the pervasive nonchalance, indifference and lack of heartfelt respect for the plight of these persons. It is clear something serious has happened and is happening. Every aspect of electrosensitive peoples' lives, including the ability to work productively in society, have healthy relations and find safe, permanent housing, is at stake. The basics of life are becoming increasingly inaccessible to a growing percentage of the world's population. I strongly advise all governments to take the issue of electromagnetic health hazards seriously and to take action while there is still time. There is too great a risk that the ever increasing RF-based communications technologies represent a real danger to humans, especially because of their exponential, ongoing and unchecked growth. Governments should act decisively to protect public health by changing the exposure standards to be biologically-based, communicating the results of the independent science on this topic and aggressively researching links with a multitude of associated medical conditions."

**David Carpenter, MD** Professor, Environmental Health Sciences, and Director, Institute for Health and the Environment, School of Public Health, University of Albany, SUNY Co-Editor, the BioInitiative Report ([www.BioInitiative.org](http://www.BioInitiative.org)):

"Electromagnetic fields are packets of energy that does not have any mass, and visible light is what we know best. X-rays are also electromagnetic fields, but they are more energetic than visible light. Our concern is for those electromagnetic fields that are less energetic than visible light, including those that are associated with electricity and those used for communications and in microwave ovens."

The fields associated with electricity are commonly called "extremely low frequency" fields (ELF), while those used in communication and microwave ovens are called "radiofrequency" (RF) fields. Studies of people have shown that both ELF and RF exposures result in an increased risk of cancer, and that this occurs at intensities that are too low to cause tissue heating.

Unfortunately, all of our exposure standards are based on the false assumption that there are no hazardous effects at intensities that do not cause tissue heating. Based on the existing science, many public health experts believe it is possible we will face an epidemic of cancers in the future resulting from uncontrolled use of cell phones and increased population exposure to WiFi and other wireless devices.

Thus it is important that all of us, and especially children, restrict our use of cell phones, limit exposure to background levels of Wi-Fi, and that government and industry discover ways in which to allow use of wireless devices without such elevated risk of serious disease. We need to educate decision-makers that 'business as usual' is unacceptable. The importance of this public health issue can not be underestimated."

**Eric Braverman, MD** Brain researcher, Author of The Edge Effect, and Director of Path Medical in New York City and The PATH Foundation. Expert in the brain's global impact on illness and health:

"There is no question EMFs have a major effect on neurological functioning. They slow our brain waves and affect our long-term mental clarity. We should minimize exposures as much as possible to optimize neurotransmitter levels and prevent deterioration of health."

**Abraham R. Liboff, PhD** Research Professor Center for Molecular Biology and Biotechnology Florida Atlantic University, Boca Raton, Florida Co-Editor, Electromagnetic Biology and Medicine:

"The key point about electromagnetic pollution that the public has to realize is that it is not necessary that the intensity be large for a biological interaction to occur. There is now considerable evidence that extremely weak signals can have physiological consequences. These interactive intensities are about 1000 times smaller than the threshold values formerly estimated by otherwise knowledgeable theoreticians, who, in their vainglorious approach to science, rejected all evidence to the contrary as inconsistent with their magnificent calculations. These faulty estimated thresholds are yet to be corrected by both regulators and the media.

The overall problem with environmental electromagnetism is much deeper, not only of concern at power line frequencies, but also in the radiofrequency range encompassing mobile phones. Here the public's continuing exposure to electromagnetic radiation is largely connected to money. Indeed the tens of billions of dollars in sales one finds in the cell phone industry makes it mandatory to corporate leaders that they deny, in knee-jerk fashion, any indication of hazard.

There may be hope for the future in knowing that weakly intense electromagnetic interactions can be used for good as well as harm. The fact that such fields are biologically effective also implies the likelihood of medical applications, something that is now taking place. As this happens, I think it will make us more aware about how our bodies react to electromagnetism, and it should become even clearer to everyone concerned that there is reason to be very, very careful about ambient electromagnetic fields."

**Lennart Hardell, MD, PhD** Professor at University Hospital, Orebro, Sweden. World-renowned expert on cell phones, cordless phones, brain tumors, and the safety of wireless radiofrequency and microwave radiation. Co-authored the BioInitiative Report's section on Brain Tumors by Dr. Hardell:

"The evidence for risks from prolonged cell phone and cordless phone use is quite strong when you look at people who have used these devices for 10 years or longer, and when they are used mainly on one side of the head. Recent studies that do not report increased risk of brain tumors and acoustic neuromas have not looked at heavy users, use over ten years or longer, and do not look at the part of the brain which would reasonably have exposure to produce a tumor."

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**Samuel Milham MD, MPH** Medical epidemiologist in occupational epidemiology. First scientist to report increased leukemia and other cancers in electrical workers and to demonstrate that the childhood age peak in leukemia emerged in conjunction with the spread of residential electrification:

"Very recently, new research is suggesting that nearly all the human plagues which emerged in the twentieth century, like common acute lymphoblastic leukemia in children, female breast cancer, malignant melanoma and asthma, can be tied to some facet of our use of electricity. There is an urgent need for governments and individuals to take steps to minimize community and personal EMF exposures."

**James S. Turner, Esq.** Chairman of the Board, Citizens for Health Co-author, Voice of the People: The Transpartisan Imperative in American Life Attorney, Swankin-Turner, Washington, DC:

"According to the BioInitiative Report: A Rationale for a Biologically-Based Public Exposure Standard for Electromagnetic Fields—from electrical and electronic appliances, power lines and wireless devices such as cell phones, cordless phones, cellular antennas, towers, and broadcast transmission towers—we live in an invisible fog of EMF which thirty years of science, including over 2,000 peer reviewed studies, shows exposes us to serious health risks such as increased Alzheimer's disease, breast cancer, Lou Gehrig disease, EMF immune system hypersensitivity and disruption of brain function and DNA. The public needs to wake up politicians and public officials to the need for updating the decades old EMF public health standards. This report tells how."

**L. Lloyd Morgan, BS** Electronic Engineering Director Central Brain Tumor Registry of the United States, Member Bioelectromagnetics Society, Member Brain Tumor Epidemiological Consortium:

"There is every indication that cell phones cause brain tumors, salivary gland tumors and eye cancer. Yet, because the cell phone industry provides a substantial proportion of research funding, this reality is hidden from the general public. The Interphone Study, a 13-country research project, substantially funded by the cell phone industry has consistently shown that use of a cell phone protects the user from risk of a brain tumor! Does anything more need to be said? It is time that fully independent studies be funded by those governmental agencies whose charter is to protect its citizens so that the truth about the very damaging health hazards of microwave radiation becomes clear and well known."

*"For identification purposes only: All statements are mine and mine alone and do not represent positions or opinions of the Central Brain Tumor Registry of the United States, the Bioelectromagnetics Society or the Brain Tumor Epidemiological Consortia."*

**Prof. Livio Giuliani, PhD** Spokesperson, International Commission for Electromagnetic Safety ([www.icems.eu](http://www.icems.eu)) Deputy Director, Italian National Institute for Worker Protection and Safety, East Venice and South Tyrol; Professor, School of Biochemistry of Camerino University, Italy The Venice Resolution, initiated by the International Commission for Electromagnetic Safety (ICEMS) on June 6, 2008, and now signed by nearly 50 peer reviewed scientists worldwide, states in part,

"We are compelled to confirm the existence of non-thermal effects of electromagnetic fields on living matter, which seem to occur at every level of investigation from molecular to epidemiological.

Recent epidemiological evidence is stronger than before. We recognize the growing public health problem known as electrohypersensitivity. We strongly advise limited use of cell phones, and other similar devices, by young children and teenagers, and we call upon governments to apply the Precautionary Principle as an interim measure while more biologically relevant exposure standards are developed."

**Paul J. Rosch, MD** Clinical Professor of Medicine and Psychiatry, New York Medical College; Honorary Vice President International Stress

Management Association; Diplomate, National Board of Medical Examiners; Full Member, Russian Academy of Medical Sciences; Fellow, The Royal Society of Medicine; Emeritus Member, The Bioelectromagnetics Society:

"Claims that cell phones pose no health hazards are supported solely by Specific Absorption Rate (SAR) limits safety standards written by the telecommunications industry decades ago based on studies they funded. These have made the erroneous assumption that the only harm that could come from cell phone radiofrequency emissions would be from a thermal or heating action, since such non thermal fields can have no biological effects. The late Dr. Ross Adey disproved this three decades ago by demonstrating that very similar radiofrequency fields with certain carrier and modulation frequencies that had insufficient energy to produce any heating could cause the release of calcium ions from cells. Since then, numerous research reports have confirmed that non thermal fields from cell phones, tower transmitters, power lines, and other man made sources can significantly affect various tissues and physiologic functions.

We are constantly being bathed in an increasing sea of radiation from exposure to the above, as well as electrical appliances, computers, Bluetooth devices, Wi-Fi installations and over 2,000 communications satellites in outer space that shower us with signals to GPS receivers. New WiMax transmitters on cell phone towers that have a range of up to two square miles compared to Wi-Fi's 300 feet will soon turn the core of North America into one huge electromagnetic hot spot. Children are more severely affected because their brains are developing and their skulls are thinner. A two minute call can alter brain function in a child for an hour, which is why other countries ban their sale or discourage their use under the age of 18. In contrast, this is the segment of the population now being targeted here in a \$2 billion U.S. advertising campaign that views "tweens" (children between 8 and 12 years old) as the next big cell phone market. Firefly and Barbie cell phones are also being promoted for 6 to 8-year-olds.

It is not generally appreciated that there is a cumulative effect and that talking on a cell phone for just an hour a day for ten years can add up to 10,000 watts of radiation. That's ten times more than from putting your head in a microwave oven. Pregnant women may also be at increased risk based on a study showing that children born to mothers who used a cell phone just two or three times a day during pregnancy showed a dramatic increase in hyperactivity and other behavioral and emotional problems. And for the 30% of children who had also used a cell phone by age 7, the incidence of behavioral problems was 80% higher!

Whether ontogeny (embryonic development) recapitulates phylogeny is debatable, but it is clear that lower forms of life are also much more sensitive. If you put the positive electrode of a 1.5 volt battery in the Pacific Ocean at San Francisco and the negative one off San Diego, sharks in the in between these cities can detect the few billionths of a volt electrical field. EMF fields have also been implicated in the recent massive but mysterious disappearance of honeybee colonies essential for pollinating over 90 commercial crops."

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