

PoleForeman - Pole Loading Analysis Report

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POLE LOADING DATA

Pole: 45/4

Pole Loading

Horizontal: 77% (250B)

Vertical: 55% (250B)

NESC Edition: 2007

Loading District: Heavy

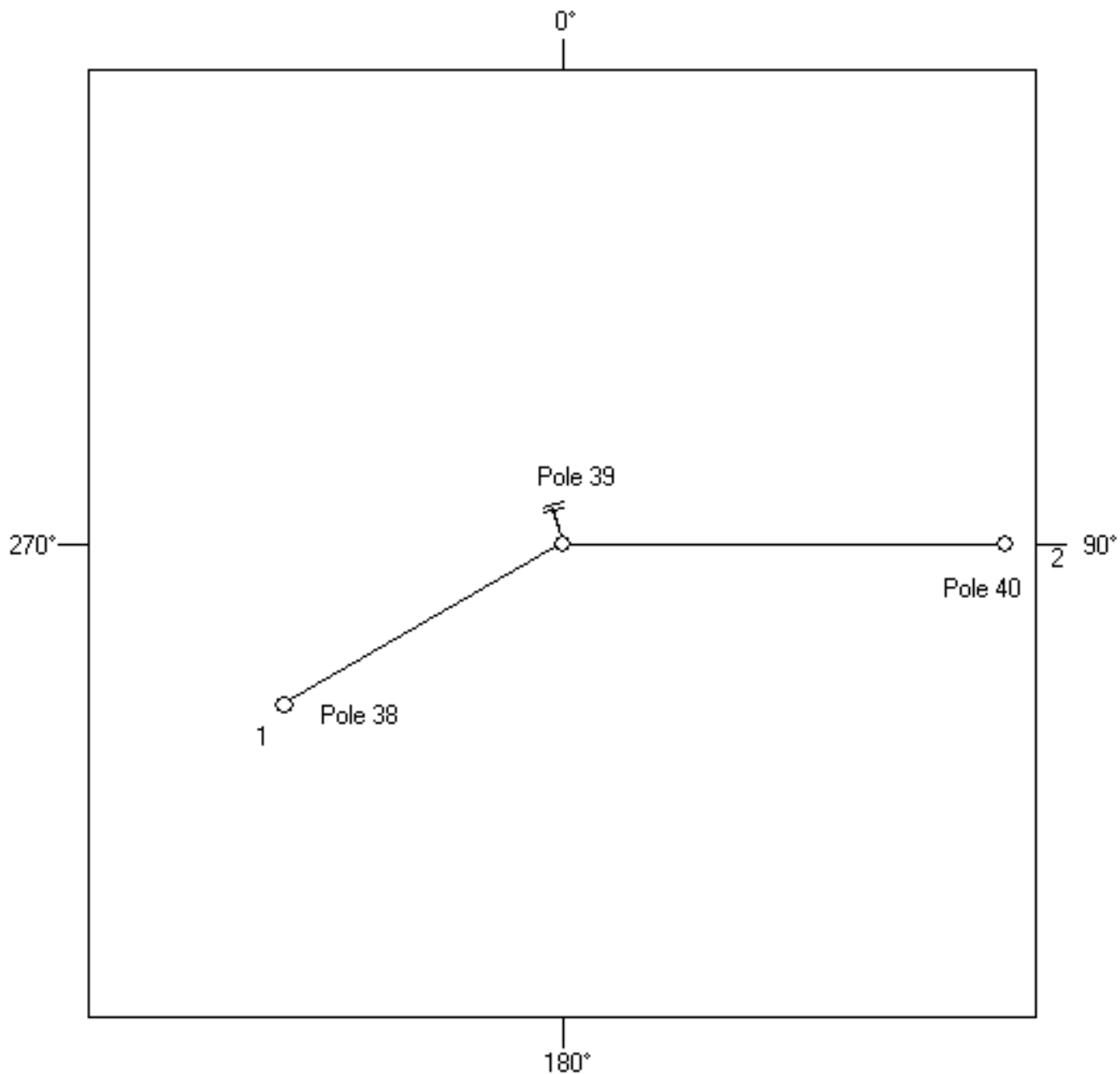
Construction: Grade B

Rule 250B Loading: Wind (psf): 4 Ice (in): 0.5

POLES

Pole #	Length (ft)	Depth (ft)	Elevation (ft)
0	45	6.5	0
1	50	7	0
2	45	6.5	0

POLE LINE TOPOLOGY



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GUY STRAND DATA

Anchor	Strand	Attach	Length	Direction	Tension	Strength	Loading
1	7/16" EHS	30"	15'	345°	16,398	18,720	88%
2	3/8" EHS	148"	13'	345°	8,843	13,860	64%
2	3/8" EHS	166"	13'	345°	8,092	13,860	58%

ANCHOR DATA

Anchor	Rod	Anchor	Soil	Tension	Rod Strength	Anchor Strength
1	1" Rod	10" Triple Heli	Class - 4	16,398	36,000	31,000
2	None	None	None	16,934	0	0

INSULATORS

Insulator	Attach	Loading	Angle
25KV Dead End	7"	40%	0°
25KV Dead End	7"	40%	0°
25KV Dead End	7"	40%	0°
25KV Dead End	7"	40%	0°
25KV Dead End	7"	40%	0°
25KV Dead End	7"	40%	0°

ARM / BRACKET DATA

Arm/Bracket	Attach	Vert Loading	Horz Loading
8" Double Xarm (5.5x.5.5)	7"	1%	1%
Spool Rack	96"		

SPANS

Span: 1 **Span Length (ft): 122** **Direction: 240°**

Circuit: 1

Primary	Ruling Span (ft)	Offset (in)	Attach A (in)	Attach B (in)	Tension
1/0 ACSR 6/1 STR	150	36	7	7	2000
1/0 ACSR 6/1 STR	150	0	7	7	2000
1/0 ACSR 6/1 STR	150	-36	7	7	2000
Neutral					
1/0 ACSR 6/1 STR	100	0	96	96	2000

Joint Use

Joint Use Cable	Ruling Span (ft)	Diameter (in)	Weight (lbs/ft)	Attach A (in)	Attach B (in)	Tension (lbs)	Description
User Defined	0	0.97	0.33	141	141	2000	
6.6M (1/4) + 0.75" CATV	150	1.04	0.27	153	153	1233	
10M (3/8) + 1.50" CATV	150	1.53	0.56	165	165	2600	

Span: 2 **Span Length (ft): 168** **Direction: 90°**

Circuit: 1

Primary	Ruling Span (ft)	Offset (in)	Attach A (in)	Attach B (in)	Tension
1/0 ACSR 6/1 STR	100	36	7	7	2000
1/0 ACSR 6/1 STR	100	0	7	7	2000
1/0 ACSR 6/1 STR	100	-36	7	7	2000
Neutral					
1/0 ACSR 6/1 STR	100	0	96	96	2000

Joint Use

Joint Use Cable	Ruling Span (ft)	Diameter (in)	Weight (lbs/ft)	Attach A (in)	Attach B (in)	Tension (lbs)	Description
User Defined	0	0.97	0.33	141	141	2000	
6.6M (1/4) + 0.75" CATV	150	1.04	0.27	153	153	1233	
10M (3/8) + 2.00" CATV	150	1.88	0.76	165	165	3003	

FILE NOTES

The existing 45' class 4 pole with bisecting anchor was modeled and is within design limits and is acceptable.

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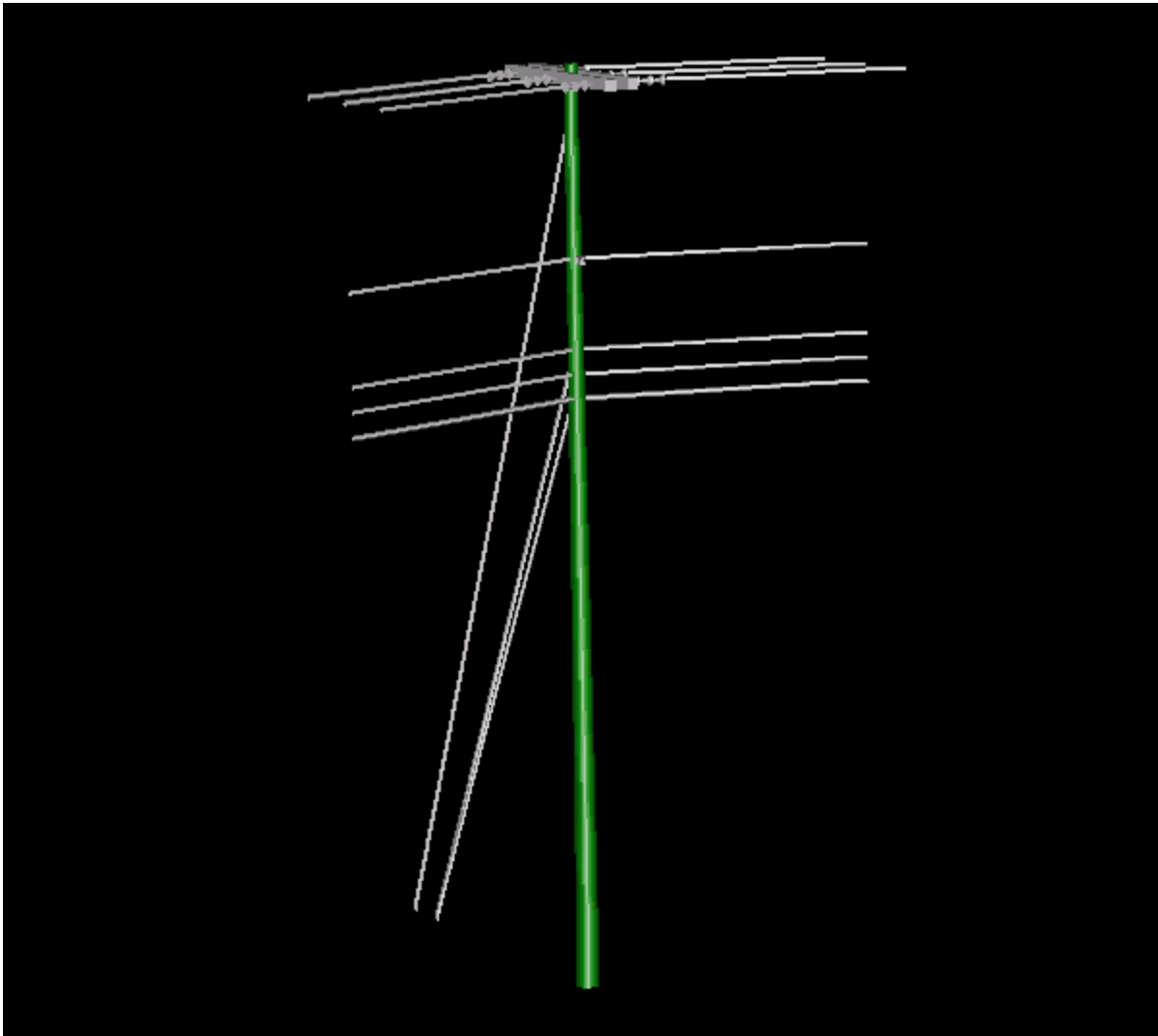
Bisecting anchor lead lengths modeled at 13' and 15'. An additional anchor with a 15' lead may need to be installed.

Two (2) 3/8" EHS guy strand modeled to anchor with 13' lead for communication through cables.

A single 3/8" EHS guy strands modeled at existing attachment height is acceptable. If lead length is less than 15' a second guy strand is required.

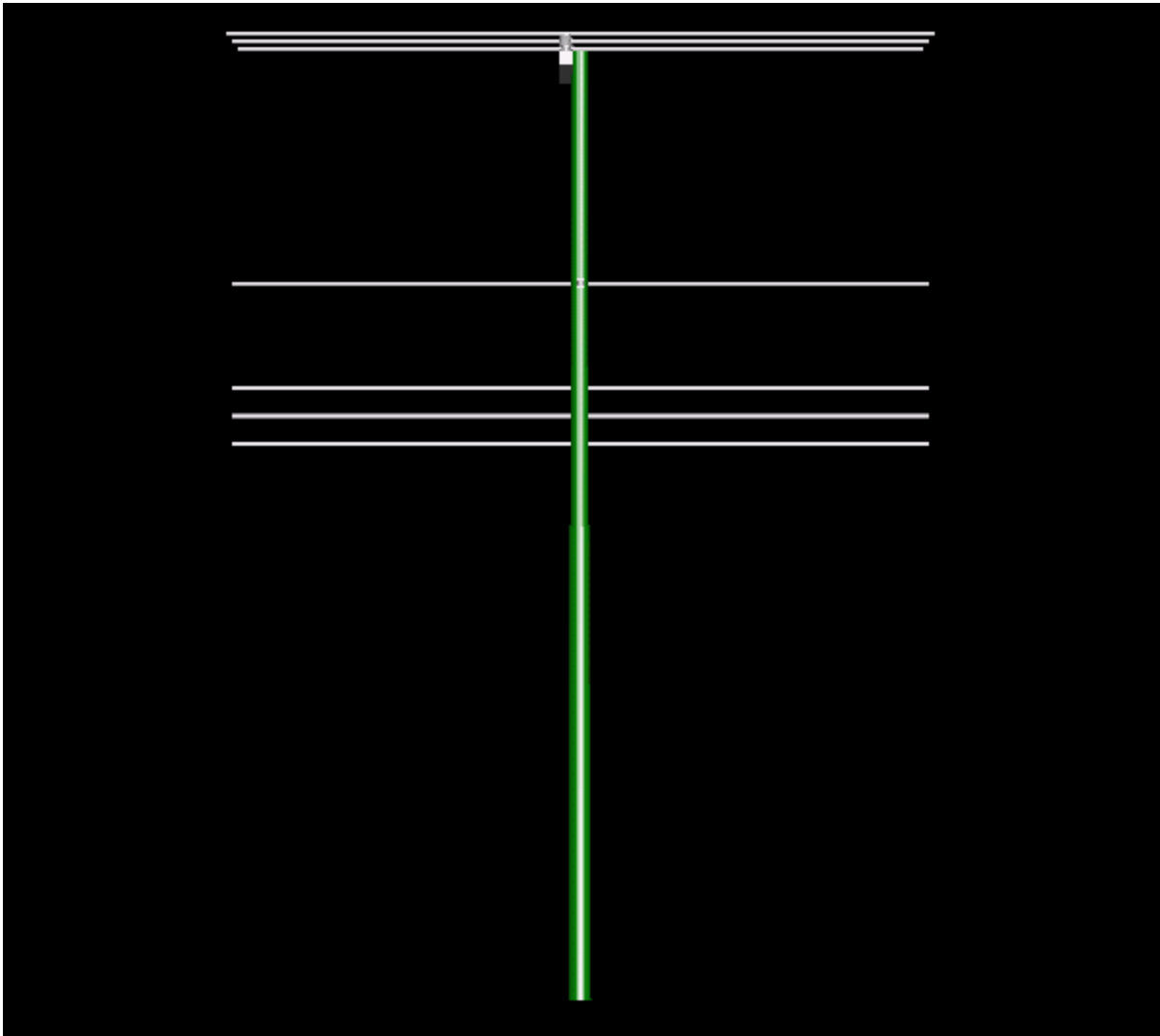
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POLE LOADING DATA

Pole: 40/4

Pole Loading

Horizontal: 83% (250B)

Vertical: 44% (250B)

NESC Edition: 2007

Loading District: Heavy

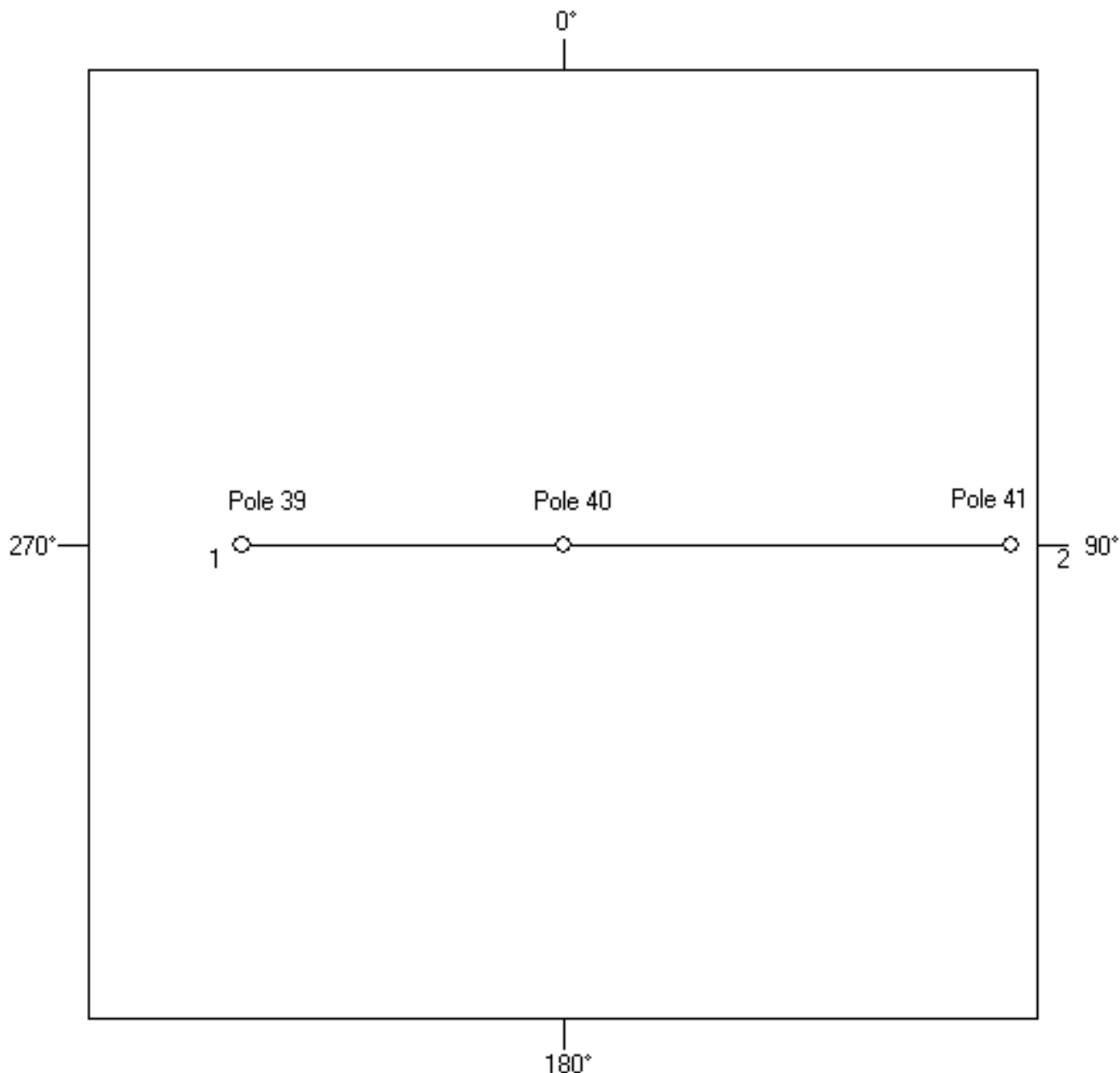
Construction: Grade B

Rule 250B Loading: Wind (psf): 4 Ice (in): 0.5

POLES

Pole #	Length (ft)	Depth (ft)	Elevation (ft)
0	40	6	0
1	40	6	0
2	40	6	0

POLE LINE TOPOLOGY



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INSULATORS

Insulator	Attach	Loading	Angle
25KV Xarm Pin	7"	34%	0°
25KV Xarm Pin	7"	34%	0°
25KV Xarm Pin	7"	34%	0°
Spool Tangent	100"	11%	0°

ARM / BRACKET DATA

Arm/Bracket	Attach	Vert Loading	Horz Loading
8' Single Xarm (5.5x5.5)	7"	6%	3%
Spool Rack	100"		

SPANS

Span: 1 **Span Length (ft): 122** **Direction: 270°**

Circuit: 1

Primary	Ruling Span (ft)	Offset (in)	Attach A (in)	Attach B (in)	Tension
1/0 ACSR 6/1 STR	150	36	-4	-4	2000
1/0 ACSR 6/1 STR	150	0	-4	-4	2000
1/0 ACSR 6/1 STR	150	-36	-4	-4	2000
Neutral					
1/0 ACSR 6/1 STR	100	0	100	100	2000

Joint Use

Joint Use Cable	Ruling Span (ft)	Diameter (in)	Weight (lbs/ft)	Attach A (in)	Attach B (in)	Tension (lbs)	Description
User Defined	0	0.97	0.33	145	145	2000	
6.6M (1/4) + 0.75" TELCO	150	0.97	0.39	157	157	1419	
10M (3/8) + 1.50" CATV	150	1.53	0.56	169	169	2600	

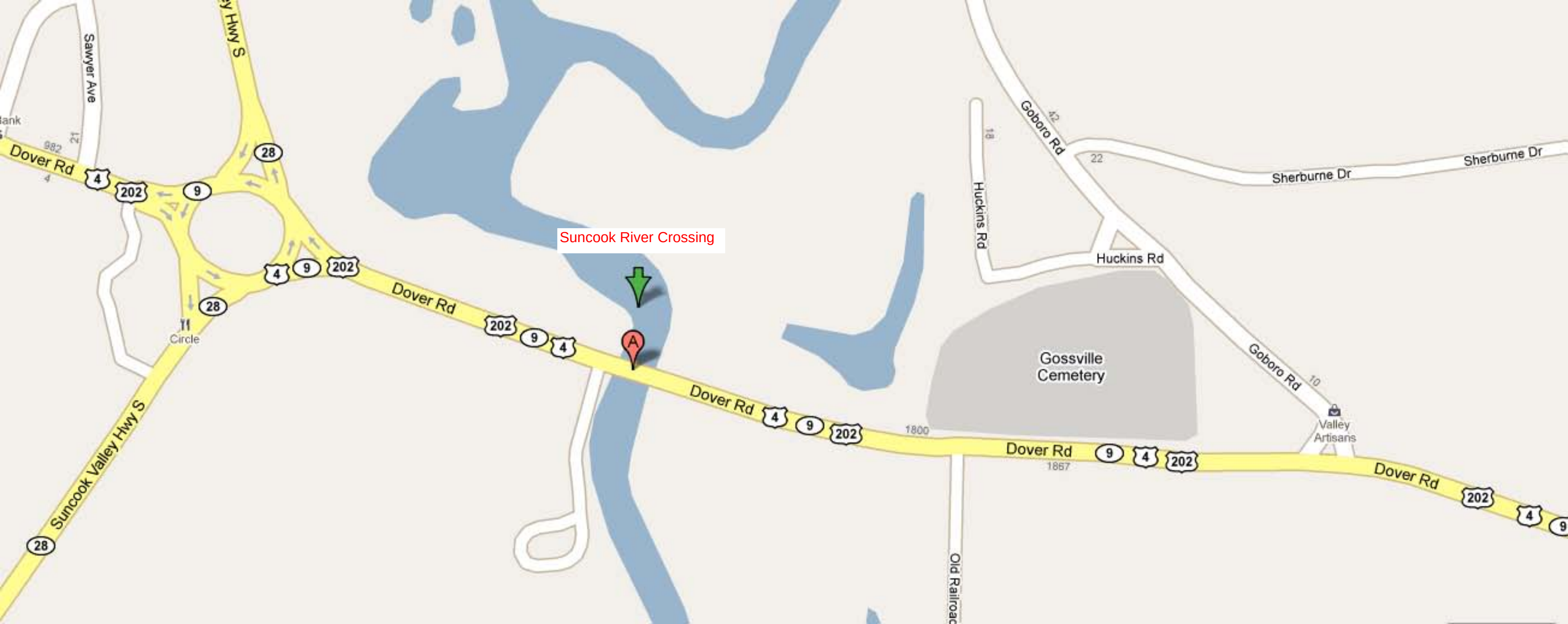
Span: 2 **Span Length (ft): 170** **Direction: 90°**

Circuit: 1

Primary	Ruling Span (ft)	Offset (in)	Attach A (in)	Attach B (in)	Tension
1/0 ACSR 6/1 STR	100	36	-4	-4	2000
1/0 ACSR 6/1 STR	100	0	-4	-4	2000
1/0 ACSR 6/1 STR	100	-36	-4	-4	2000
Neutral					
1/0 ACSR 6/1 STR	100	0	100	100	2000

Joint Use

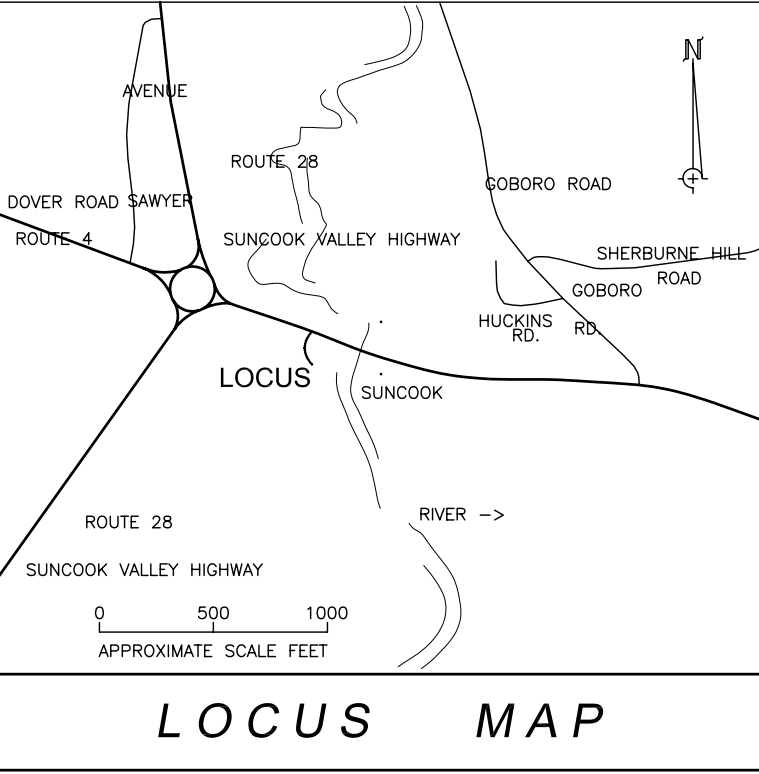
Joint Use Cable	Ruling Span (ft)	Diameter (in)	Weight (lbs/ft)	Attach A (in)	Attach B (in)	Tension (lbs)	Description
User Defined	0	0.97	0.33	145	145	2000	
6.6M (1/4) + 0.75" TELCO	150	0.97	0.39	157	157	1419	
10M (3/8) + 1.50" CATV	150	1.53	0.56	169	169	2600	



Suncook River Crossing

Gossville Cemetery

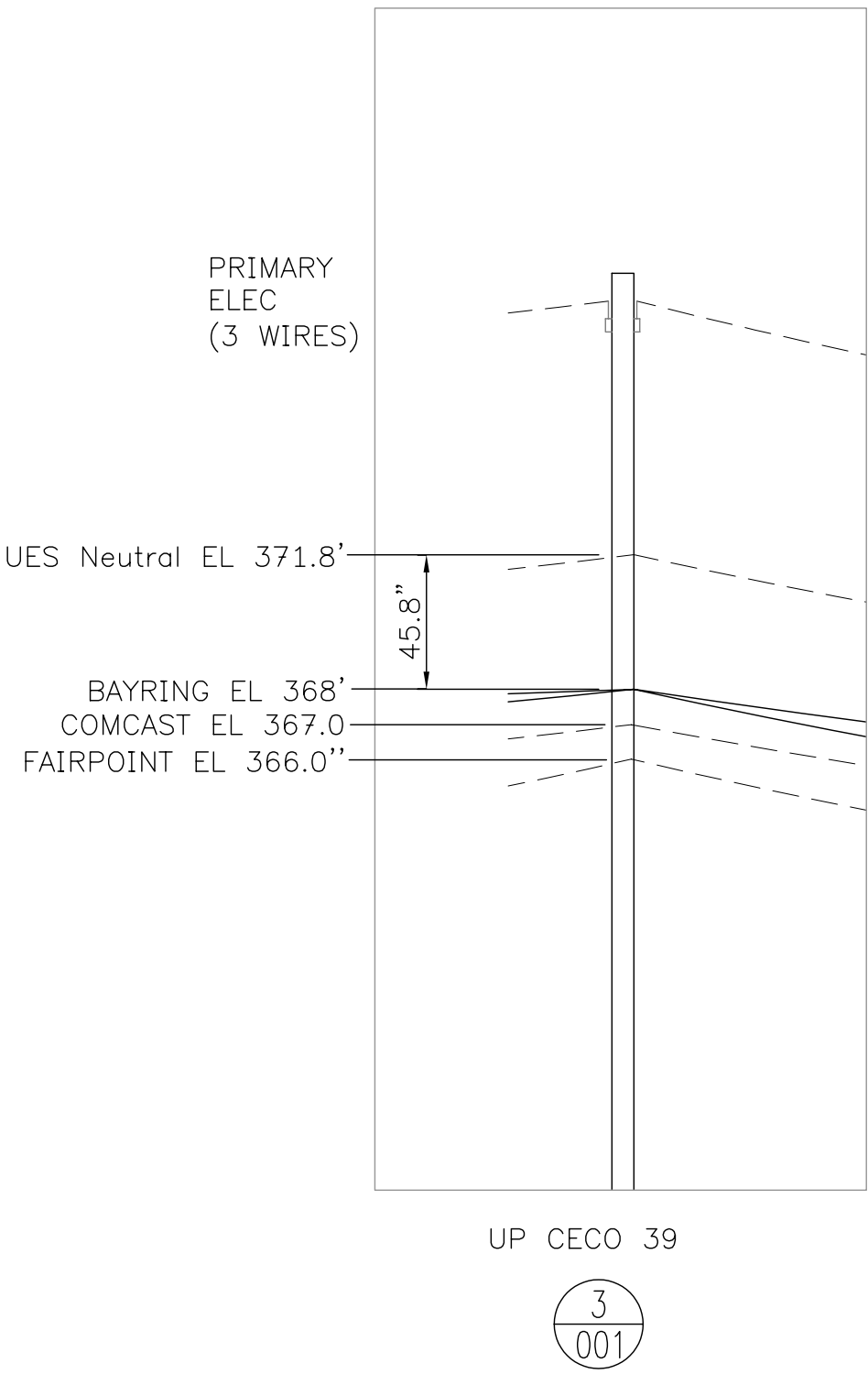
Valley Artisans



1. This plan was prepared from record data on file at the New Hampshire Department of Transportation, the Federal Emergency Management Agency, and a field instrument survey by this office.
2. The 10 Year Flood Elevation depicted upon this plan was taken from a report entitled:
FLOOD INSURANCE STUDY, Volume 2 of 2, MERRIMACK COUNTY, NEW HAMPSHIRE (ALL JURISDICTION), Effective Date: April 19, 2010, by the FEDERAL EMERGENCY MANAGEMENT AGENCY (Page 74P).
3. BENCHMARK: Taken from site plan for Bank of NH property. Established Using GPS. First Floor=345.81 (USGS DATUM)
4. CBDH – Denotes Concrete Bound with Drill Hole
5. RF – Denotes Reflector Cable.
6. UES to raise neutral 6" on poles 39 and 40 and re-tension to maintain NESG clearances..
7. Comcast to lower their cable 6" on poles 39 and 40.
8. BayRing to attach 12' above Comcast on poles 39 and 40.
9. UES sags for relocated neutral and primary conductors are estimated.
10. Sags for relocated Comcast and Fairpoint cables are estimated based upon original surveyed sags.
11. Additional Guy to be added to pole 39 at BayRing attachment height.



	Consulting Engineers Group Inc. ENGINEERS & CONSULTANTS ONE CHARLESWORTH RD. HOPEDALE, MASSACHUSETTS WWW.CEGCONSULTING.COM	DATE: JUNE 30, 2010	DEWSINAP ENGINEERING ASSOCIATES LLP 179 LINCOLN AVENUE SAUGUS, MA 01906 TEL. # (781) 233 - 0595
	Add Proposed Communication line profiles and data table 08/05/10 PF/10 Per client comments 08/10/10 TO/PF	Benchmark:	See Note # 3
		Checked By: P.A.D. Drawn By: S.F.D. Designed By: Field By: P.A.D. & S.F.D. Sheet:	



BAYRING 32'F W/No ICE
SAG 29.9" (2.49') ELEV. 364.0'

BAYRING 0'F W/1/2" ICE
SAG 44.8" (3.73') ELEV. 362.7

14' ABOVE
10 YEAR FLOOD
ELEVATION=349.5

10 YEAR FLOOD
ELEVATION=335.5

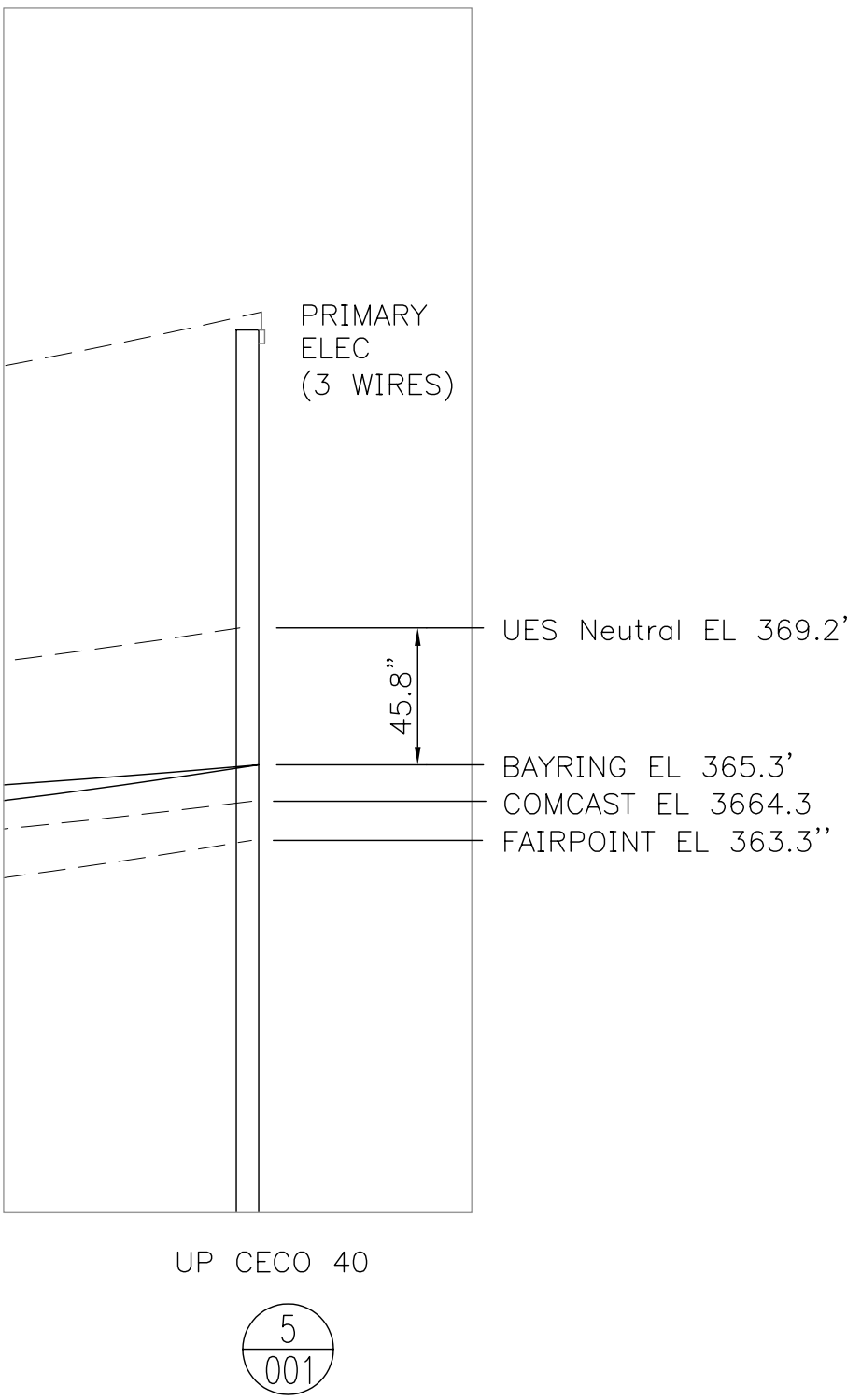
WATER SURFACE
ELEVATION=324.9
JUNE 14, 2010

MIDSPAN CLEARANCE

4/001

PROFILE DETAILS

Scale: 1" = 10' HORIZ
1" = 5' VERT



BAYRING CABLE SAG CHART													
ALUMINUM COMPANY OF AMERICA SAG AND TENSION DATA													
Rte. 4 and Suncook River Crossing													
Conductor	Nominal Diameter		5/16		7 Strand Steel EHS								
Area=	.0595 Sq. In		Dia=	.312 In		Wt=	.205 Lb/F		RTS=	11200 Lb			
Data from Chart No. 1-1293													
English Units													
Span= 168.0 Feet NESC Heavy Load Zone													
Creep is NOT a Factor													
Design Points				Final				Initial					
Temp	Ice	Wind	K	Weight	Sag	Tension	H/W	Sag	Tension	H/W			
F	In	Psf	Lb/F	Lb/F	Ft	Ft	Ft	Ft	Lb	Ft			
-20.	.00	.00	.00	.205				1.38	525.	2559.			
0.	.00	.00	.00	.205				1.61	449.	2190.			
28.	.00	.00	.00	.205				1.95	371.	1810.			
30.	.00	.00	.00	.205				1.97	367.	1788.			
60.	.00	.00	.00	.205				2.33	311.	1515.			
75.	.00	.00	.00	.205				2.50	290.	1412.			
90.	.00	.00	.00	.205				2.66	272.	1324.			
120.	.00	.00	.00	.205				2.98	243.	1185.			
167.	.00	.00	.00	.205				3.43	211.	1029.			
212.	.00	.00	.00	.205				3.82	190.	923.			
Above: Initial Data Prior to Cable Installation													
Below: 1 Non-Supporting Cable(s) Added,Dia=.750 In ,Wt=.124Lb/F*.000Lb/F													
0.	.50	4.00	.30	2.208	3.89	2007.	907.	3.89	2007.	907.			
32.	.50	.00	.00	1.612	3.73	1528.	946.	3.70	1539.	953.			
-20.	.00	.00	.00	.329	1.94	599.	1820.	1.76	662.	2010.			
0.	.00	.00	.00	.329	2.16	537.	1632.	1.96	592.	1800.			
28.	.00	.00	.00	.329	2.47	471.	1429.	2.25	516.	1566.			
30.	.00	.00	.00	.329	2.49	466.	1417.	2.27	511.	1552.			
60.	.00	.00	.00	.329	2.81	414.	1258.*	2.58	450.	1367.			
75.	.00	.00	.00	.329	2.96	393.	1194.	2.73	425.	1291.			
90.	.00	.00	.00	.329	3.10	375.	1138.	2.88	404.	1226.			
120.	.00	.00	.00	.329	3.38	344.	1044.	3.16	368.	1116.			
167.	.00	.00	.00	.329	3.79	307.	932.	3.58	325.	986.			
212.	.00	.00	.00	.329	4.15	281.	851.	3.95	295.	894.			
* Design Condition													

BayRing Sag 0' w/1/2" ICE

BayRing Sag 32' w/No ICE

EXISTING CONDITIONS	
PLAN of LAND in EPSOM, NH	
Prepared For: BayRing Communications 359 Corporate Drive Portsmouth, NH 03801-6808	
SCALE: AS SHOWN	Prepared By:
	Benchmark:
	Checked By:
	Drawn By:
	Designed By:
	Field By:
	Sheet: