

#### Typical Segment – Scovill Rock S/S to Chestnut Junction

(2.55 Miles long 335' ROW)

	Site Condition		ROW Edge S/E		ROW Edge N/W		Cost / Mile (Million)		Typical Height			
			(kV/m)	(mG)	(kV/m)	Direct	Increase					
Exis	sting Lines (For Reference)	32.6	1.39	33.8	1.39	-	-	See Photo	80'			
Pro RO	posed Lines on Existing W <b>(For Reference)</b>	18.6	1.44	30.1	1.40	2.1	-	ES,A	80'			
	OPTIONS											
1	345 kV Delta (optimized height & phasing)	6.2	0.75	28.8	1.39	2.1	0.0	ES, B	85'			
2	345 kV Vertical	12.3	0.23	30.0	1.52	2.3	0.2	ES, C	105'			
3	Vertical 345 kV Split Phase	7.5	0.05	29.6	1.45	3.1	1.0	ES, D	105'			
4	Vertical 345 kV Split Phase 30 feet additional height	8.0	0.24	29.6	1.45	3.7	1.6	ES, D	135'			



**Existing ROW Cross Section** 





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Structure Type A Str

Structure Type B

Structure Type C Structure Type D

	Comparison Table (↑ = Increase ↓ - Decrease - Neutral )											
Option	Option Magnetic Fields S/E Magnetic Fields N/W Height Cost Construction & Maintenance											
	Existing	Proposed	Existing	Proposed	Existing	Proposed	Proposed	Proposed				
1	+	•	4	•	1	1	-	¥				
2	•	•	•	•	1	1	1	¥				
3	+	•	•	•	1	1	1	<b>^</b>				
4	+	4	4	4	1	1	1	<b>^</b>				

<sup>1</sup> If existing structures "ES" are to remain in the transmission ROW it is represented by "ES" in the Structure Type in ROW column.







#### Typical Segment – Oxbow Jct. to Beseck S/S in the Towns of Haddam, Durham, Middlefield & Wallingford & the City of Middletown (7.01 Miles 125' POW)

	(7.01 Miles 125 ROW)											
	Site Condition		ROW Edge S/E		ROW Edge N/W		Cost / Mile (Million)		Typical Height			
		(mG)	(kV/m)	(mG)	(kV/m)	Direct	Increase					
Exis	sting Lines (For Reference)	9.2	0.67	13.9	0.91	-	-	See Photo	57'			
Pro RO	posed Lines on Existing W <b>(For Reference)</b>	30.4	0.31	17.1	0.21	2.8	-	A	105'			
	-		-	OPTIONS		-	-					
1	Proposed Lines additional 30 feet in height	17.6	0.57	12.2	0.20	3.2	0.4	A	135'			
2	345 kV Split-Phase centered on ROW 115 kV UG in street	12.4	0.68	12.4	0.68	6.7	3.9	В	105'			
3	345 kV Split-Phase centered on ROW 115 kV UG in street Additional 30 feet in height	6.2	0.65	6.2	0.65	7.5	4.7	В	135'			
4	345 kV Split-Phase centered on ROW 115 kV UG in street Additional 45 feet in height	4.4	0.54	4.4	0.54	8.2	5.4	В	150'			
5	Combination 345/115 kV Split Phase	11.0	0.75	6.6	0.13	5.0	2.2	С	150'			
6 New ROW (115kV lines remain EMF Values are for 115kV only)		8.3	0.67	12.4	0.91	TBD	TBD	TBD	TBD			



**Existing ROW Cross Section** 







Structure Type A

Structure Type B

Structure Type C

	Comparison Table (↑ = Increase ↓ - Decrease - Neutral )											
Option	Magnetic	; Fields S/E	Magnetic Fields N/W		Height		Cost	<b>Construction &amp; Maintenance</b>				
	Existing	Proposed	Existing	Proposed	Existing	Proposed	Proposed	Proposed				
1	▲	•	↓	↓	1	1	◆	-				
2	1	•	•	•	1	-	1	<b>^</b>				
3	+	•	•	•	1	1	1	<b>↑</b>				
4	+	•	+	•	1	1	1	<b>↑</b>				
5	1	•	•	•	1	1	1	<u>^</u>				
6	↓	↓	↓	↓	TBD	TBD	TBD	TBD				



- May 28, 2004 – Revised July 20, 2004 Page 2 of 13





## Typical Segment – Black Pond Junction to East Meriden S/S in the City of Meriden (1.40 Miles 275' ROW)

Site Condition		ROW Edge S/E		ROW Edge N/W		Cost / Mile		Structure Type in ROW <sup>2</sup>	Typical Height
		(mG)	(kV/m)	(mG)	(kV/m)	Direct	Increase		
Exis	ting Lines (For Reference)	12.2	0.28	4.7	0.20	-	-	See Photo	130'
Proposed Lines on Existing ROW (For Reference)		5.9	0.15	12.9	0.29	2.4	-	ES, A , A	130'
				OPTIONS					
1	Repositioned West Structures	2.6	0.07	14.6	0.24	2.4	0.0	ES, A, A	130'
2	As Proposed with strain insulators	6.1	0.15	11.4	0.15	2.5	0.1	ES, B, B	140'





Structure Type B

Existing ROW Cross Section Looking North

	Comparison Table (↑ = Increase ↓ - Decrease - Neutral )											
Option Magnetic Fields S/E Magnetic Fields N/W Height Cost Construction & Maintenar												
	Existing	Proposed	Existing	Proposed	Existing	Proposed	Proposed	Proposed				
1	4	<b>+</b>	1	1	-	-	-	-				
2	2 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1											

<sup>2</sup> If existing structures "ES" are to remain in the transmission ROW it is represented by "ES" in the Structure Type in ROW column.







### Typical Segment – East Meriden S/S to Beseck S/S in the Town of Wallingford

(1.41 Miles 320' ROW)

Site Condition		ROW Edge S/E		ROW Edge N/W		Cost / Mile (Million)		Structure Type in ROW <sup>3</sup>	Typical Height
		(mG)	(kV/m)	(mG)	(kV/m)	Direct	Increase		
Exis	sting Lines (For Reference)	6.1	0.15	11.9	0.56	-	-	See Photo	130'
Pro RO	posed Lines on Existing W <b>(For Reference)</b>	5.3	0.09	11.5	0.21	2.8	-	ES, A	130'
OPTIONS									
As Proposed with strain insulators		5.0	0.09	10.1	0.38	2.8	0.0	ES, B, B	130'







Structure Type A

Structure Type B

Existing ROW Cross Section Looking North

	Comparison Table (↑ = Increase ↓ - Decrease - Neutral )											
Option	Magnetic	Fields S/E	Magnetic Fields N/W		Height		Cost	<b>Construction &amp; Maintenance</b>				
	Existing Proposed		Existing	Proposed	Existing	Proposed	Proposed	Proposed				
1	$1  \Psi  \Psi  \Psi  \Psi  \uparrow  \uparrow  \uparrow  \uparrow$											

<sup>&</sup>lt;sup>3</sup> If existing structures "ES" are to remain in the transmission ROW it is represented by "ES" in the Structure Type in ROW column.







#### Typical Segment - Beseck S/S to East Wallingford Junction in the Town of Wallingford (5.89 Miles 275' ROW)

	Site Condition		ROW Edge S/E		ROW Edge N/W		Cost / Mile (Million)		Typical Height			
		(mG)	(kV/m)	(mG)	(kV/m)	Direct	Increase					
Exis	sting Lines (For Reference)	5.2	0.13	24.7	1.21	-	-	See Photo	90'			
Pro RO	posed Lines on Existing W <b>(For Reference)</b>	15.9	0.78	27.8	1.30	2.0	-	ES, A	90'			
		-	-	OPTIONS	-	-	-					
1	As Proposed with optimized phasing	6.6	0.69	20.0	1.17	2.0	0.0	ES, A	90'			
2	345 kV Delta (optimized height & phasing)	4.2	0.48	21.2	1.16	2.0	0.0	ES, B	108'			
3	345 kV Vertical – Inboard	5.5	0.30	23.8	1.05	2.2	0.2	ES, C	130'			
4	Vertical 345 kV Split Phase	3.9	0.09	23.6	1.35	3.0	1.0	ES, D	130'			
5	Horizontal split phase	4.0	0.47	23.8	1.33	3.9	1.9	ES, E	126'			
6 Reconstructed ROW (Vertical Construction)		4.3	0.10	1.9	0.11	4.8	2.8	C, C	130'			
							- -	Ŧ				



**Existing ROW Cross Section** 





Structure Type B

Structure Type C

Structure Type D

Structure Type E

	Comparison Table (↑ = Increase  ↓ - Decrease  - Neutral )											
Option Magnetic Fields S/E			Magnetic	Fields N/W	He	eight	Cost	<b>Construction &amp; Maintenance</b>				
	Existing	Proposed	Existing	Proposed	Existing	Proposed	Proposed	Proposed				
1	1	4	4	¥	-	-	-	-				
2	4	4	4	¥	1	1	-	↓				
3	1	4	4	↓	1	1	1	¥				
4	4	4	4	¥	1	1	1	<b>^</b>				
5	4	4	4	¥	1	1	1	<b>^</b>				
6	4	•	4	¥	1	1	1	<b>^</b>				

<sup>4</sup> If existing structures "ES" are to remain in the transmission ROW it is represented by "ES" in the Structure Type in ROW column.







# Typical Segment – East Wallingford Junction to North Haven Junction in the Town of Wallingford (1.40 Miles 200' ROW)

Site Condition		ROW Edge S/E		ROW Edge N/W		Cost / Mile (Million)		Structure Type in ROW	Typical Height
			(kV/m)	(mG)	(kV/m)	Direct	Increase		
Exis	ting Lines (For Reference)	0.2	0.03	1.2	0.53	-	-	See Photo	57'
Proj RO	bosed Lines on Existing N (For Reference)	5.4	0.25	14.3	0.20	3.3	-	A	105'
				OPTIONS					
1	Composite with strain insulator	5.1	0.19	12.5	0.34	3.5	0.2	В	115'
2	As Proposed additional 30 feet in height	4.5	0.09	9.4	0.49	3.8	0.5	A	135'
3	Composite strain insulator structures additional 35 feet in height	4.1	0.04	7.7	0.51	4.1	0.8	В	150'







Existing ROW Cross Section Looking East

	Comparison Table (↑ = Increase ↓ - Decrease - Neutral )											
Option	Option Magnetic Fields S/E Magnetic Fields N/W Height Cost Construction & Maintenance											
	Existing	Proposed	Existing	Proposed	Existing	Proposed	Proposed	Proposed				
1	1	•	1	+	1	1	1	<b>^</b>				
2	1	↓	1	→	1	1	1	-				
3	1	↓	1	¥	1	1	▲	<b>^</b>				







Site Condition		ROW Edge S/E		ROW Edge N/W		Cost / Mile (Million)		Structure Type in ROW	Typical Height
		(mG)	(kV/m)	(mG)	(kV/m)	Direct	Increase		
Exis	sting Lines (For Reference)	0.3	0.03	2.4	0.52	-	-	See Photo	57'
Pro RO	posed Lines on Existing W <b>(For Reference)</b>	5.1	0.25	12.4	0.20	3.3	-	A	105'
				OPTIONS					
Cross section does not run 1 through residential or sensitive areas		-	-	-	-	-	-	-	-





Structure Type A

Existing ROW Cross Section Looking West

	Comparison Table (↑ = Increase ↓ - Decrease - Neutral )												
Option	Magnetic	Fields S/E	Magnetic Fields N/W		Height		Cost	<b>Construction &amp; Maintenance</b>					
	Existing Proposed		Existing	Proposed	Existing	Proposed	Proposed	Proposed					
1													







### Typical Segment - Wallingford Junction to the Cheshire Town Line (2.42 Miles 200' ROW)

	Site Condition	ROW Edge S/E		ROW Edge N/W		Cost / Mile (Million)		Structure Type in ROW⁵	Typical Height
		(mG)	(kV/m)	(mG)	(kV/m)	Direct	Increase		
Exis	sting Lines (For Reference)	0.4	0.01	4.4	0.09	-	-	See Photo	90'
Proposed Lines on Existing ROW (For Reference)		11.9	0.75	10.2	0.10	1.8	-	ES, A	108'
1	As Proposed Lines additional 20 feet in height	9.6	0.66	8.9	0.12	2.3	0.5	ES, A	128'
2	As Proposed Lines additional 50 feet in height	6.8	0.51	7.2	0.14	2.5	0.7	ES, A	158'
3	345 kV Vertical	7.7	0.28	4.4	0.16	1.9	0.1	ES, B	130'
4 345 kV Split Phase		3.6	0.12	4.4	0.03	2.9	1.1	ES, C	130'







Structure Type A

Structure Type B

Structure Type C

**Existing ROW Cross Section** 

Comparison Table (↑ = Increase ↓ - Decrease - Neutral )											
Option Magnetic Fields S/E Magnetic Fields N/W Height Cost Construction & Maintenan											
	Existing	Proposed	Existing	Proposed	Existing	Proposed	Proposed	Proposed			
1	1	÷	1	÷	1	◆	◆	-			
2	1	→	1	→	1	1	1	←			
3	1	→	-	→	←	1	1	-			
4	1	¥	-	¥	1	◆	1	▲			

<sup>&</sup>lt;sup>5</sup> If existing structures "ES" are to remain in the transmission ROW it is represented by "ES" in the Structure Type in ROW column.







# Typical Segment – Cheshire Town line to Cook Hill Junction in the Town of Cheshire (.44 Miles 200' ROW)

	Site Condition		ROW Edge S/E		ROW Edge N/W		Cost / Mile (Million)		Typical Height
			(kV/m)	(mG)	(kV/m)	Direct	Increase		
Exis	ting Lines (For Reference)	0.4	0.01	4.4	0.09	-	-	See Photo	90'
Proposed Lines on Existing ROW (one 115kV is UG) (For Reference)		6.2	0.21	17.9	0.15	8.4	-	A	130'
				OPTIONS					
1	345kV with added 20' in height a 115kV Line UG	5.5	0.12	13.4	0.22	9.0	0.6	А	150'
2 345kV Split-Phase Offset in ROW, Both 115kV Lines UG		1.1	0.10	5.8	0.58	12.5	4.1	В	130'



**Existing ROW Cross Section** 

	Comparison Table (↑ = Increase ↓ - Decrease - Neutral )											
Option	Option Magnetic Fields S/E Magnetic Fields N/W Height Cost Construction & Maintenan											
	Existing	Proposed	Existing	Proposed	Existing	Proposed	Proposed	Proposed				
1	1	÷	1	↓	1	1	▲	-				
2	2 <b>↑ ↓ ↑ ↓ ↑ · ↑</b>											

Structure Type A

Structure Type B







#### Typical Segment – Cook Hill Junction (Cheshire) to the Hamden Town Line

(.42 Miles 165' ROW)

	Site Condition		ROW Edge S/E		ROW Edge N/W		Cost / Mile (Million)		Typical Height
		(mG)	(kV/m)	(mG)	(kV/m)	Direct	Increase		
Exis	sting Lines (For Reference)	6.2	0.70	2.8	0.62	-	-	See Photo	57',57',80
Pro RO	posed Lines on Existing W – 115kV UG (For Reference)	5.0	0.16	16.0	0.31	8.4	-	А	105'
				OPTIONS					
1	As Proposed Lines additional 20 feet in height – 115kV UG	4.3	0.11	11.2	0.55	9.0	0.6	А	125'
2	As Proposed Lines additional 50 feet in height – 115kV UG	3.3	0.10	6.7	0.52	9.5	1.1	А	155'
3	345 kV Split Phase (1) 115kV circuit OH	1.8	0.12	6.0	0.57	9.9	1.5	В, С	80',105'
4	345 kV split-phase additional 30 feet in height (1) 115kV circuit OH)	0.8	0.17	3.0	0.62	10.8	2.4	B, C	110', 135'
5 345 kV Split-Phase centered on ROW with 115 kV UG in street		3.6	0.15	3.6	0.15	12.5	4.1	С	105'









Existing ROW Cross Section Looking South

Comparison Table (↑ = Increase ↓ - Decrease - Neutral )													
Option	Option Magnetic Fields S/E Magnetic Fields N/W Height Cost Construction & Maintenance												
	Existing	Proposed	Existing	Proposed	Existing	Proposed	Proposed	Proposed					
1	+	•	1	•	1	1	1	-					
2	+	↓	1	↓	1	1	1	<b>^</b>					
3	+	↓	1	↓	1	-	1	<b>^</b>					
4	+	↓	1	↓	1	1	1	<b>^</b>					
5	↓	↓	<b>^</b>	↓	<b>^</b>	<b>^</b>	<b>^</b>	<b>^</b>					







## Typical Segment – Cheshire / Hamden Town Line to Glen Lake Junction (Woodbridge) (7.13 Miles 165' ROW)

	Site Condition	ROW Edge S/E		ROW Edge N/W		Cost / Mile (Million)		Structure Type in ROW	Typical Height
		(mG)	(kV/m)	(mG)	(kV/m)	Direct	Increase		
Exis	sting Lines (For Reference)	4.7	0.70	2.6	0.62	-	-	See Photo	57',57',80
Pro RO	posed Lines on Existing W <b>(For Reference)</b>	8.7	0.45	15.7	1.48	3.8	-	A,B	85',80'
				OPTIONS					
1	As Proposed Lines additional 20 feet in height	7.4	0.43	11.7	1.15	4.6	0.8	A,B	105',100'
2	As Proposed Lines additional 50 feet in height	5.4	0.26	7.5	0.73	5.4	1.6	A,B	135', 130'
3	345 kV Vertical Compact Construction	9.5	0.31	16.6	0.09	4.2	0.4	C,B	105', 80'
4	345 kV Split Phase	2.5	0.39	5.8	0.56	5.0	1.2	D,B	105', 80'
5	345 kV Split Phase additional 30 feet in height	0.9	0.34	2.9	0.62	5.5	1.7	D,B	135', 110'
6 345 kV Split-Phase centered on ROW with 115 kV UG in street (115 kV XLPE)		3.6	0.15	3.6	0.15	10.2	6.4	D	105'



Existing ROW Cross Section Looking South



Structure Type A Structure Type B Structure Type C Structure Type D

Comparison Table (↑ = Increase ↓ - Decrease → Neutral )												
Option	Option Magnetic Fields S/E Magnetic Fields N/W Height Cost Construction & Maintenance											
	Existing	Proposed	Existing	Proposed	Existing	Proposed	Proposed	Proposed				
1	1	•	1	•	1	1	1	-				
2	1	V	1	V	1	1	1	1				
3	1	1	1	1	1	1	1	-				
4	4	↓	1	↓	1	1	1	<u>↑</u>				
5	4	4	1	4	1	1	1	1				
6	↓	•	1	•	1	1	ተተ	<u>^</u>				



- May 28, 2004 – Page 11 of 13





### Typical Segment - Glen Lake Junction (Woodbridge) to Pease Road Junction (Woodbridge) Segment "B" (2.91 Miles 165' ROW)

	Site Condition		ROW Edge S/E		ROW Edge N/W		/ Mile lion)	Structure Type in ROW	Typical Height
		(mG)	(kV/m)	(mG)	(kV/m)	Direct	Increase		
Exis	sting Lines (For Reference)	6.2	0.70	2.8	0.62	-	-	See Photo	57',57',80
Pro RO	posed Lines on Existing W <b>(For Reference)</b>	8.7	0.45	15.7	1.48	3.8	-	A,B	85', 80'
				OPTIONS					
1	As Proposed Lines additional 20 feet in height	7.4	0.43	11.7	1.15	4.6	0.8	A,B	105',100'
2	As Proposed Lines additional 50 feet in height	5.4	0.26	7.5	0.73	5.4	1.6	A,B	135', 130'
3	345 kV Vertical Compact Construction	9.6	0.31	16.6	0.09	4.2	0.4	C,B	105', 80'
4	345 kV Split Phase	2.7	0.39	5.8	0.56	5.0	1.2	D,B	105', 80'
5	345 kV Split Phase additional 30 feet in height	0.9	0.34	2.9	0.62	5.5	1.7	D,B	135', 110'
6 345 kV Split-Phase centered on ROW with 115 kV UG in street		3.6	0.15	3.6	0.15	10.2	6.4	D	105'



**Existing ROW Cross Section Looking South** 





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Structure Type B Structure Type C Structure Type D

	Comparison Table (↑ = Increase ↓ - Decrease - Neutral )												
Option	Magnetic	Fields S/E	Magnetic Fields N/W		Height		Cost	<b>Construction &amp; Maintenance</b>					
	Existing	Proposed	Existing	Proposed	Existing	Proposed	Proposed	Proposed					
1	1	↓	1	↓	1	1	1	-					
2	•	•	1	•	1	1	1	<u>↑</u>					
3	1	1	1	1	1	1	1	-					
4	+	↓	1	↓	1	1	1	<b>^</b>					
5	•	↓	1	↓	1	1	1	<u>↑</u>					
6	÷	+	◆	+	<b></b>	<b>^</b>	**	**					



- May 28, 2004 – Page 12 of 13





#### Typical Segment – Pease Road Junction (Woodbridge) to East Devon S/S (Milford) Segment "C"

(12.0 Miles 165' ROW)

Site Condition		ROW Edge S/E		ROW Edge N/W		Cost / Mile (Million)		Structure Type in ROW	Typical Height	
		(mG)	(kV/m)	(mG)	(kV/m)	Direct	Increase			
Existing Lines (For Reference)		3.9	0.70	1.6	0.62	-	-	See Photo	57',57',80	
Proposed Lines on Existing ROW (For Reference)		11.2	0.45	16.0	1.48	3.8	-	A,B	85', 80'	
OPTIONS										
1	As Proposed Lines additional 20 feet in height	8.7	0.43	11.9	1.15	4.6	0.8	A,B	105', 100'	
2	As Proposed Lines additional 50 feet in height	6.1	0.26	7.7	0.73	5.4	1.6	A,B	135', 130'	
3	345 kV Vertical Compact Construction	5.4	0.31	16.7	0.09	4.2	0.4	C,B	105', 80'	
4	345 kV Split Phase	1.7	0.29	5.9	0.61	5.0	1.2	D,B	105', 80'	
5	345 kV Split Phase additional 30 feet in height	0.6	0.44	2.9	0.62	5.5	1.7	D,B	135', 110'	
6	345 kV Split-Phase centered on ROW with 115 kV UG in street	3.6	0.15	3.6	0.15	10.2	6.4	D	105'	



**Existing ROW Cross Section Looking South** 





Structure Type A Structure Type B Structure Type C Structure Type D

Lasting No 17 cross section Looning South												
Comparison Table (↑ = Increase ↓ - Decrease - Neutral )												
Option	Magnetic Fields S/E		Magnetic Fields N/W		Height		Cost	<b>Construction &amp; Maintenance</b>				
	Existing	Proposed	Existing	Proposed	Existing	Proposed	Proposed	Proposed				
1	1	↓	1	↓	1	◆	◆	-				
2	1	↓	1	↓	1	1	1	◆				
3	1	↓	1	1	1	1	1	-				
4	+	4	1	4	1	1	1	<b>↑</b>				
5	•	4	1	4	1	1	1	<b>^</b>				
6	↓	↓	1	↓	1	1	ተተ	ተተ				



