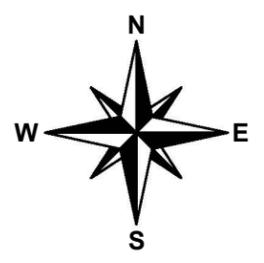


New Hampshire Optical Systems
 New Hampshire Optical Systems, Inc.
 99 Pine Hill Rd.
 Nashua, NH 03063
 (603-821-6467)

Proposed
 River Crossing
 Plaistow, NH



Project # TID-243 - Primary 18
 Drawing # AC-PLA-RIV-1

Date: 02/19/13
 Revision # 2

Proposed
 River Crossing
 (Little River)
 Plaistow, NH

Location:
 Main St., Plaistow, NH
 Nearest cross street- Hilldale Ave.

Sheet 1 of 2



LOCUS MAP
(Not to Scale)



Spanmaster® Release 3.1 Sag / Tension Computations
09/01/11 Waveguide

Waveguide
River and Rail Crossings

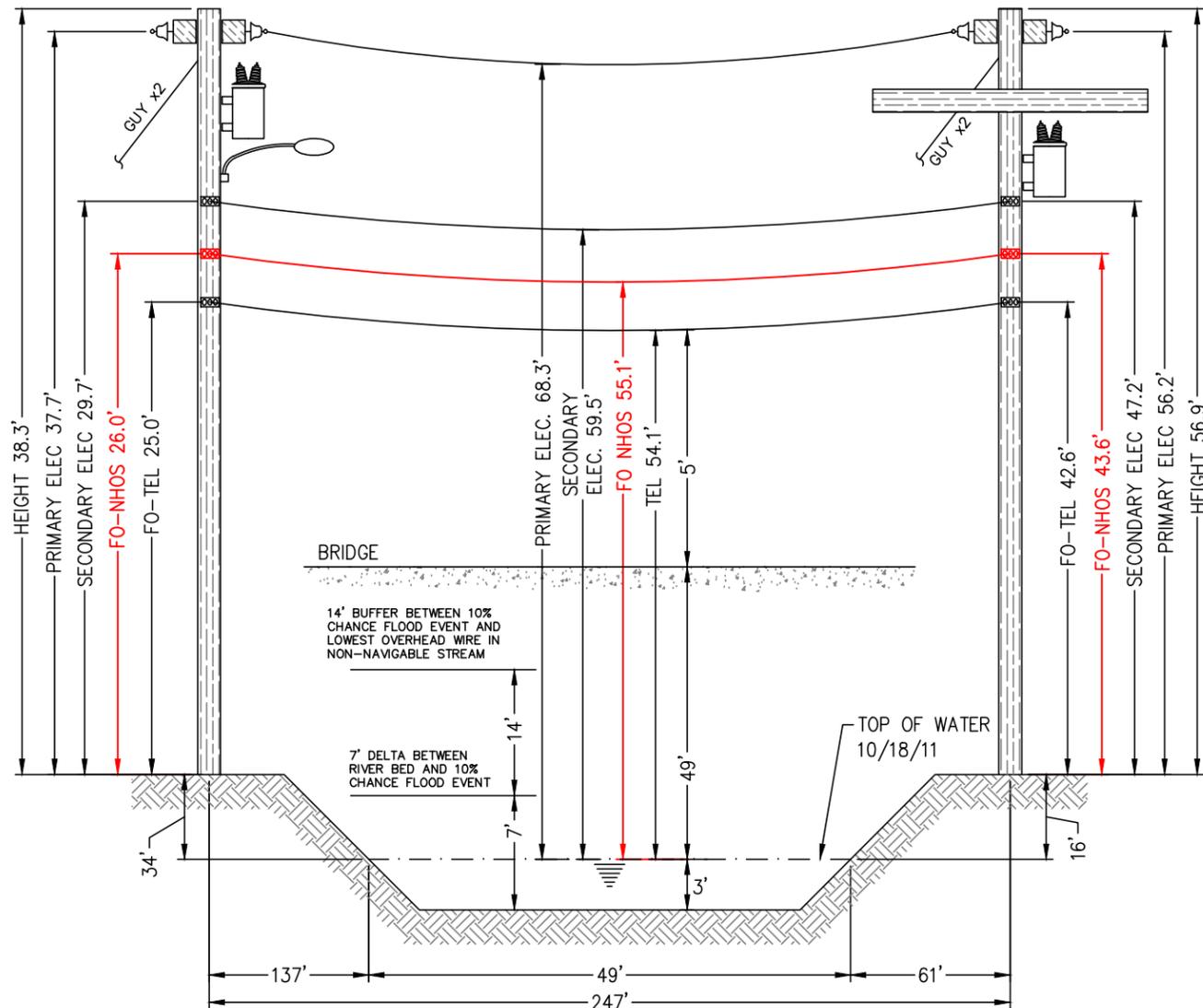
Selected Cables	X-SECT AREA (sq.in)	EFF MODULUS (psi)	NOMINAL DIAM (in)	EFF.EXP. COEFF. (1/F)	CABLE WEIGHT (lb/ft)	E*A LOAD BEARING CAPACITY (lbs)	MAX. RATED LOAD (lbs)
1/4"6.6mEHS	0.0352	2.60E+07	0.250	5.60E-06	0.1210	914940	6650
ORF-O-288-LN Bundle	0.5762	2.70E+05	0.858	1.13E-05	0.1960	155982	651
			1.108		0.3170		

NESC RESULTS

Loading Condition	Temp. (F)	Ice Load lb/ft	Ice Thick in	Wind Const. lb/ft	Horz Load lb/ft	Result Load +/- Const lb/ft	Sag ft	Tension lb	% Len Chg From Input Conditions	Sag @ 125.5 ft	Horz Sag Comp ft	Vert Sag Comp ft	Vector Angle Deg
Rule 251 - Heavy 232A1	0.0	1.000	.50	.3	4.0	1.793	5.70	2391	0.12	5.72	2.69	5.03	28.1
	120.0	0.000	.00	.0	0.0	0.317	2.94	822	0.01	2.94	0.00	2.94	0.0

Temp (F)	Midspan Sag (ft)	Tension (lb)	% Length Change	Clearance
-40.0	1.71	1,412	-0.01	N/A
-30.0	1.76	1,368	-0.01	N/A
-20.0	1.82	1,325	-0.01	N/A
-10.0	1.88	1,283	-0.01	N/A
.0	1.94	1,242	-0.01	N/A
10.0	2.01	1,201	-0.01	N/A
20.0	2.08	1,161	-0.01	N/A
30.0	2.15	1,122	-0.01	N/A
40.0	2.22	1,084	-0.01	N/A
50.0	2.30	1,048	0.00	N/A
60.0	2.39	1,012	0.00	N/A
70.0	2.47	977	0.00	N/A
80.0	2.56	944	0.00	N/A
90.0	2.65	911	0.00	N/A
100.0	2.74	881	0.01	N/A
110.0	2.84	851	0.01	N/A
120.0	2.94	822	0.01	N/A
130.0	3.04	795	0.01	N/A
140.0	3.14	769	0.02	N/A

Span Length = 247.00 ft
Span Sag = 2.47 ft (29.6 in)
Span Tension = 979 lb
Max Load = 6,650 lb
Usable load (60%) = 3,990 lb
Catenary Length = 247.066 ft
Stress Free Length @ Installed Temperature = 246.802 ft
Unloaded Strand Sag = 1.17 ft (14.0 in) 0.47 % Tension = 789 lb



E-103/21 - T-3/30
(Existing joint owned utility pole (UNITIL/Fairpoint) in existing Right-of-Way)

E-103/22 - T-3/31
(Existing joint owned utility pole (UNITIL/Fairpoint) in existing Right-of-Way)



E-103/21 - T-3/30

Construction Notes:

NHOS proposes to install a 1/4 inch metal supporting strand between the existing utility poles shown above that will traverse the river. The strand will be installed at the proposed height (see above). The supporting strand will be secured to each pole using double dead end attachments to prevent any sag in the wire and maintain proper clearances. NHOS will lash a one inch diameter fiber optic cable (PVC jacket) to the strand using a dual lash method to provide security of the fiber over the right of way. The fiber will be tagged with twenty four hour contact information at each pole clamp. NHOS will employ the proper safety personnel during the crossing installation. The proposed install will meet all proper clearances from other Utilities. (see above). Additional pole guys will be added per NESC Rule 264 and as directed by pole owners.



E-103/22 - T-3/31



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Proposed River Crossing Plaistow, NH

Notes:

- The heights of structures shown hereon are based on field measurements taken with a Nikon 362 total station during a site survey on 10/18/11.
- The horizontal distance between the nearest bridge edge and the existing overhead wires ranges from 15' to 16'.
- The smallest vertical distance from the top of existing bridge deck to the lowest existing overhead wires is 5'.
- The vertical distance between the top of water and bridge deck is approximately 49'.
- The waterway is classified as not suitable for sail boating and per NESC Table 232-1 a vertical clearance of 14' must be maintained between the lowest conductor and 10 year floodplain.
- Based on the FEMA Flood Profile for the Little River (Page 103P) and the Flood Insurance Rate Map for Rockingham County (Map Number 33015C0578E) dated May 17, 2005 the delta between the river bed and the 10 year flood elevation is approximately 7'. A 14' buffer (for non-navigable streams) was added to that. Based on the FEMA Flood Profile the stream bed elevation is 31.5' and the 10 year flood elevation is 38.5'.
- Vertical distances are representative of attachment heights after utility make ready moves are completed.
- The poles are mislabeled in the field. The poles shown hereon are located on electrical route 103, not route 130 as the labels on the the pole indicate.

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Proposed River Crossing (Little River) Plaistow, NH

Location:
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Nearest cross street- Hillsdale Ave.