TOWN OF MANSFIELD
DEPARTMENT OF PLANNING AND DEVELOPMENT

LINDA M. PAINTER, AICP, DIRECTOR

Memo to: Planning and Zoning Commission

From: Linda M. Painter, AICP, Director of Planning and Development

Copies to: Town Council
Conservation Commission
Sustainability Committee
Open Space Committee
Agriculture Committee

Date: **December 14, 2011**

Subject: **Connecticut Light and Power Interstate Reliability Project**
Comparison of 2008 and 2011 Proposals

Project Overview

The Interstate Reliability Project is one of four projects proposed in Connecticut, Massachusetts and Rhode Island to address electric transmission problems in Southern New England. The Connecticut project extends from the Card Street Substation in Lebanon to the Town of Thompson on the Connecticut/Rhode Island border and involves the development of a new 345kV overhead electric transmission line and switching facilities. This project was originally proposed in 2008 and was put on hold for a few years. Copies of letters from Greg Padick, the Planning and Zoning Commission and the Town Council regarding the 2008 proposal are attached for your reference (Attachment A).

Need for Project

According to the Municipal Consultation Filing prepared by Connecticut Light and Power, the project is needed to address reliability of the electric supply system in Connecticut, Massachusetts and Rhode Island. Southern New England accounts for 80% of the total New England customer load. Customer demands in the following areas routinely exceed local generation capacity, thereby requiring transmission from power generators in Northern New England and Canada: Boson area, central Massachusetts, Springfield, Rhode Island, Hartford and southwestern Connecticut. The Interstate Reliability Project will better integrate the three electric supply systems in Connecticut, Massachusetts and Rhode Island. The project will increase the ability of Connecticut to import power to address peak load demands.

Proposed Project Design and Variations

The preferred route would use the existing CL&P right-of-way through Mansfield. This ROW is generally 300 feet wide, and no additional ROW would be required in Mansfield except in the area of Mansfield Hollow owned by the Army Corps of Engineers. The tables in the following section identify changes in the preferred route design from 2008 to 2011, as well as design options for the Mansfield Hollow and Hawthorne Lane areas.

In addition to the preferred alternative that is CL&P's official proposal to the siting council, they have also evaluated alternative routes and designs through the Mansfield area:

- **Mansfield Underground Variation**. This alternative would place the new transmission line underground from a point southwest of the Woodmont Drive cul-de-sac to a point west of Conantville Brook (approximately 3,600 feet). The underground variation requires two 4-acre sites, one at each terminus, where the line would transition between overhead and underground facilities. No additional vegetation

clearing would be required within the existing right-of-way. See Attachment B for map of underground location.

- **Mount Hope Underground Variation.** This alternative would place the new transmission line underground from a point north of the Sawmill Brook Lane cul-de-sac to a point northwest of the Hawthorne Lane cul-de-sac (approximately 5,650 feet). The underground variation requires two 4-acre sites, one at each terminus, where the line would transition between overhead and underground facilities. No additional vegetation clearing would be required within the existing right-of-way. See Attachment C for maps of underground locations.
- **Willimantic South Overhead Variation.** This alternative would completely bypass Mansfield and involves the creation of a new overhead transmission line route through Windham/Willimantic. As no right-of-way currently exists, this alternative would require the acquisition of the entire ROW as well as construction of the new transmission line. The general location of this alternative is shown on Attachment D.
- **Willimantic South Underground Variation.** This alternative would also completely bypass Mansfield and involves the creation of a new underground transmission line through Willimantic/Windham. As no right-of-way currently exists, this alternative would require the acquisition of the entire ROW as well as construction of the new transmission line. The general location of this Alternative is shown on Attachment D.

Other Alternatives

The 2008 Municipal Consultation Filing identified 4 other interstate routes that were under initial consideration. These options are shown on Attachment E. As part of the 2008 analysis, Options B, D, and E were dismissed for various reasons. Option C-1, which would have located the line in the I-84 corridor was dismissed based on the cost and complexity of construction due to development located adjacent to the interstate. Option C-2, which would have located the line along the Mass Pike, was studied in more detail but ultimately dismissed even though it was comparable in cost to the preferred alternative (Option A).

The 2011 Filing re-evaluated the alternatives, and as in 2008, dismissed options B, D, E and C-1. Option C-2 was again analyzed, but ultimately dismissed based on the following:

- Cost ($700 million as compared to $532 million for preferred alternative)
- Greater environmental impacts (more wetland/watercourse crossings, more forested areas, more areas with rare, threatened or endangered species, and more residences within 500 feet). However, Option C-2 had a much lower impact in terms of additional ROW and land needed for substations and switching stations.
- Electric performance metrics

In 2008, the Council recommended that CL&P focus efforts on non-transmission alternatives. In December 2011, CL&P submitted a report from ICF International that assessed a variety of non-transmission alternatives, including generation, active demand and passive demand resources. The conclusion from this report is as follows:

"The Interstate Reliability Project is needed to eliminate constraints on the transfer of power across Southern New England, from west to east and east to west when the system is under stress, and thus, to maintain customer service and comply with applicable reliability standards and criteria. No feasible and practical NTA (non-transmission alternative) that would meet these needs was found in an intense and wide ranging search."

Mansfield Design Options

The following table compares the 2008 and 2011 preferred route proposals for different segments of the route through Mansfield. The preferred proposal would retain all of the existing transmission line structures with the new line being constructed adjacent to the existing line.

Location	Version	Additional ROW Required	Additional Clearing Needed	Structure type	Structure Height
Mansfield/Coventry Town Line to ±2,800 feet east of Highland Road	2008	0 feet	90 feet	H Frame	85-90 feet
(±10,250 feet/1.94 miles)	2011	0 feet	70 feet	Two-Sided Monopole*	110 feet
Map and Cross Section – Attachment F					
±2,800 feet east of Highland Road to Mansfield Hollow Reservoir	2008	0 feet	90 feet	H Frame	85-90 feet
(±17,650 feet/3.34 miles)	2011	0 feet	90 feet	H Frame	85 feet
Map and Cross Section – Attachment G					
Mansfield Hollow Reservoir (East of Hawthorne Lane to East Branch of Nipmuck Trail	2008	150 feet	90 feet	Two-Sided Monopole	130 feet
(±4,650 feet/0.88 miles)	2011	55 feet	80 feet	Two-Sided Monopole*	125 feet
Map and Cross Section – Attachment H					
East Branch of Nipmuck Trail to Mansfield/Chaplin Town Line	2008	0 feet	90 feet	H Frame	85-90 feet
(2,500 feet/0.47 miles)	2011	0 feet	90 feet	H Frame	85 feet
Map and Cross Section – Attachment I					

*This pole type is recommended as an Electrical Magnetic Field Best Management Practice (EMF-BMP)

The following table identifies potential design options for the preferred route for the Mansfield Hollow area between Bassetts Bridge Road and the east Branch of the Nipmuck Trail. The Friends of Mansfield Hollow have recommended Design Option #2.

Mansfield Hollow (Bassetts Bridge Road to East Branch of Nipmuck Trail)	Additional ROW Required	Additional Clearing Needed	Structure type	Structure Height	Replace Existing Structure
Proposed Design Option *Map and Cross Section – Attachment H*	55 feet		Two-Sided Monopole (same as existing)	115 ft. (existing structure) 125 ft. (new structure)	No
Design Option #1 *Map and Cross Section – Attachment J*	25 feet (north side)	50 feet (north side only)	One-Sided Monopole	115 feet (existing structure) 130 feet (new structure)	No
Design Option #2 *Map and Cross Section – Attachment K*	0 feet	25 feet (north and south sides of ROW)	One-Sided Monopole (both structures)	130 feet (both structures)	Yes

Attachment L depicts a variation in route for the Hawthorne Lane subdivision that would shift the CL&P right-of-way and transmission lines to the south, further away from the homes on the north side of the Hawthorne Lane cul-de-sac. This variation requires an amendment to an existing conservation easement to remove a portion of land that would be needed for the alternative route. One of the property owners has offered to place a conservation easement over a portion of the wooded area in his rear yard in exchange for removing a portion of the property west of the cul-de-sac from the easement. While this variation is not part of the official CL&P proposal at this time, they are working with the property owners of the Hawthorne Lane subdivision and are open to this alternative if the Town amends the conservation easement as requested by the property owners. This request is under consideration by the Planning and Zoning Commission and Conservation Commission. If recommended for approval, an amended agreement will be developed and sent to the Town Council for final approval.

Right-of-Way Management

To address concerns regarding impact of the transmission line construction on vegetation, agricultural fields, etc., CL&P has prepared a series of information flyers that address the use of herbicides, restrictions on tree plantings within rights-of-way, restoration of disturbed or compacted soils, soil preservation and erosion controls, and scheduling of construction activities with respect to growing and harvesting seasons. Informational brochures describing these measures are included as Attachment M for your reference.

ATTACHMENT A

58 TO: MANSFIELD TOWN COUNCIL

FROM: MANSFIELD CONSERVATION COMMISSION

SUBJECT: NEEWS/CL&P MUNICIPAL CONSULTATION FILING

CC: GREG PADICK

DATE: OCTOBER 16, 2008, REVISED OCTOBER23, 2008

The Mansfield Conservation Commission has reviewed the NEEWS/CL&P Municipal Consultation Filing Concerning the Connecticut Portion of the Interstate Reliability Project, Volumes 1-5, dated August, 2008. We recommend that the Town of Mansfield support either Option C-1 or C-2, as opposed to the Option A, which would pass through the Town of Mansfield. If appropriate, we suggest that the Town of Mansfield apply for intervener status on this CL&P application. Our reasons are as follows:

1. The project appears to hold little benefit for Mansfield or NE Connecticut, much of Mansfield's power originates from the Millstone Point plants to the south of Mansfield. A second line might increase the reliability of the service in northeast (NE) CT; however, the additional capacity the proposed new lines will provide is mostly destined for areas west of Mansfield, including Fairfield County.

2. The CL&P presentations for NE CT show in great and extensive detail the route chosen by the utilities in 2006. As the title of the document suggests, the "Connecticut Portion" is heavily emphasized. It is only when you get to the 25th document in Volume 4 (Supplemental Documents by Other Agencies), SD.25, "Solution Report for the Interstate Reliability Project," that Option A, passing through Mansfield, had significant competition. One, apparently paralleling the Mass. Pike before heading in the southerly direction (Option C-2) is equivalent, or better, in many respects. One has to sort through approximately 18 inches of paper to discover this.

3. The two alternate routes, C-1 and C-2, would avoid Mansfield and the resulting damage to our residential and public recreation areas, forests, and farmlands. The initial costs for these C-routes are comparable to Option A, through Mansfield. In the long term, they might be less expensive for CL&P: their proximity to interstate highways might provide for easier, and less damaging access to the lines for maintenance after the lines are in place. The report does describe CT and MA DOT policies that discourage the placement of lines along interstate highways; however, no mention is made of any serious efforts the utilities might have made toward the accommodation of the utilities needs with the DOTs. The CC suspects that it is simply easier for them to do their construction through the largely unprotected "Quiet Corner" of Connecticut.

4. Besides the apparent targeting of Option A, the analogous criticism may be made of the overall presentation: the five NE CT options are considered without describing the full integration of this project with neighboring projects. There are broad brush presentations of NY- New England needs, but no analysis of how the efficiencies and costs of these other projects might affect the costs and efficiencies of options presented in the report. Specifically, the benefits and costs of the proposed Springfield reliability project and how it might benefit from the C-2 Option are not detailed. It would appear that the C-2 option, tentatively rejected by the report, would bring additional power toward central Massachusetts before routing it towards Connecticut's Fairfield County. This might significantly improve the reliability and lower the combined costs of both the C-2 Option and the pending Springfield project.

The Mansfield Conservation Commission would like make the following comments on the report. this is followed by a listing of comments and concerns presented during the "Opportunity for Public Comment" at a recent CC meeting:

A. The estimated initial costs of Options A, C-1 and C-2, respectively, are $400M, $400M, and $450M (Fig. 2-1 in the solutions Report). These costs don't appear to reflect future maintenance costs, which may be higher in remote sections of NE Connecticut. Nor do the costs reflect the savings and benefits that might be realized in conjunction with efforts not described in detail in this filing (e.g., the coming improvements for the Springfield area).

B. Page 2-3 in the Solutions Report states, "Ultimately, a comparative analysis of Option A and Option C-2 showed that, although both potential solutions had merit, Option A performed better, cost less, and had fewer environmental and social impacts." Again, we feel this may reflect an attitude that the "Quiet Corner" will be less of a problem for CL&P to deal with!

C. Certain "Statutory Facilities" are of special regulatory concern. These include daycare facilities (Mount Hope Montessori School), residential areas (Highland Road?), and public playgrounds. CL&P claims that the CT ROW has no public playgrounds adjacent to it. It is not clear whether the Mansfield Hollow Park and picnic area should not have been considered a statutory facility under their guidelines; however, at their Mansfield presentation CL&P's Derrick Bradstreet stated clearly that ball fields would fall into the "statutory facility" category. The CC feels that the cleared recreation areas and the ball field in the Mansfield Hollow Dam Recreation area were overlooked by the report.

D. In the past, CL&P has utilized toxic chemicals to reduce the growth of trees and brush and the protection of poles from rot and insect damage. There are a number of areas where this should not be permitted, e.g., near aquifers, on farmland, and public recreation areas. We note that the Mansfield Hollow area bisected by the existing line is a part of a major aquifer system and sits in the middle of a public water supply watershed. Not even swimming is permitted in the water impounded behind the dam.

E. In the event the Army Core of Engineers refuses the increased ROW requested by CL&P, CL&P will have to use the more expensive Willimantic bypass route. This would avoid the Mansfield Hollow area. If after all considerations are taken into account, and Option A significantly exceeds Option C-2 in Cost, CL&P might even be convinced to go with Option C-2 and avoid NE CT.

E. Page V-2, under Avoidance or Minimization of Impacts to Environmental Resources, states "In accordance with federal, state, and municipal environmental protection policies, the avoidance or minimization of new or expanded corridors through sensitive environmental resource areas such as parks, wildlife areas, and wetlands is desired." The Mansfield Conservation Commission feels strongly that not enough weight was given to this guideline with regard to the pristine nature of NE Connecticut, otherwise they would not be considering a route requiring an expanded ROW through Mansfield Hollow Park and the numerous wildlife areas in NE Connecticut. Instead, the report makes vague claims about the comparative acreage that would be affected in a comparison of Options A and C-2. Just as not all wetlands are of equivalent importance, the same may be said of open space (including forests) and farmland. Northeastern Connecticut is a unique area, remaining surprisingly unspoiled in the Washington, D.C. – Boston corridor. This should be taken into account, not taken advantage of.

F. Portions of the report's "Options Analysis" seem slanted to justify the 2006 choice of Option A. One example of this may be found in Table 2-4 in the Solutions Report. This table provides a comparison of

60 the various options. Under the category of CT import N-1-1 (MW) Option A is ranked 1st (2,783 MW) when Option C is nearly equivalent (2,727 MW) approximately a 2% difference. Further down the table when Option A ranks 3rd, approximately 4% lower than Option C, the difference is remarked upon as "not significant." In another category Option C is nearly 20% better than A, but this is not remarked upon. These points, by themselves, do not seem significant; however, they give weight to our conclusion that this document was written more to confirm the choice made by the utilities in 2006 than to provide a balanced and unbiased comparison of the options.

IN CONCLUSION, THE MANSFIELD CONSERVATION COMMISSION RECOMMENDS THAT THE TOWN OF MANSFIELD TAKE A STAND AGAINST OPTION A AND REQUEST THAT THE NEEWS GROUP MAKE A SIMILAR, IN DEPTH STUDY OF OPTION C-2 BEFORE CONCLUDING THAT THEIR PROPOSED ROUTE THROUGH THE FORESTS, FARMS, AND PARKS OF NE CONNECTICUT IS THE BEST OPTION. WE FURTHER RECOMMEND THAT THE OFFICES OF DENISE MERRILL BE ENLISTED IN THIS EFFORT.

At the September, 2008 Conservation Commission meeting a number of concerns were presented during our "Opportunity for Public Comment," should Option A prove to be the best option and the current ROW become more fully utilized. The Conservation Commission recommends the Town Council address these concerns. They include:

1. At the Chaplin CL&P informational session, one of the CL&P representatives apparently stated that an important purpose of the proposed line through NE CT was to provide Fairfield Count with additional power.

2. The effect of the project (tree cutting, additional poles, etc.) on Mansfield's residential areas, for example, in the Highland Road area.

3. Will lights be required on poles in the vicinity of the Windham Airport? How will these poles and additional tree cutting affect the Mansfield Hollow Park area?

4. In the past, ATVs have utilized the ROWs to the detriment of stability of some soils and the neighbor's peace-of-mind. Barriers to ATV's must be placed where necessary.

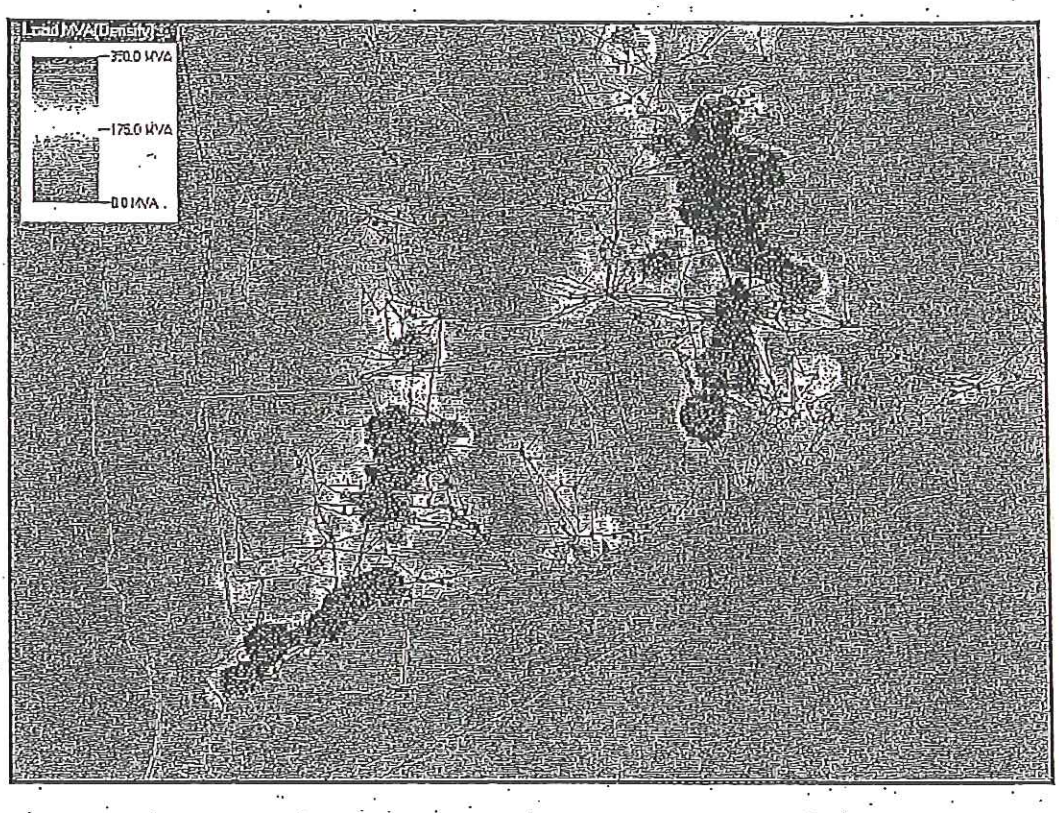
5. Reports of earlier construction by CL&P indicate that the spreading of subsoils on the surface sometimes resulted in dead areas – they should be required to dispose of subsoils properly.

6. Agricultural lands should be restored and there should be compensation for any lost crops.

7. It was pointed out that the 1956 easement to CL&P includes the right of access through adjoining properties. Access roads through such properties should be minimized and the areas should be restored after the construction is completed.

Connecticut, and Connecticut as a whole are primary areas of concern in this study with respect to the ability of the existing transmission and generation systems to reliably serve projected load requirements in these areas.

Figure 1-1: Southern New England Load Concentrations[5]



Southern New England accounts for approximately 80% of the New England load. The 345 kV bulk transmission network is the key infrastructure that integrates the region's supply resources with load centers. The major southern New England generation resources, as well as the supply provided via ties from northern New England, Hydro-Québec, and New York, primarily rely on the 345 kV transmission system for delivery of power to the area's load centers. This network provides significant bulk power supply to Massachusetts, Rhode Island, and Connecticut and is integral to the supply of the Vermont load in northwestern New England. The SNE area has experienced significant load growth, numerous resource changes, and changes in inter-area transfers.

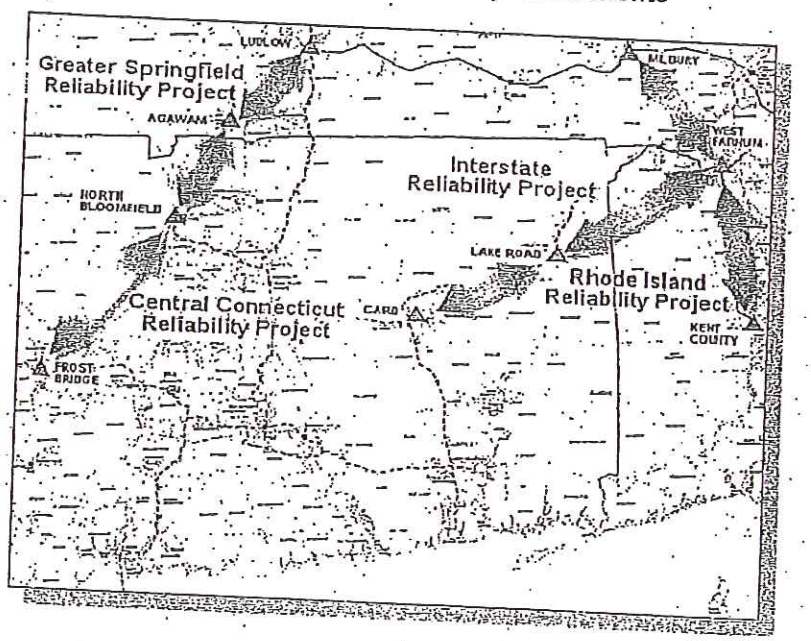
The east–west transmission interface facilities divide New England roughly in half. Vermont, southwestern New Hampshire, western Massachusetts, and Connecticut are located to the west of this interface; while Maine, eastern New Hampshire, eastern Massachusetts, and Rhode Island are to the east. The primary east–west transmission links

[5] Source: *Needs Analysis* Figure 1-1.

Rhode Island were not simply local issues, but also affected interstate transfer capabilities. In addition, the Working Group identified constraints in transferring power generated in – or imported into – eastern Connecticut across central Connecticut to the concentrated load in SWCT. A comprehensive plan to address all of these interrelated problems was then developed, including the identification of the four components of the NEEWS Plan described above, along with other system improvements to address local reliability issues.

Figure ES-4 provides a conceptual illustration of the four elements of NEEWS.

Figure ES-4: NEEWS Project Elements



How will the proposed Project improvements affect electric transmission service in Connecticut?

The proposed Project will improve the reliability of Connecticut's electric service by reducing constraints on the existing transmission system over which power is imported into Connecticut from Rhode Island and southeast Massachusetts. This improvement will both increase the reliability of electric supply to Connecticut customers, and provide them with better access to lower-cost, low-emission, and renewable remote power sources. Similarly, the NEEWS projects as a whole will enhance these benefits, as the other NEEWS projects combine with the Project to greatly improve the capacity of the Connecticut transmission system to import power and to move it across the state. The flow of electric power over electric transmission systems is not limited by state borders. Thus, improvements to interstate electric transmission systems cannot be fairly evaluated according to the benefit they provide to a single state at

Figure 2-1: Summary Comparison: Top Interstate Reliability Options[8]

Top Interstate Options	Network Performances	Human Environment Considerations	Natural Environment Considerations	Delivery Timeframe	Planning Grade Estimate
Option A ✓ Millbury ⇔ Card Preferred to-date. Subject to PAC Input.	Has the greatest combined system benefit of any of the options	Relatively low potential impact on developed areas	Relatively low potential for impacting protected lands and resources	Feasible to site and build by date of need	In the lowest cost range $400M (±25%)
Option B Kent County ⇔ Montville	Meets basic solution criteria but with operations issues	Moderate-to-high potential impact on developed areas	Low-to-moderate potential for impacting protected lands and resources	Low likelihood of timely delivery due to anticipated siting issues	In the higher cost range $450M (±25%)
Option C Route 1 Millbury ⇔ Manchester	Meets solution criteria and has many system benefits	Would require significant condemnations	Requires significant clearing for new ROW	Not feasible to site and build by date of need	Low basic estimate, with major uncertainty $400M (±25%)
Route 2	Same as C-1 but involves a longline segment	Moderate potential impact on developed areas	Moderate potential for impacting protected lands and resources	Feasible to site and build by date of need	In the higher cost range $450M (±25%)
Option D Millbury ⇔ Ludlow	Meets basic solution criteria, but with the lowest operating limit of the options	Same as Option C-Route 2	Same as Option C-Route 2	Feasible to site and build by date of need	In the higher cost range $450M (±25%)
Option E HVDC: Millbury ⇔ Southington	Meets basic solution criteria but is not expandable, is less flexible and has higher system losses	Moderate potential impact on developed areas	Low-to-moderate potential for impacting protected lands and resources	Feasible to site and build by date of need	In a significantly higher cost range $1,300M (±25%) * (Solves both the Interstate and CT-E-W components, but is still very high when compared with the $600M total for the combined preferred)

Best ⇔ Worst

[8] Source: TO's PAC Presentation 12/15/06 Slide.

Figure IV-4: Interstate Option A

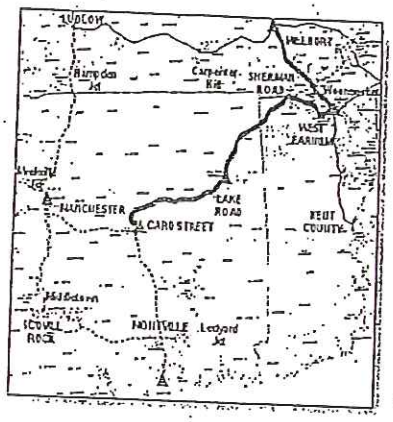


Figure IV-5: Interstate Option B

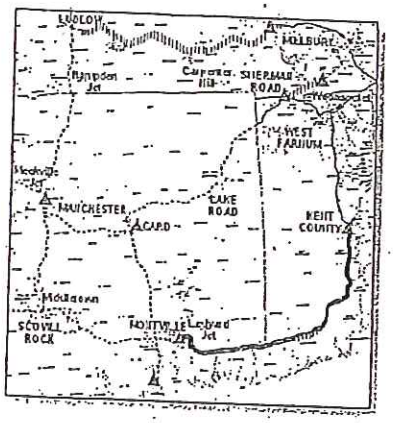


Figure IV-6: Interstate Option C-1

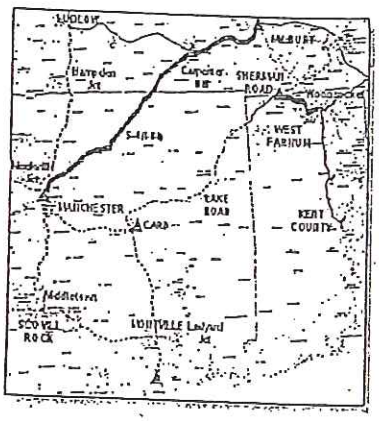


Figure IV-7: Interstate Option C-2

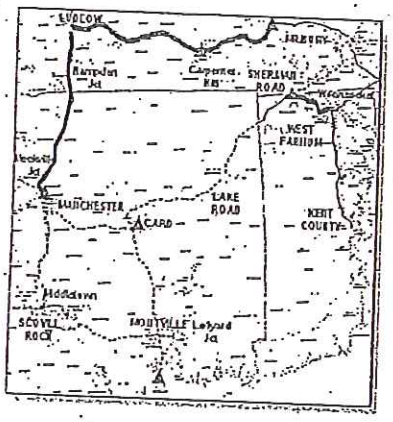


Figure IV-8: Interstate Option D

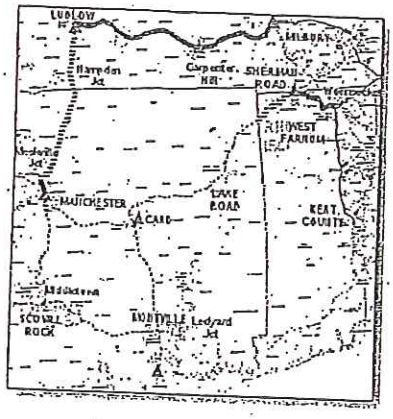
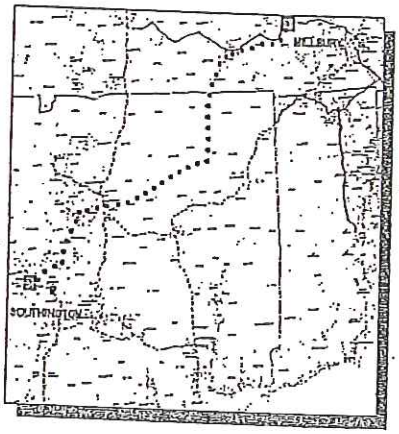


Figure IV-9: Interstate Option E



The *Solution Report* in Volume 4 of this filing provides a detailed description of the analysis by which the TO's selected Option A as their preferred solution. A compressed summary of this analysis is provided here.

The technical and cost characteristics of each of the options were evaluated first, and then their potential environmental and social impacts.

Winnowing down the options did not require the development of equally detailed routing and environmental information for all options. Where technical and/or cost analyses were sufficient to eliminate an option, a full environmental analysis was not required.

PLANNING AND ZONING COMMISSION
TOWN OF MANSFIELD

AUDREY P. BECK BUILDING
FOUR SOUTH EAGLEVILLE ROAD
MANSFIELD, CONNECTICUT 06268
(860) 429-3330

To: Mansfield Town Council
From: Rudy Favretti, Chairman, Mansfield Planning and Zoning Commission
Date: Thursday, November 20, 2008
Re: CL&P Interstate Reliability Project

After discussing the proposed CL&P Interstate Reliability Project and potential land use impacts for Mansfield and other Eastern Connecticut municipalities, Mansfield Planning and Zoning Commission instructed me to report the Commission's opposition to the proposed project. Our opposition is based on an inadequate consideration of alternatives to this proposed project and expected detrimental land use impacts for properties in Mansfield and other eastern Connecticut Towns. In Mansfield, it is expected that the project will detrimentally impact property values for abutting schools and childcare centers and for neighboring residences. Furthermore, the project is expected to reduce the functional value of existing and potential farmland and the recreational value of Mansfield Hollow State Park. In general, the proposed route through eastern Connecticut will detrimentally affect the rural character of the area without any compensating economic benefit.

It is respectfully requested that the Town Council communicate to CL&P and the Connecticut Siting Council Mansfield's opposition to this proposed project including the reasons cited above by the Planning and Zoning Commission.

TOWN OF MANSFIELD
OFFICE OF THE TOWN COUNCIL

ELIZABETH C. PATERSON, Mayor

AUDREY P. BECK BUILDING
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MANSFIELD, CT 06268-2599
(860) 429-3336
Fax: (860) 429-6863

December 1, 2008

Anthony P. Mele
Northeast Utilities - Transmission Project Manager
107 Selden Street
Berlin, CT 06037

RE: CL&P Interstate Reliability Project

Dear Mr. Mele:

Mansfield's Town Council and staff greatly appreciate the significant effort that has been made by CL&P to provide information and to address questions raised about the proposed Interstate Reliability Project. CL&P's pre-application process, including the open house in Mansfield, attendance at a Town Council special meeting and direct contacts with neighboring property owners, has promoted public understanding and participation and a beneficial discussion regarding the proposed project and Connecticut's future energy policies. As part of this on-going process it is respectfully requested that the comments and recommendations presented in this letter be carefully considered and incorporated into your planned Connecticut Siting Council submission.

1) After reviewing information and comments presented to the Town Council regarding CL&P's proposed Interstate Reliability Project, Mansfield's Town Council has determined that the need for this project has not been demonstrated and therefore, the Town Council does not support the proposed construction of additional transmission lines through eastern Connecticut.

   Mansfield's Town Council recommends that CL&P and the Connecticut Siting Council focus their collective efforts to:

   A. Promote energy conservation & a reduction of existing and future energy demand;
   B. Promote energy storage within the generation/transmission system and at individual consumption sites in order to reduce peak demand impacts;
   C. Promote alternative sources of energy generation that do not necessitate increasing transmission line capacity;

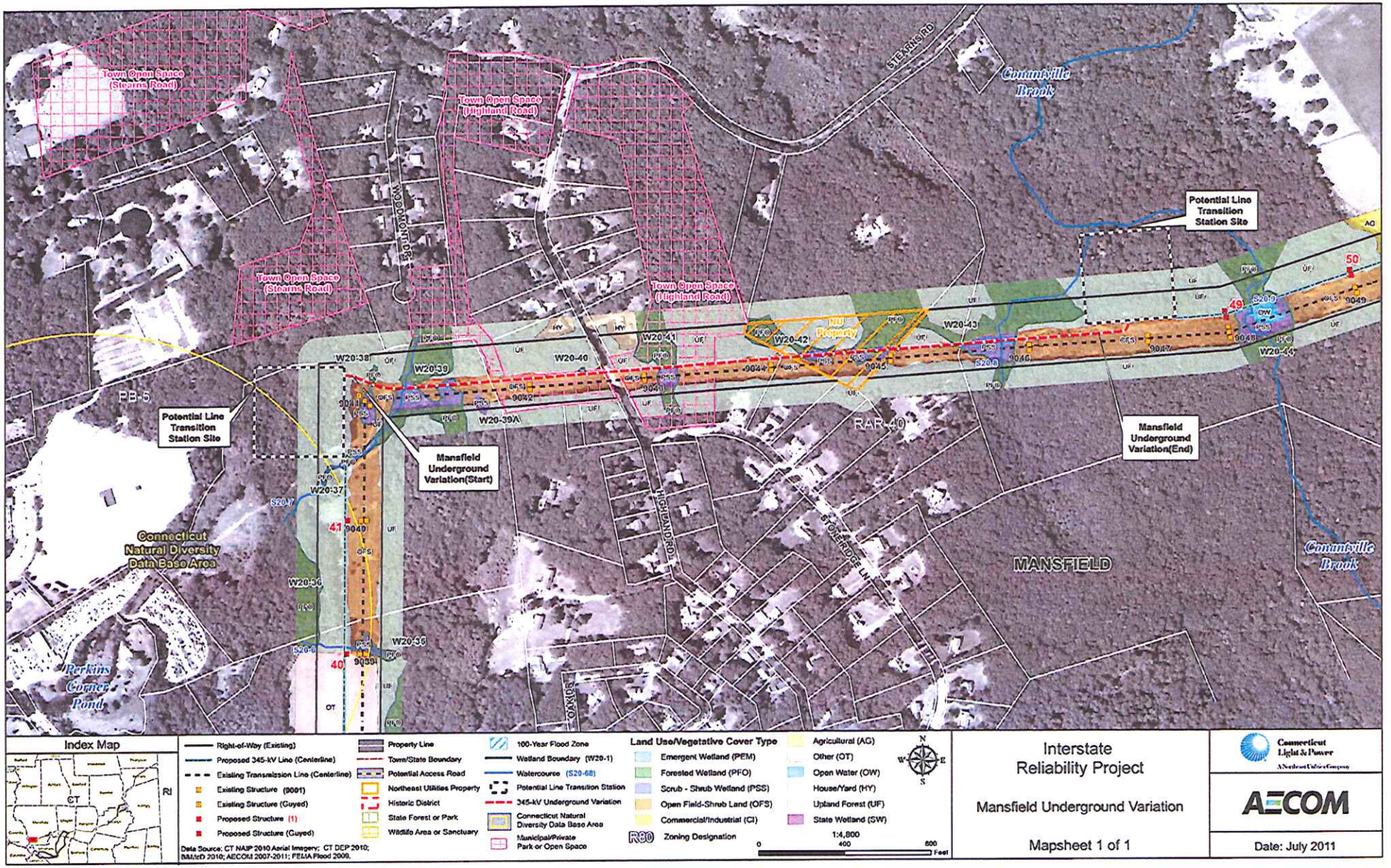
Thank you for affording Mansfield representatives an opportunity to comment prior to CL&P's submission of a Siting Council application. Please contact Mansfield's Town Manager, Matthew Hart (860-429-3336) or Mansfield's Director of Planning, Gregory J. Padick (860-429-3330) if you have any questions regarding this letter.

Very truly yours,

Elizabeth Paterson

Elizabeth Paterson, Mayor
Town of Mansfield

cc: S. Derek Phelps, Executive Director, Connecticut Siting Council
State Senator Donald Williams
State Representative Denise Merrill
United States Representative Joseph Courtney
Mark Paquette, Executive Director, Windham Region Council of Governments



Interstate Reliability Project

Mansfield Underground Variation

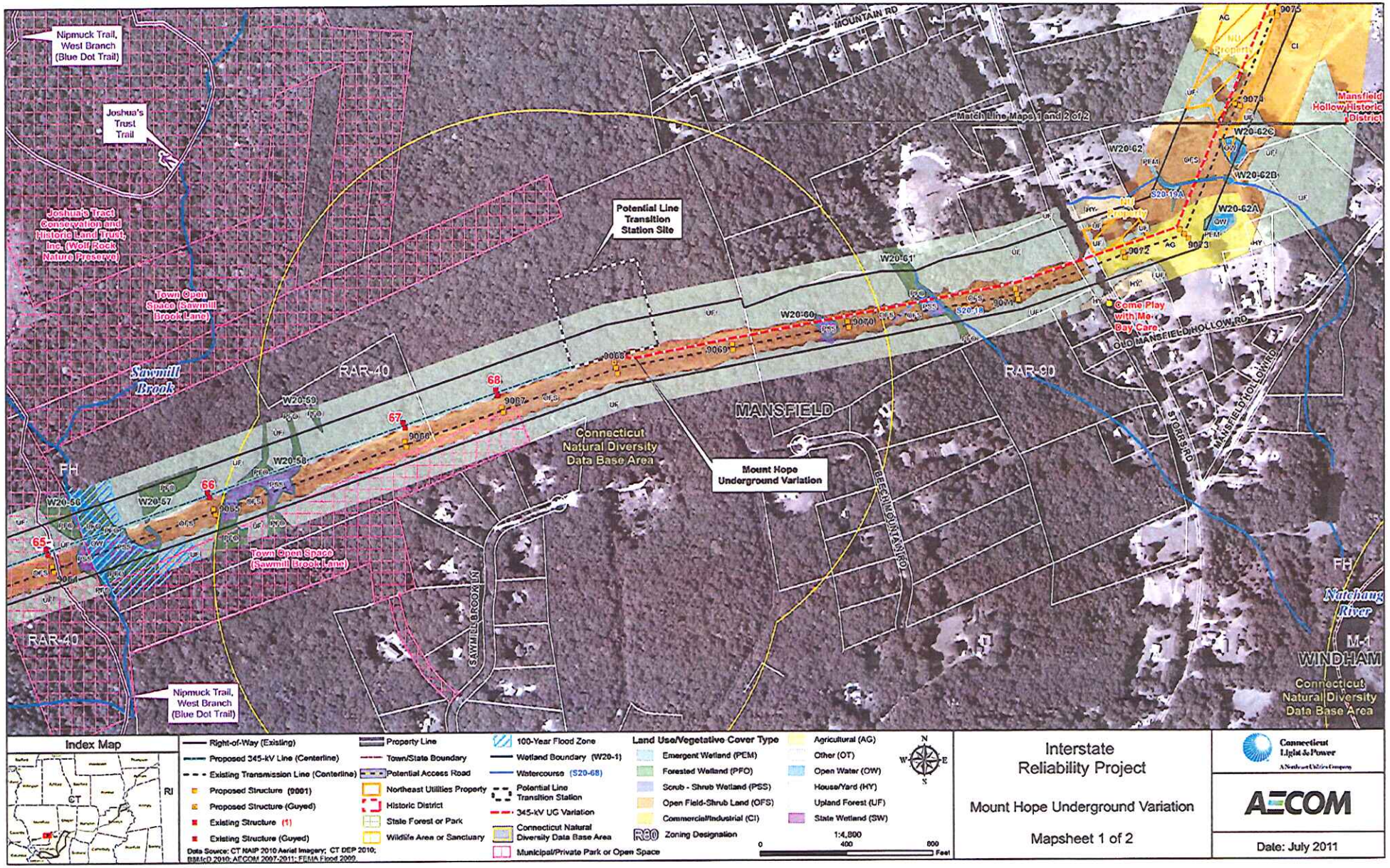
Mapsheet 1 of 1

Connecticut Light & Power
A Northeast Utilities Company

AECOM

Date: July 2011

ATTACHMENT B



Interstate Reliability Project

Mount Hope Underground Variation

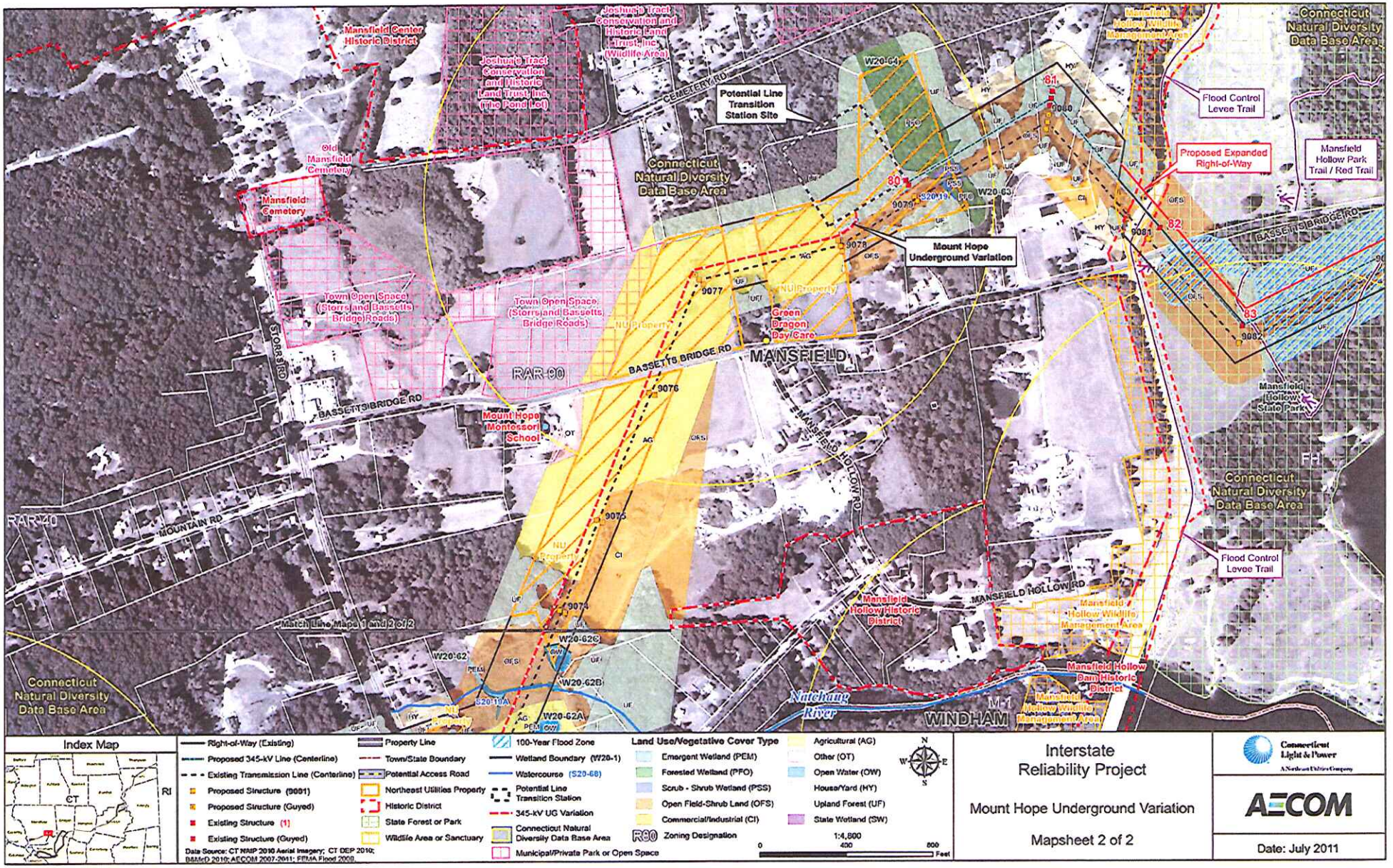
Mapsheet 1 of 2

Connecticut Light & Power
A Northeast Utilities Company

AECOM

Date: July 2011

ATTACHMENT C



Index Map

- Right-of-Way (Existing)
- Proposed 345-kV Line (Centerline)
- Existing Transmission Line (Centerline)
- Proposed Structure (9001)
- Proposed Structure (Guyed)
- Existing Structure (1)
- Existing Structure (Guyed)
- Property Line
- Town/State Boundary
- Potential Access Road
- Northeast Utilities Property
- Historic District
- State Forest or Park
- Wildlife Area or Sanctuary
- 100-Year Flood Zone
- Wetland Boundary (W20-1)
- Watercourse (S20-68)
- Potential Line Transition Station
- 345-kV UG Variation
- Connecticut Natural Diversity Data Base Area
- Municipal/Private Park or Open Space

Land Use/Vegetative Cover Type

- Emergent Wetland (PEM)
- Forested Wetland (PFO)
- Scrub - Shrub Wetland (PSS)
- Open Field-Shrub Land (OFS)
- Commercial/Industrial (CI)
- Agricultural (AG)
- Other (OT)
- Open Water (OW)
- House/Yard (HY)
- Upland Forest (UF)
- State Wetland (SW)

R80 Zoning Designation

Data Source: CT NAIP 2010 Aerial Imagery; CT DEP 2010; MMcD 2010; AECOM 2007-2011; FEMA Flood 2008.

N W E S

1:4,800
0 400 800 Feet

Interstate Reliability Project

Mount Hope Underground Variation

Mapsheet 2 of 2

Connecticut Light & Power
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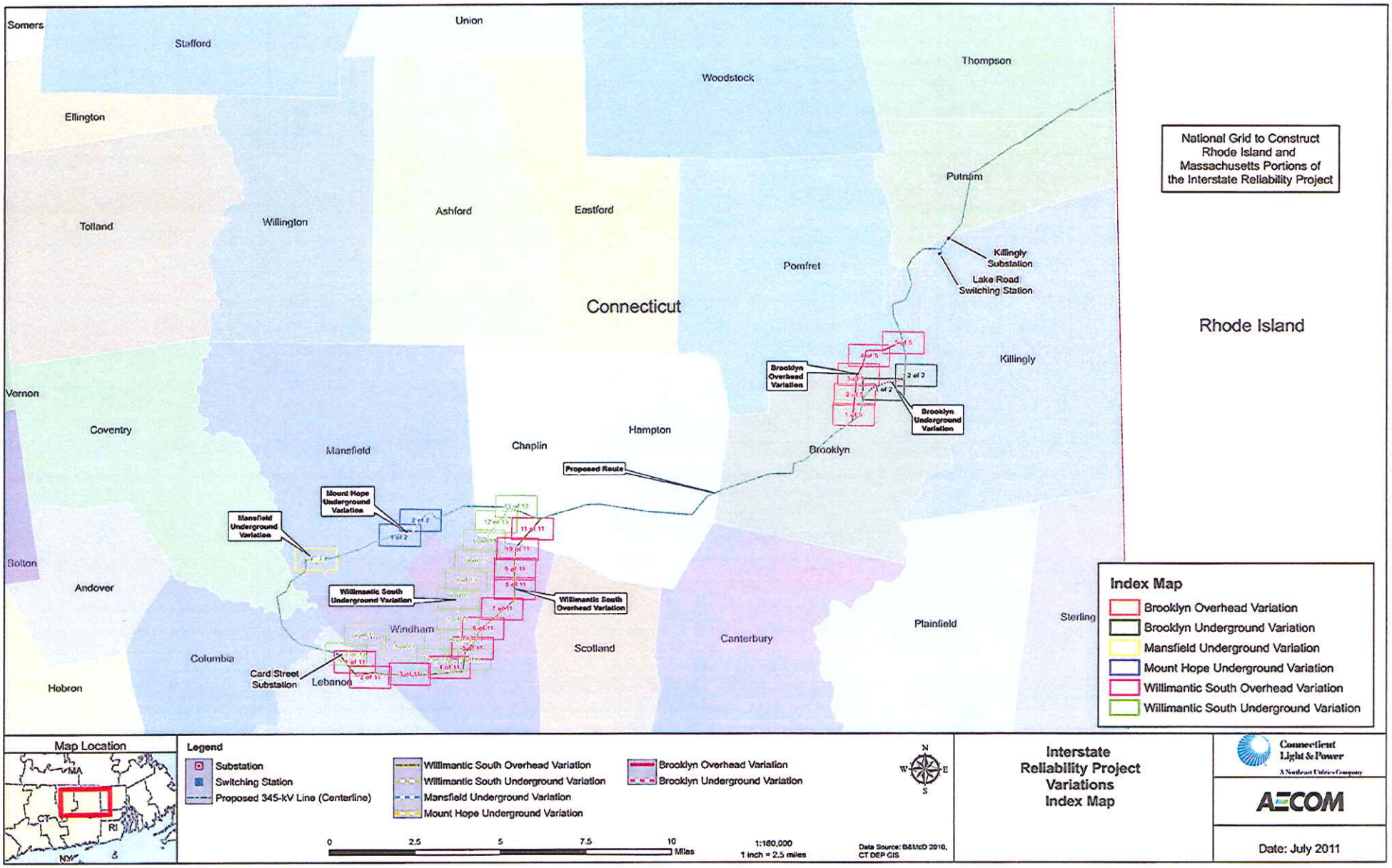
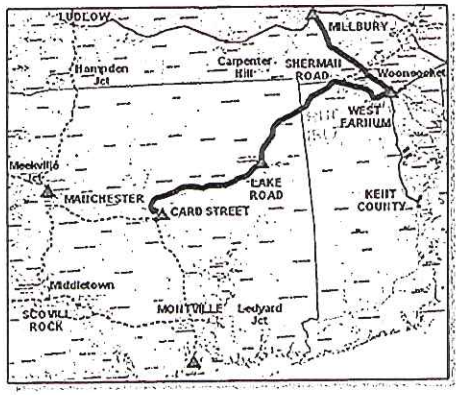
Date: July 2011



ATTACHMENT D

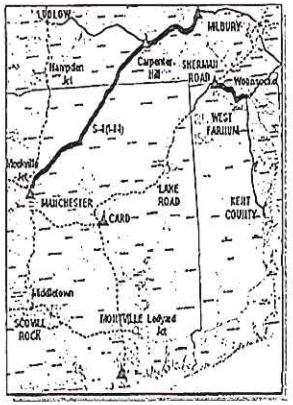
Figure 13-1: Location Maps of Six Interstate Options

Interstate Option A

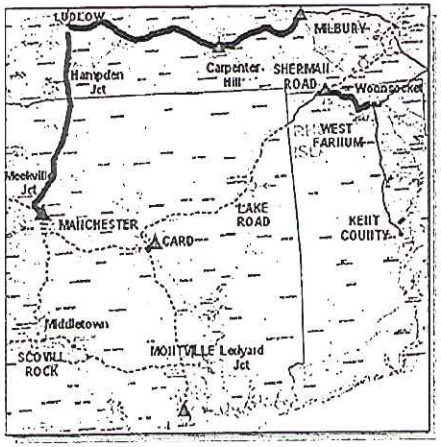


Interstate Option B

Interstate Option C-1

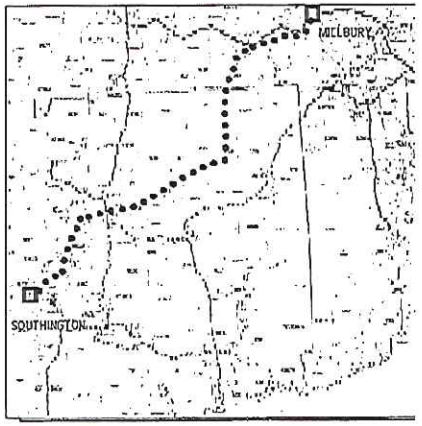


Interstate Option C-2



Interstate Option D

Interstate Option E



ATTACHMENT E

Table 13-1: Comparison of Interstate Reliability Project Options

Interstate Options and Needs	Option A-1	Option A-2	Option A-3	Option A-4	Option C-2.1
Improve Eastern New England Import Capability	Equivalent increase in N-1 and N-1-1 import capability for all A options	Equivalent increase in N-1 and N-1-1 import capability for all A options	Equivalent increase in N-1 and N-1-1 import capability for all A options	Equivalent increase in N-1 and N-1-1 import capability for all A options	Increase in N-1 import capability equivalent to A series; lower increase in N-1-1 import capability
Improve Western New England Import Capability	Equivalent increase in N-1 and N-1-1 import capability for all A options	Equivalent increase in N-1 and N-1-1 import capability for all A options	Equivalent increase in N-1 and N-1-1 import capability for all A options	Equivalent increase in N-1 and N-1-1 import capability for all A options	Increase in N-1 import capability equivalent to A series; lower increase in N-1-1 import capability
Improve Connecticut Import Capability	Equivalent increase in N-1 and N-1-1 import capability for all A options	Equivalent increase in N-1 and N-1-1 import capability for all A options	Equivalent increase in N-1 and N-1-1 import capability for all A options	Equivalent increase in N-1 and N-1-1 import capability for all A options	Increase in N-1 import capability equivalent to A series; lower increase in N-1-1 import capability
Number of highly-loaded lines (>90% of LTE)	Marginally higher number of highly-loaded lines	Lowest number of Highly loaded lines	Lowest number of Highly loaded lines	Marginally higher number of highly-loaded lines	Highest number of highly-loaded lines
Impact on Short-Circuit Currents at 345-kV stations	Moderate impact on Short circuit currents	Higher impact on short circuit currents	Higher impact on Short circuit currents	Higher impact on Short circuit currents	Least impact on Short circuit Currents
Impact on Delta P related SPSs	Eliminates Lake Road SPS under All-lines-in Conditions	Eliminates Lake Road SPS under All-lines-in Conditions	Eliminates Lake Road SPS under All-lines-in Conditions	Eliminates Lake Road SPS under All-lines-in Conditions	Does Not Eliminate Lake Road SPS
Flexible System Expandability	High flexibility and Expandability	Lowest expandability and flexibility	Moderate expandability and flexibility	Moderate expandability and flexibility	Low expandability and flexibility

Overall, the A-series options performed better than the C-2.1 option in terms of most of the metrics tested for electric performance evaluation. Within the A-series options, there was none

that clearly outperformed the others. However, in terms of system expandability and flexibility, A-1 is preferred over the other A-series options.

13.1.4.2 Cost Comparison of the Five Transmission Alternatives

For each of the five redesigned options, planning-grade cost estimates were prepared using a process consistent with ISO-NE procedures as defined in Planning Procedure No. 4.0. Table 13-2 summarizes these cost estimates for each option.

Table 13-2: Summary of Cost Estimates of Interstate Reliability Project Options ($ million)

	A-1	A-2	A-3	A-4	C-2
NU					
Substation Upgrades	$30	$30	$30	$30	$14
Transmission Lines	$221	$221	$221	$221	$295
NU Total	$251	$251	$251	$251	$309
National Grid					
Substations	$91	$137	$136	$104	$136
Transmission Lines	$190	$139	$154	$201	$255
National Grid Total	$281	$277	$289	$305	$391
NStar					
Substations	$0	$0	$0	$0	$0
Transmission Lines	$0	$15	$3	$0	$0
NStar Total	$0	$15	$3	$0	$0
Interstate Reliability Project Total					
Substations	$122	$168	$166	$135	$150
Transmission Lines	$411	$375	$377	$422	$550
Total	$532	$543	$543	$556	$700

(1) Estimates have a -25% / +50% degree of accuracy

(2) The above project cost estimates and all others in Volumes 1 and 1A of this Supplemental MCF reflect capitalized Allowance for Fund Used During Construction (AFUDC) accrual for the duration of the Project. On May 27, 2011, the Federal Energy Regulatory Commission issued an Order authorizing recovery in rate base of 100% of transmission construction work in progress (CWIP) costs for the New England East-West Solution (NEEWS) projects, including the Interstate Reliability Project. Under this Order, CL&P and the New England Power Company (collectively "the Companies") ceased their accrual of AFUDC associated with expenditures on the NEEWS projects on June 1, 2011. The Companies are in the process of revising (i.e., reducing) their cost estimates accordingly, and will complete this process for the cost estimates presented in this Supplemental MCF before filing state siting applications to certify the Interstate Reliability Project.

Table 13-3 summarizes the primary elements of options A-1, A-2, A-3, A-4 and C-2.1, which are relevant to an evaluation of their comparative environmental effects. Since the A-series options are identical within Connecticut, this analysis focuses on impacts in the states of Massachusetts and Rhode Island.

Table 13-3: Summary of Primary Elements: A-series Options and Option C-2.1 Connecticut, Rhode Island, and Massachusetts

Primary Feature	Option A Series				Option C-2.1
	A-1	A-2	A-3	A-4	
New 345-kV Transmission Line (Miles)	74.7	72.2	74.7	83.7	84.1
Reconductor / Rebuild Existing 345-kV Transmission Lines (Miles)	9	0.2	8.7	0	0
Reconductor / Rebuild /Uprate Existing 115-kV Transmission Lines (Miles)	0	0	0	0	15.4
New Substations/Switching Stations	• New AIS Switching Station at Sherman Road (1)	• New GIS Switching Station at Sherman Road	• New AIS Switching Station at Sherman Road (1) • New 345-kV Switching Station (AIS) at Uxbridge (MA)	• New AIS Switching Station at Sherman Road (1)	• New AIS Switching Station at herman Road (1) • New 345-kV switchyard at Carpenter Hill Substation
Modified Substations/Switching Stations	• Upgrade Millbury Switching Station • Modifications to CT Stations (Card Street, Lake Road, Killingly) • Modifications at West Farnum Substation	• Upgrade Millbury Switching Station • Modifications to CT Stations (Card Street, Lake Road, Killingly) • Modifications at West Farnum Substation	• Upgrade Millbury Switching Station • Modifications to CT Stations (Card Street, Lake Road, Killingly) • Modifications at West Farnum Substation	• Upgrade Millbury Switching Station • Modifications to CT Stations (Card Street, Lake Road, Killingly) • New Bay at West Farnum Substation	• Upgrade Millbury Switching Station • Expand Manchester Substation • Modifications at West Farnum Substation

(1) Circuit breaker, bus and other equipment replacements at Sherman Road required by Options A-1, A-3, A-4 and Option C-2.1 could not be accomplished without significant outages and impacts to Ocean State Power. Building a new AIS while leaving the existing station operational during construction is the most practical solution.

Table 13-4: Comparison of Option A Series (A-1 through A-4) and Option C-2.1: New 345-kV Transmission Line and Related Substation and Switching Station Facilities: Connecticut, Rhode Island, and Massachusetts

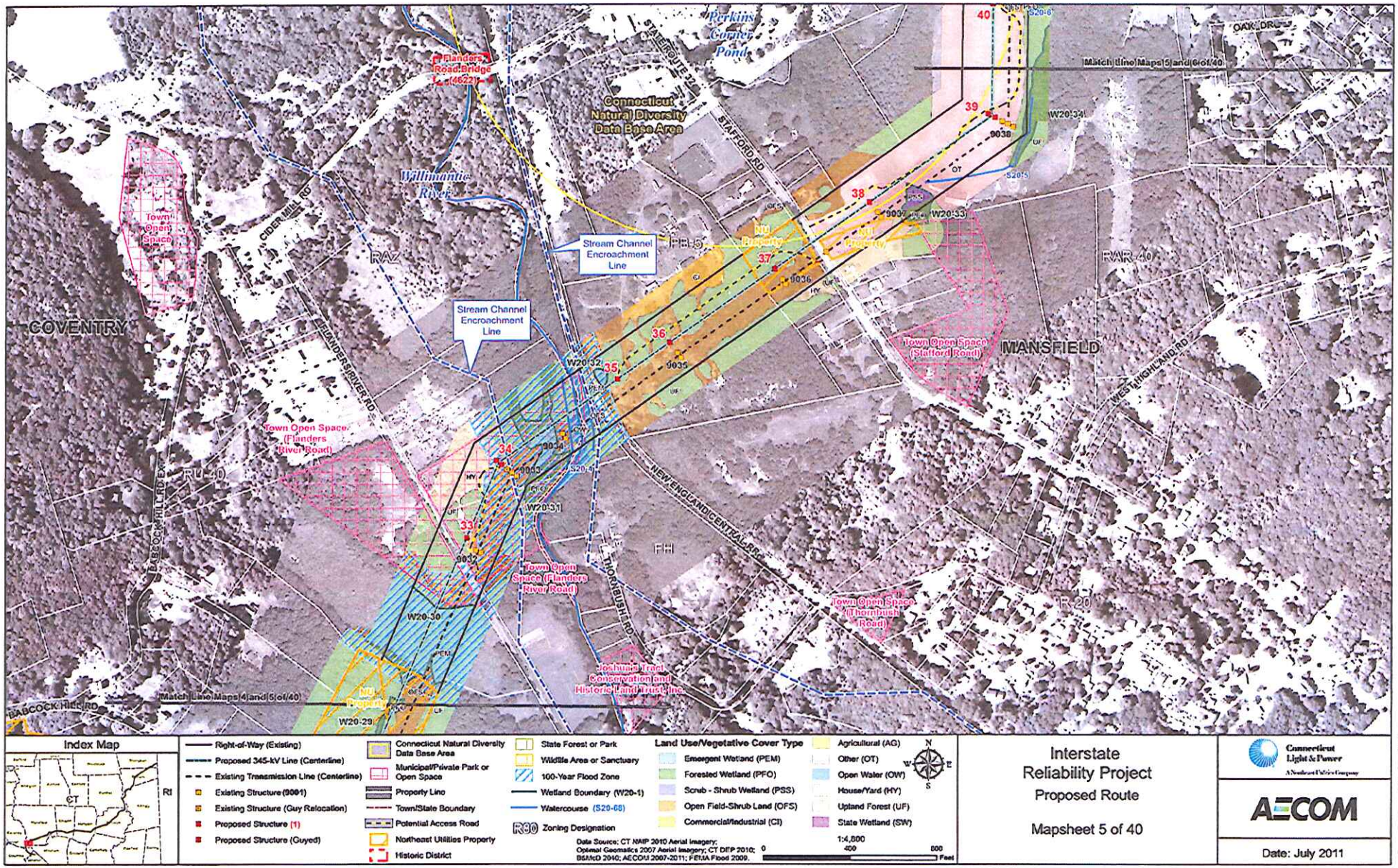
Feature	A Options (Range for Options A-1 through A-4)	Option C-2.1
New 345-kV Transmission Line Length (Miles)	74.7-83.7	84.3
Length through wetlands (Miles)	5.2-7.0	11.9
Watercourse Crossings (Number)	118-129	177
Upland Forest Traversed (Miles)	36.5-39.1	54.0
Wetland Forest Traversed (Miles)	2.5-3.3	3.3
Parkland Traversed (Miles)	2.7	2.9
Length through Rare, Threatened or Endangered (Listed) Species Habitat (Miles)	14.8-15.2	18.1
Residences within 500 feet of new 345-kV transmission line centerline (Number)	478-536	942
ROW Expansion Required (Estimated Acres)	0-11 (Mansfield Hollow Area, CT)	< 1 (Manchester, CT)
Additional Land Acquisition Required for Substations or Switching Stations (Estimated Acres)	0-11 (11 acres, Uxbridge, MA)	<1 (Manchester, CT)
Total Additional Land Development to be Converted to Utility Use for Substations or Switching Stations (Estimated Acres) *(Includes NU / NGrid property outside existing station fence lines and private property)*	4-15 (4 acres: Sherman Road Switching Station, RI) (11 acres: Uxbridge switching station, MA (Option A-3)	3.5 (Carpenter Hill, MA, Manchester, CT)

Notes:

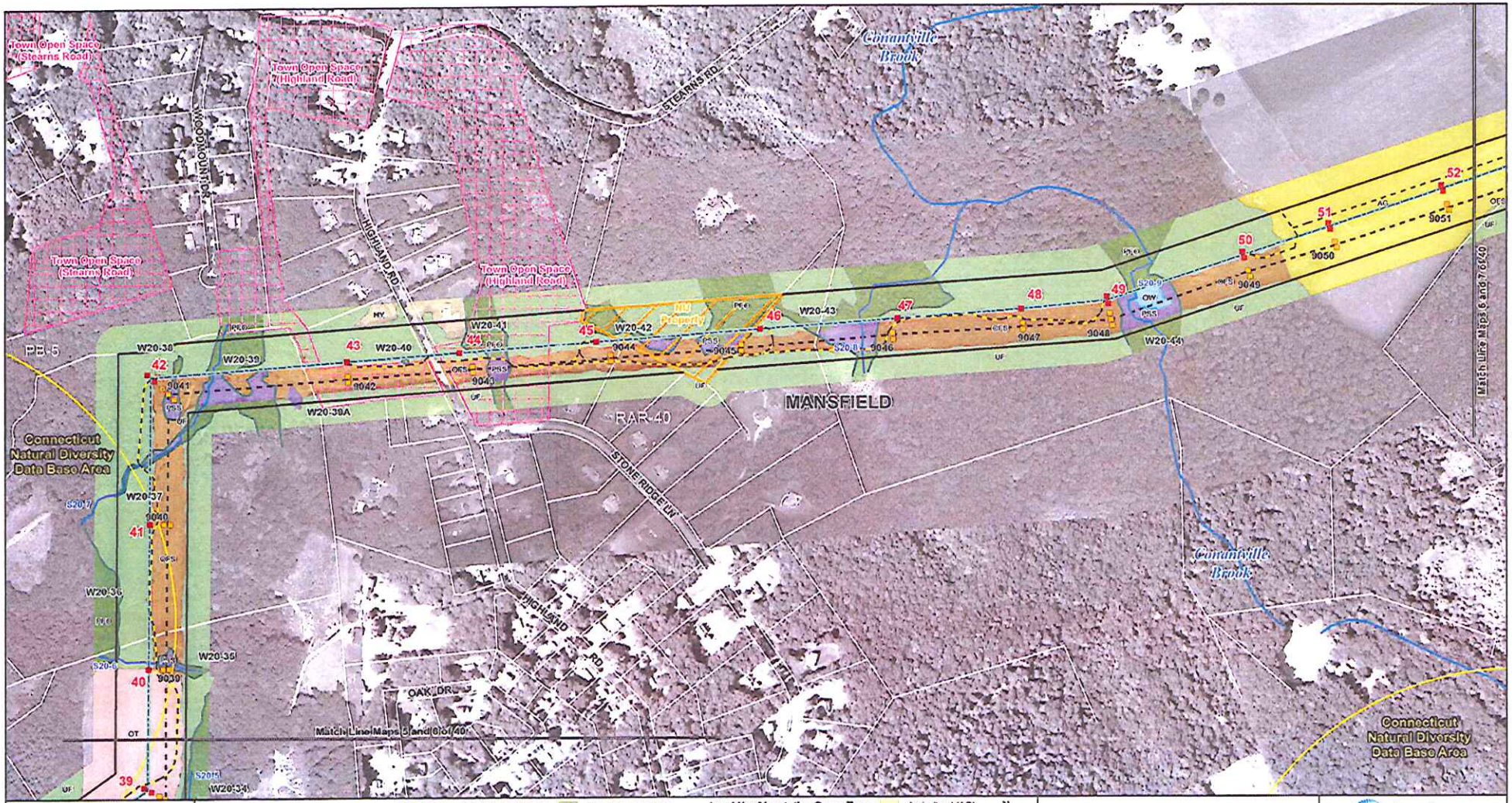
1. *Table compares new 345-kV transmission lines and related substation and switching station modifications that would be required for the A Options and Option C-2.1.*
2. *All linear miles across features are calculated based on the presumed centerline of the new 345-kV transmission line.*
3. *Additional easement acquisition is proposed for the new 345-kV line (all A Options) in Mansfield Hollow (CT); however, NU has also identified design options that would either not require any additional easement or would minimize the amount of easement required.*

Specifically, compared to the four A series Options, Option C-2.1 would involve:

- Greater impacts in terms of overall vegetation clearing and habitat alteration. The new 345-kV transmission line required for Option C-2.1 would traverse more miles than any of the new 345-kV lines for the four A-series options.



ATTACHMENT F



Index Map

- Right-of-Way (Existing)
- Proposed 345-kV Line (Centerline)
- Existing Transmission Line (Centerline)
- Existing Structure (9001)
- Existing Structure (Guy Relocation)
- Proposed Structure (1)
- Proposed Structure (Guyed)
- Connecticut Natural Diversity Data Base Area
- Municipal/Private Park or Open Space
- Property Line
- Town/State Boundary
- Potential Access Road
- Northeast Utilities Property
- Historic District
- State Forest or Park
- Wildlife Area or Sanctuary
- 100-Year Flood Zone
- Wetland Boundary (W20-1)
- Watercourse (S20-68)
- R80 Zoning Designation

Land Use/Vegetative Cover Type

- Emergent Wetland (PEM)
- Forested Wetland (PFO)
- Scrub - Shrub Wetland (PSS)
- Open Field-Shrub Land (OFS)
- Commercial/Industrial (CI)
- Agricultural (AG)
- Other (OT)
- Open Water (OW)
- House/Yard (HY)
- Upland Forest (UF)
- State Wetland (SW)

Data Source: CT NAIP 2010 Aerial Imagery; Optimal Geomatics 2007 Aerial Imagery; CT DEP 2010; B&McD 2010; AECOM 2007-2011; FEMA Flood 2009.

1:4,800
0 400 800 Feet

Interstate Reliability Project

Proposed Route

Mapsheet 6 of 40

Connecticut Light & Power
A Northeast Utilities Company

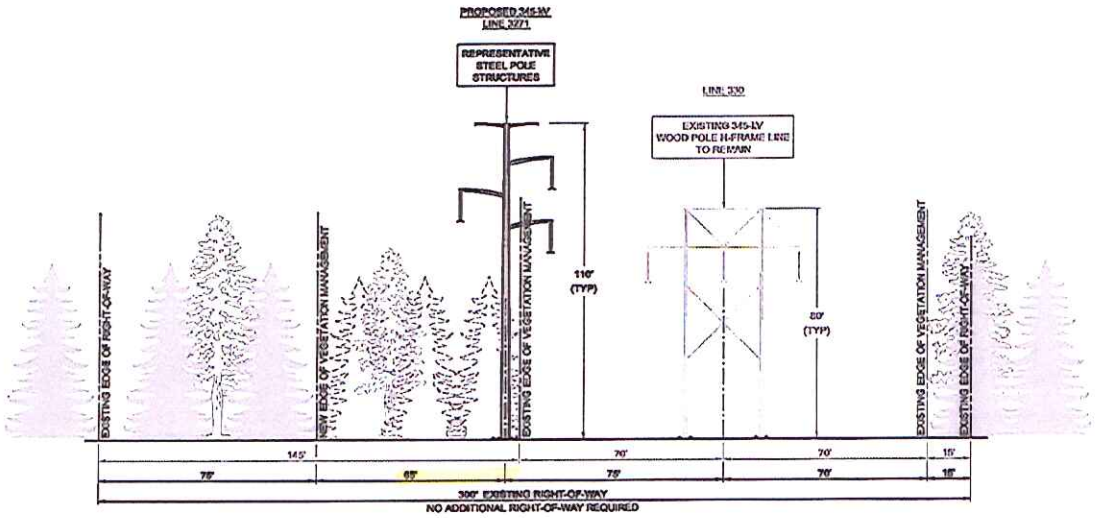
AECOM

Date: July 2011

MAPSHEET 06 of 40:

Interstate Reliability Project
Proposed Route
Existing Structure Locations 9039 to 9051
East of State Route 32/Stafford Road to East of Highland Road
Town of Mansfield, CT

Note: XS-2 BMP (depicted) applies to Proposed Route near Structures 9039 to 9048. Refer to XS-2 on Mapsheet 7 for depiction of Proposed Route from Structure 9049 to 9051



AREA DESCRIPTION

Existing Land Use
- Agricultural
- Residential
- CT Protected/Open Space (Town Open Space (Highland Road and Stearns Road) managed by the Town of Mansfield)

Zoning
- Current:
  - Rural Agriculture Residence 40 Zone (RAR-40)
- Planned:
  - Planned Business 5 Zone (PB-5)

Natural Systems
- Open water (ponds)
- Conantville Brook and its associated tributaries
- State/Federal jurisdictional wetlands
- Natural Diversity Data Base Area
- Mixed hardwood forest of varying size and age

Visual Character
- Forest, residential, and agricultural

RIGHT-OF-WAY DESCRIPTION

Land Use
- Residential near structures 9042 to 9044
- CT Protected/Open Space adjacent to and between structures 9042 and 9044
- Agricultural adjacent to and between structures 9050 and 9051
- Upland and/or wetland forest adjacent to structures 9039 to 9049

Wetlands, Watercourses and Waterbodies
- Wetland Nos.: W20-34, W20-35, W20-36, W20-37, W20-38, W20-39, W20-39A, W20-40, W20-41, W20-42, W20-43, W20-44
- Wetland Cover Types: Palustrine Scrub-Shrub Wetland (PSS), Palustrine Forested Wetland (PFO), Open Water (OW)
- Stream Nos.: S20-6, S20-7, S20-8, S20-9 (Conantville Brook)

Potential Access
- Structures 9039 to 9041 can be accessed from State Route 32/Stafford Road (see Mapsheet 05 of 40)
- Structures 9042 to 9051 can be accessed from Highland Road

Right-of-Way Vegetation
- Open field-shrub, upland and wetland forest, agricultural, house/yard

Terrain
- Broad hill tops to steep slopes

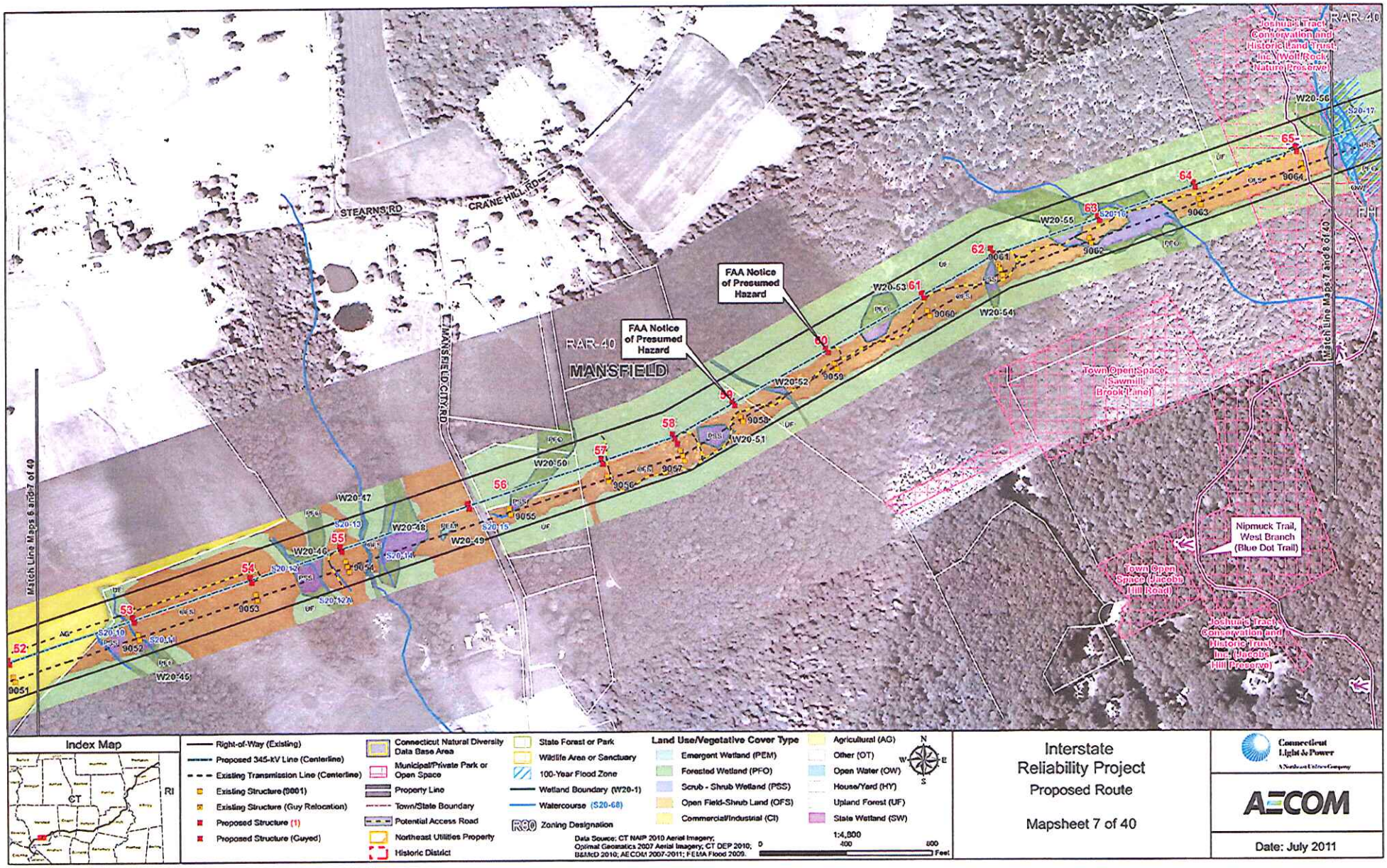
Existing Right-of-Way Width
- 300 feet

Proposed Expansion of Right-of-Way Width
- 0 feet

Existing Managed Right-of-Way Width
- 140 to 300 feet

Additional Managed Right-of-Way Width Required
- 70 to 90 feet

Road Crossings/Major Utility Crossings
- Highland Road between structures 9042 and 9043



Index Map

CT

RI

- Right-of-Way (Existing)
- Proposed 345-kV Line (Centerline)
- Existing Transmission Line (Centerline)
- Existing Structure (0001)
- Existing Structure (Guy Relocation)
- Proposed Structure (1)
- Proposed Structure (Guyed)
- Connecticut Natural Diversity Data Base Area
- Municipal/Private Park or Open Space
- Property Line
- Town/State Boundary
- Potential Access Road
- Northeast Utilities Property
- Historic District
- State Forest or Park
- Wildlife Area or Sanctuary
- 100-Year Flood Zone
- Wetland Boundary (W20-1)
- Watercourse (S20-68)
- R80 Zoning Designation

Land Use/Vegetative Cover Type

- Emergent Wetland (PEM)
- Forested Wetland (PFO)
- Scrub - Shrub Wetland (PSS)
- Open Field-Shrub Land (OFS)
- Commercial/Industrial (CI)
- Agricultural (AG)
- Other (OT)
- Open Water (OW)
- House/Yard (HY)
- Upland Forest (UF)
- State Wetland (SW)

Data Source: CT NAIP 2010 Aerial Imagery; Optimal Geomatics 2007 Aerial Imagery; CT DEP 2010; BMcD 2010; AECOM 2007-2011; FEMA Flood 2009.

1:4,800

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Interstate Reliability Project

Proposed Route

Mapsheet 7 of 40

Connecticut Light & Power

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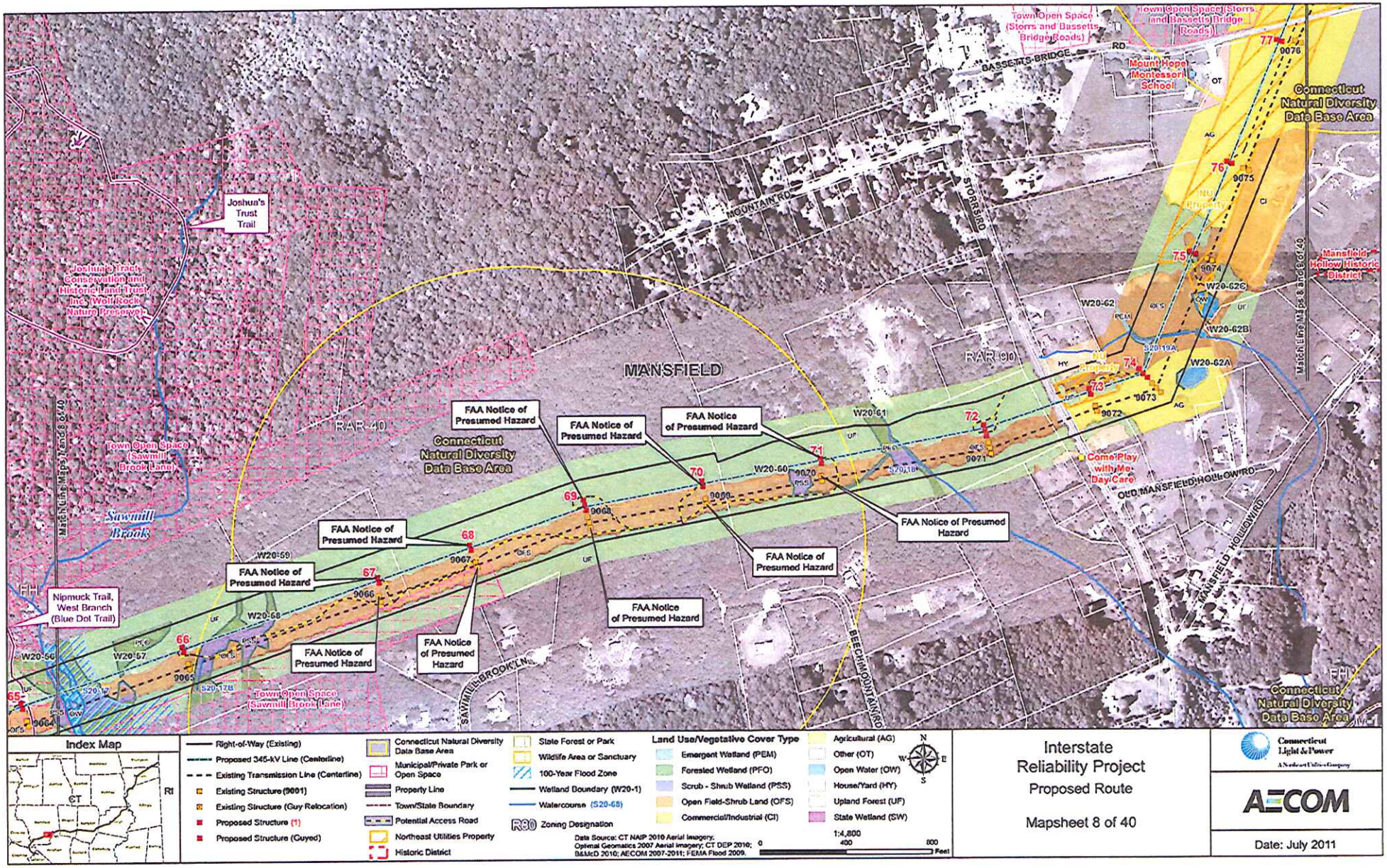
Date: July 2011

ATTACHMENT 6



Interstate Reliability Project

Proposed Route

Mapsheet 8 of 40

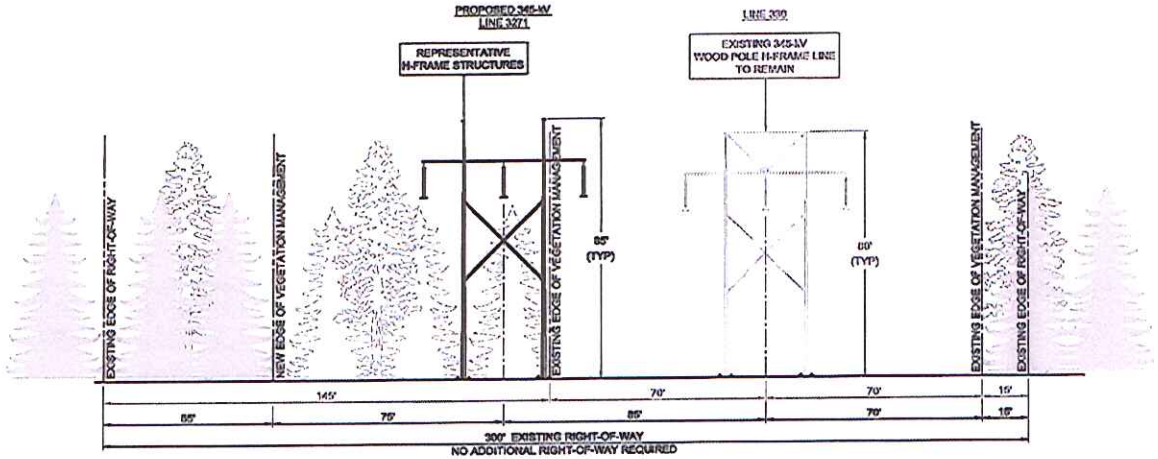
Connecticut Light & Power
A Northeast Utilities Company

AECOM

Date: July 2011

MAPSHEET 07 of 40:

Interstate Reliability Project
Proposed Route
Existing Structure Locations 9052 to 9064
East of Highland Road, including Mansfield City Road, to Nipmuck Trail (West Branch)
Town of Mansfield, CT



AREA DESCRIPTION

Existing Land Use
- Agricultural
- Residential
- CT Protected/Open Space (Town Open Space (Sawmill Brook Lane, Jacobs Hill Road) managed by the Town of Mansfield); Joshua's Tract Conservation and Historic Land Trust, Inc. (Jacobs Hill Preserve and Wolf Rock Nature Preserve)
- Connecticut Forrest and Parks Association (CFPA) Nipmuck Trail (West Branch)

Zoning
- Current:
  - Rural Agriculture Residence 40 Zone (RAR-40)
  - Flood Hazard Zone (FH)

Natural Systems
- Sawmill Brook and its associated tributaries
- State/Federal jurisdictional wetlands
- Mixed hardwood forest varying in size and age
- 100-year flood zone – Sawmill Brook

Visual Character
- Residential, agricultural, and forest

RIGHT-OF-WAY DESCRIPTION

Land Use
- Agricultural adjacent to structures 9052 to 9054
- Upland forest adjacent to structures 9052, 9054, and 9055 to 9064
- Nipmuck Trail (West Branch) between structures 9064 and 9065

Wetlands, Watercourses and Waterbodies
- Wetland Nos.: W20-45, W20-45A, W20-46, W20-47, W20-48, W20-49, W20-50, W20-51, W20-52, W20-53, W20-54, W20-55, W20-56
- Wetland Cover Types: Palustrine Emergent Wetland (PEM), Palustrine Scrub-Shrub Wetland (PSS), Palustrine Forested Wetland (PFO)
- Stream Nos.: S20-10, S20-11, S20-12, S20-12A, S20-13, S20-14, S20-15, S20-16, S20-17 (Sawmill Brook)

Potential Access
- Structures 9052 to 9053 can be accessed from Highland Road (see Mapsheet 06 of 40)
- Structure 9054 can be accessed from Mansfield City Road
- Structures 9055 to 9064 can be accessed from either Crane Hill Road or Storrs Road (see Mapsheet 08 of 40)

Right-of-Way Vegetation
- Open field-shrub, upland and wetland forest, agricultural

Terrain
- Hilly

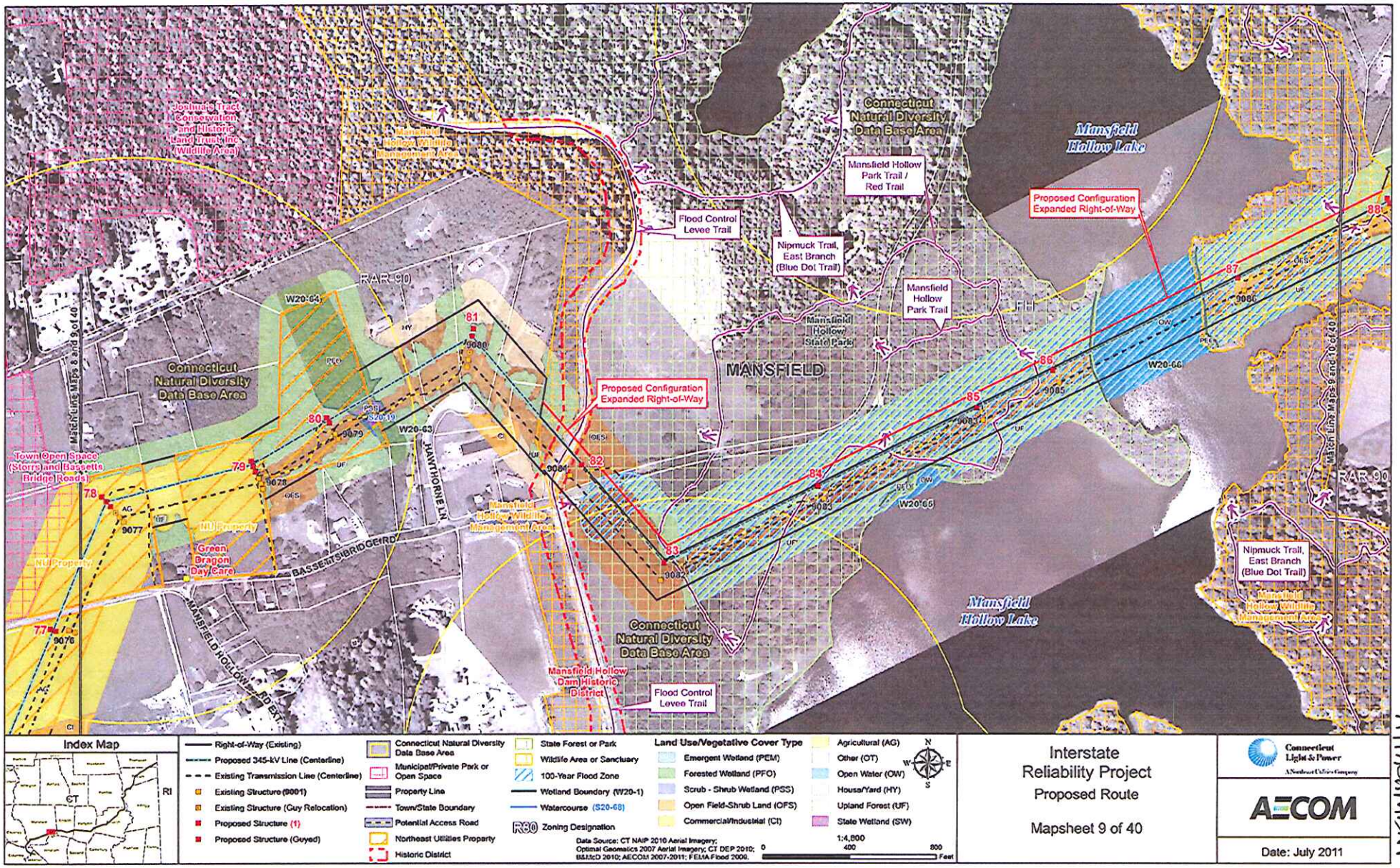
Existing Right-of-Way Width
- 300 feet

Proposed Expansion of Right-of-Way Width
- 0 feet

Existing Managed Right-of-Way Width
- 140 to 300 feet

Additional Managed Right-of-Way Width Required
- 90 feet

Road Crossings/Major Utility Crossings
- Mansfield City Road between structures 9054 and 9055



Interstate Reliability Project

Proposed Route

Mapsheet 9 of 40

Connecticut Light & Power

A Northeast Utilities Company

AECOM

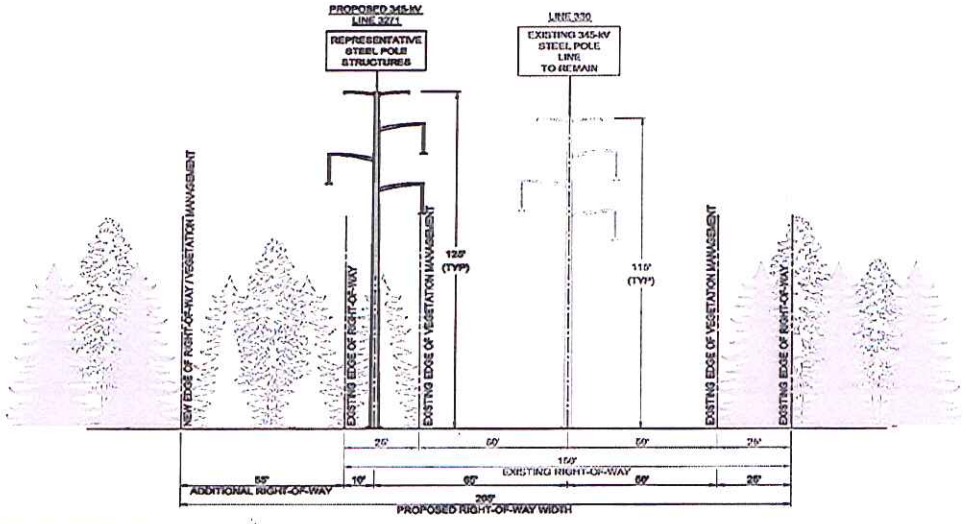
Date: July 2011

ATTACHMENT 4

MAPSHEET 09 of 40:

Interstate Reliability Project
Proposed Route
Existing Structure Locations 9077 to 9086
Bassetts Bridge Road to Nipmuck Trail (East Branch)
Town of Mansfield, CT

Note: This cross-section (XS-3) applies to the 1-mile segment between structures 9081 and 9086, including 0.9 mile of USACE-owned property. See cross-section (XS-2) on Mapsheet 8 for transmission line and ROW configuration between structures 907 and 9080.



AREA DESCRIPTION

Existing Land Use

- Residential
- Agricultural
- Commercial/Industrial
- CT Protected/Open Space (Joshua's Tract Conservation and Historic Land Trust (The Pond Lot and Wildlife Area) privately managed, Town Open Space (Storrs & Bassetts Bridge Roads) managed by the Town of Mansfield, Mansfield Hollow State Park and Mansfield Hollow Lake managed by the CT DEEP and the U.S. Army Corps of Engineers (USACE), and Mansfield Hollow Wildlife Management Area (WMA) managed by the CT DEEP)
- Mansfield Hollow Levee (recreational trail); Red Trail (hiking trail in State Park); CFPA's Nipmuck Trail (West and East Branches)

Zoning

- Current:
  - Rural Agriculture Residence 90 Zone (RAR-90)
  - Flood Hazard Zone (FH)

Natural Systems

- Open water (ponds)
- State/Federal jurisdictional wetlands
- Natural Diversity Data Base Areas
- Mansfield Hollow Lake
- Mixed hardwood forest varying in size and age
- 100-year flood zone – Mansfield Hollow Lake

Visual Character

- Residential, agricultural, commercial/industrial, and forest

RIGHT-OF-WAY DESCRIPTION

Land Use

- Agricultural adjacent to and between structures 9076 to 9078
- Residential near structures 9080 and 9081
- CT Protected/Open Space adjacent to and west of structure 9081 to east of structure 9086
- Upland and/or wetland forest adjacent to structures 9077 to 9080, and 9082 to 9086
- Flood Control Levee Trail between structures 9080 and 9081
- Mansfield Hollow Park Trail (Red Trail) between structures 9082 and 9085
- Nipmuck Trail, East Branch (CFPA Blue Dot Trail) between structures 9086 and 9087

Wetlands, Watercourses and Waterbodies

- Wetland Nos.: W20-63, W20-64, W20-65, W20-66
- Wetland Cover Types: Palustrine Scrub-Shrub Wetland (PSS), Palustrine Forested Wetland (PFO), Open Water (OW)
- Waterbody: Mansfield Hollow Lake
- Stream No.: S20-19

Potential Access

- Structures 9076 to 9086 can be accessed from Bassetts Bridge Road

Right-of-Way Vegetation

- Open field-shrub, upland and wetland forest, agricultural, house/yard

Terrain

- Broad, rolling hills

Existing Right-of-Way Width

- 150 (USACE property) to 300 feet

Proposed Expansion of Right-of-Way Width

- 0 to 55 feet: 55 feet within USACE owned property Mansfield Hollow State Park and WMA only

Existing Managed Right-of-Way Width

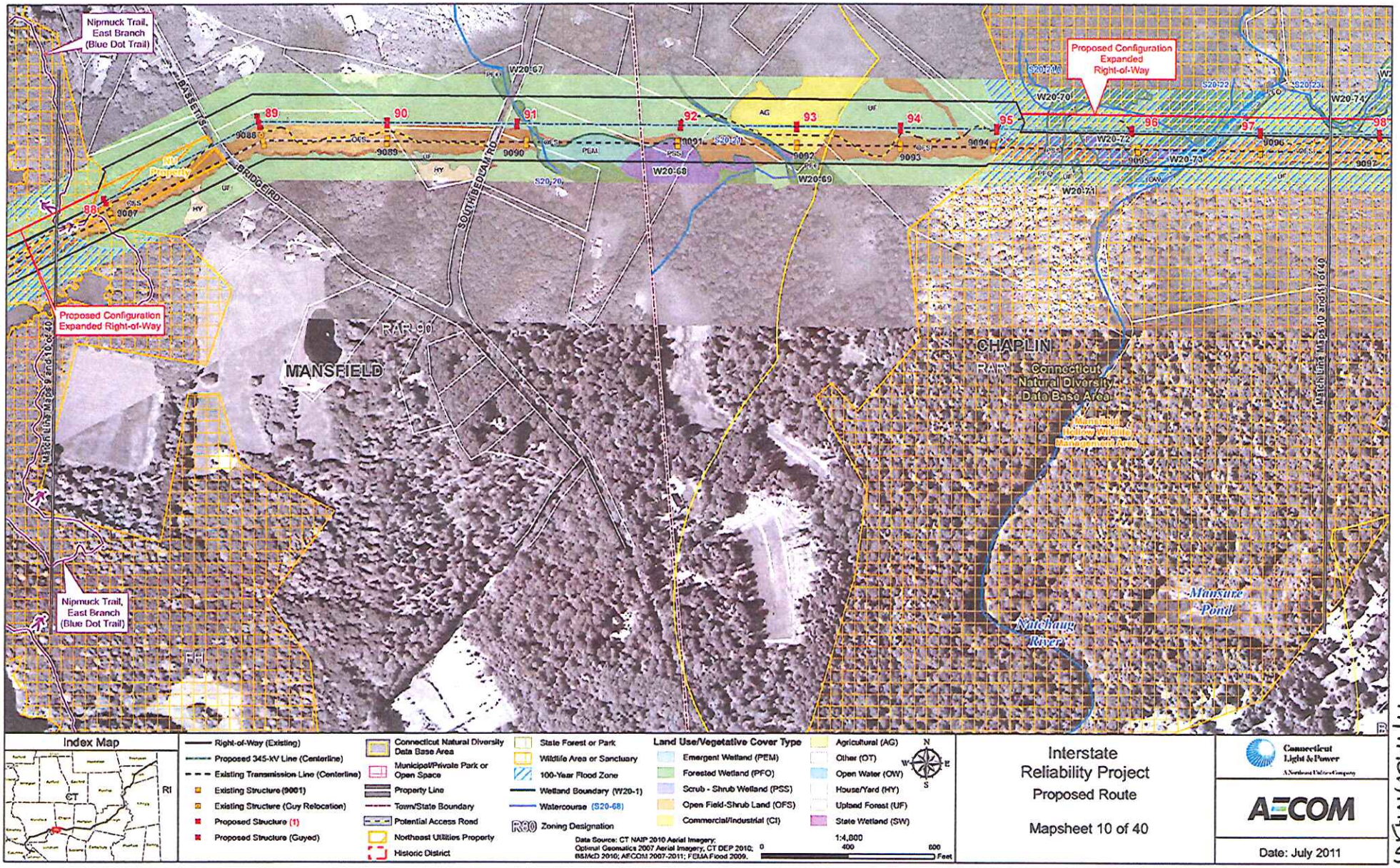
- 100 to 300 feet

Proposed Additional Managed Right-of-Way Width

- 55 to 90 feet: 55 feet is USACE-owned property Mansfield Hollow State Park and WMA only

Road Crossings/Major Utility Crossings

- Bassetts Bridge Road between structures 9076 and 9077, and 9081 and 9082



Index Map

CT RI

Right-of-Way (Existing)
Proposed 345-kV Line (Centerline)
Existing Transmission Line (Centerline)
Existing Structure (9001)
Existing Structure (Guy Relocation)
Proposed Structure (1)
Proposed Structure (Guyed)

Connecticut Natural Diversity Data Base Area
Municipal/Private Park or Open Space
Property Line
Town/State Boundary
Potential Access Road
Northeast Utilities Property
Historic District

State Forest or Park
Wildlife Area or Sanctuary
100-Year Flood Zone
Wetland Boundary (W20-1)
Watercourse (S20-68)
R90 Zoning Designation

Land Use/Vegetative Cover Type

Emergent Wetland (PEM)
Forested Wetland (PFO)
Scrub - Shrub Wetland (PSS)
Open Field-Shrub Land (OFS)
Commercial/Industrial (CI)
Agricultural (AG)
Other (OT)
Open Water (OW)
House/Yard (HY)
Upland Forest (UF)
State Wetland (SW)

N W E S

Data Source: CT NAIP 2010 Aerial Imagery; Optimal Geomatics 2007 Aerial Imagery; CT DEP 2010; BSMcD 2010; AECOM 2007-2011; FEMA Flood 2009.

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Interstate Reliability Project

Proposed Route

Mapsheet 10 of 40

Connecticut Light & Power
A Northeast Utilities Company

AECOM

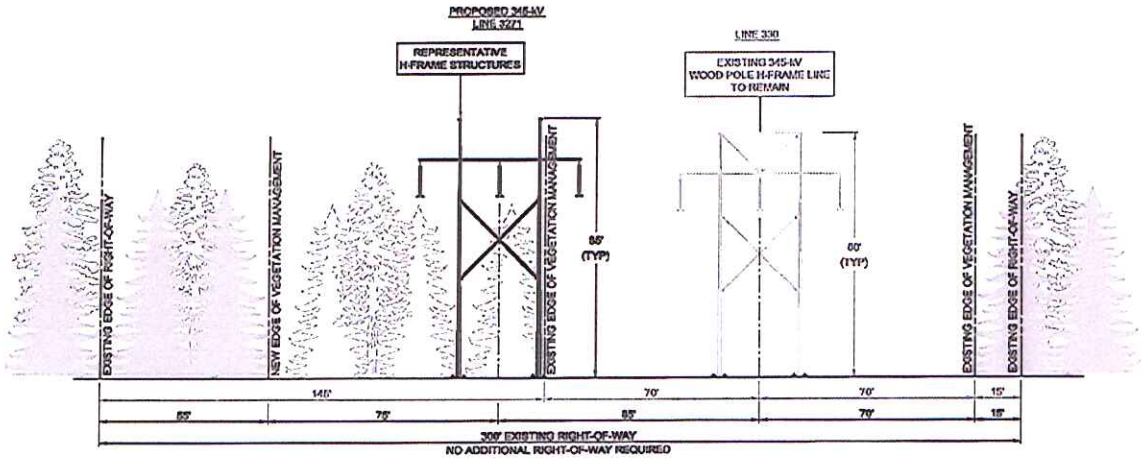
Date: July 2011

ATTACHMENT 1

MAPSHEET 10 of 40:

Interstate Reliability Project
Proposed Route
Existing Structure Locations 9087 to 9096
Nipmuck Trail (East Branch) to East of Natchaug River
Towns of Mansfield and Chaplin, CT

Note: XS-4 (depicted) Illustrates Proposed Route between Structures 9087 and 9094. Refer to XS-5 on Mapsheet 11 for Proposed ROW Configuration in Mansfield Hollow WMA in Town of Chaplin.



AREA DESCRIPTION

Existing Land Use
- Residential
- Agricultural
- CT Protected/Open Space (Mansfield Hollow Wildlife Management Area managed by the CT DEEP); Nipmuck Trail (East Branch)

Zoning
- Town of Mansfield
  - Current:
    - Rural Agriculture Residence 90 Zone (RAR-90)
  - Flood Hazard Zone (FH)
- Town of Chaplin
  - Current:
    - Rural Agriculture Residence District (RAR)

Natural Systems
- Natchaug River and its associated tributaries
- State/Federal jurisdictional wetlands
- Open water (ponds)
- Mansure Pond
- Natural Diversity Data Base Area
- Mixed hardwood forest varying in size and age
- 100-year flood zone – Natchaug River

Visual Character
- Residential, agricultural, and forest

RIGHT-OF-WAY DESCRIPTION

Land Use
- Residential near structures 9087 to 9090
- Agricultural adjacent to structure 9092
- CT Protected/Open Space adjacent to and/or between structures 9087, and 9094 to 9097
- Upland and/or wetland forest adjacent to structures 9087 to 9097
- Nipmuck Trail, East Branch (CFPA Blue Dot Trail) between structures 9086 and 9087

Wetlands, Watercourses and Waterbodies
- Wetland Nos.: W20-67, W20-68, W20-69, W20-70, W20-71, W20-72, W20-73, W20-74
- Wetland Cover Types: Palustrine Emergent Wetland (PEM), Palustrine Scrub-Shrub Wetland (PSS), Palustrine Forested Wetland (PFO), Open Water (OW)
- Stream Nos.: S20-20, S20-21, S20-21A, S20-22 (Natchaug River), S20-23

Potential Access
- Structure 9087 can be accessed from Bassetts Bridge Road
- Structures 9088 to 9095 can be accessed from South Bedlam Road
- Structures 9096 to 9097can be accessed from U.S. Route 6/Willimantic Road (see Mapsheet 11 of 40)

Right-of-Way Vegetation
- Upland and wetland forest, open field-shrub, agricultural, house/yard

Terrain
- Broad, rolling hills

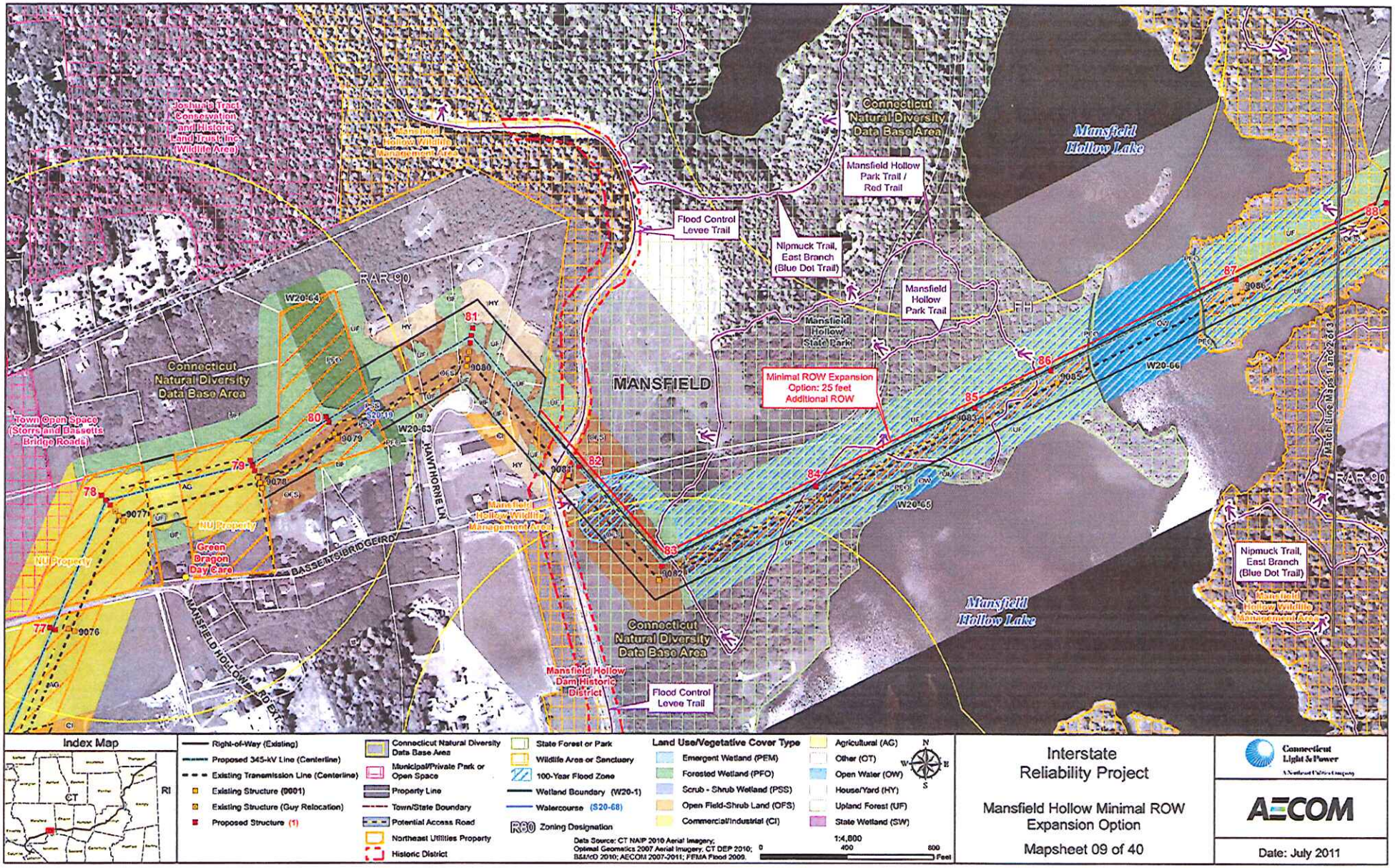
Existing Right-of-Way Width
- 150 to 300 feet

Proposed Expansion of Right-of-Way Width
- 0 to 85 feet: 85 feet across USACE-owned property within Mansfield Hollow WMA only

Existing Managed Right-of-Way Width
- 100 to 140 feet

Proposed Additional Managed Right-of-Way Width
- 90 feet

Road Crossings/Major Utility Crossings
- Bassetts Bridge Road between structures 9087 and 9088
- South Bedlam Road between structures 9089 and 9090

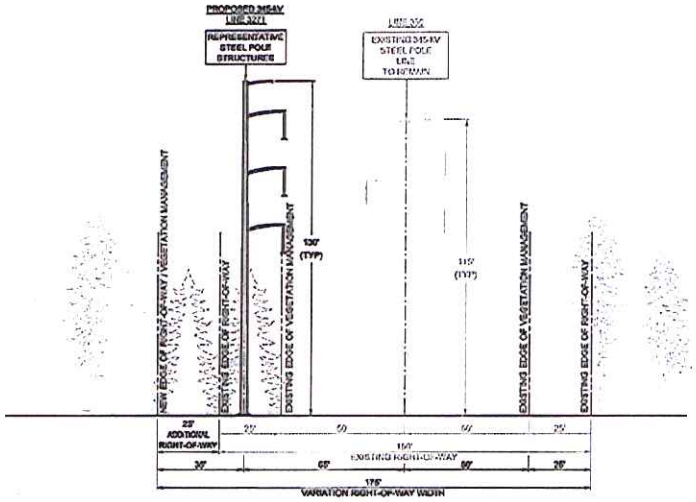


ATTACHMENT 7

MAPSHEET 09 of 40:

Interstate Reliability Project
Minimal ROW Expansion Configuration Option: Mansfield Hollow Area Segment 1
Existing Structure Locations 9077 to 9086
Bassetts Bridge Road to Nipmuck Trail (East Branch)
Town of Mansfield, CT

Note: Cross-section shown (XS-3-MH-MRE) applies to USACE property only. See cross-section (XS-2) in Exhibit 2 on Mapsheet 08 for transmission line and ROW configuration on non-USACE lands.



AREA DESCRIPTION

Existing Land Use

- Residential
- Agricultural
- Commercial/Industrial
- CT Protected/Open Space (Joshua's Tract Conservation and Historic Land Trust (The Pond Lot and Wildlife Area) privately managed, Town Open Space (Storrs & Bassetts Bridge Roads) managed by the Town of Mansfield, Mansfield Hollow State Park and Mansfield Hollow Lake managed by the CT DEEP and the U.S. Army Corps of Engineers (USACE), and Mansfield Hollow Wildlife Management Area (WMA) managed by the CT DEEP)
- Mansfield Hollow Levee (recreational trail); Red Trail (hiking trail in State Park); CFPA's Nipmuck Trail (East Branch)

Zoning

- Current:
  - Rural Agriculture Residence 90 Zone (RAR-90)
  - Flood Hazard Zone (FH)

Natural Systems

- Open water (ponds)
- State/Federal jurisdictional wetlands
- Natural Diversity Data Base Area
- Mansfield Hollow Lake
- Mixed hardwood forest varying in size and age
- 100-year flood zone – Mansfield Hollow Lake

Visual Character

- Residential, agricultural, commercial/industrial, and forest

RIGHT-OF-WAY DESCRIPTION

Land Use

- Agricultural adjacent to and between structures 9076 to 9078
- Residential near structures 9080, and 9081
- Mansfield Hollow State Park (USACE-owned property) adjacent to and northwest of structure 9081 to east side of Mansfield Hollow Lake
- Mansfield Hollow WMA (USACE-owned property) east side of lake to east of structure 9086
- Upland and/or wetland forest adjacent to structures 9077 to 9080, and 9082 to 9086
- Flood Control Levee Trail between structures 9080 and 9081
- Mansfield Hollow State Park Trail (Red Trail) between structures 9082 and 9085
- Nipmuck Trail, East Branch (CFPA Blue Dot Trail) between structures 9086 and 9087

Wetlands, Watercourses and Waterbodies

- Wetland Nos.: W20-63, W20-64, W20-65, W20-66
- Wetland Cover Types: Palustrine Scrub-Shrub Wetland (PSS), Palustrine Forested Wetland (PFO), Open Water (OW)
- Waterbody: Mansfield Hollow Lake
- Stream No.: S20-19

Potential Access

- Structures 9077 to 9085 can be accessed from Bassetts Bridge Road; Structure 9086 can be access from Bassetts Bridge Road on east side of lake.

Right-of-Way Vegetation

- Open field, shrub land, upland forest, forested and scrub-shrub wetland (W20-66 adjacent to Mansfield Hollow Lake)

Terrain

- Broad, rolling hills

Existing Right-of-Way Width

- 150 (USACE property)to 300 feet

Additional Right-of-Way Width Required

- 0 to 25 feet: 25 feet within USACE-owned property Mansfield Hollow State Park and WMA only

Existing Managed Right-of-Way Width

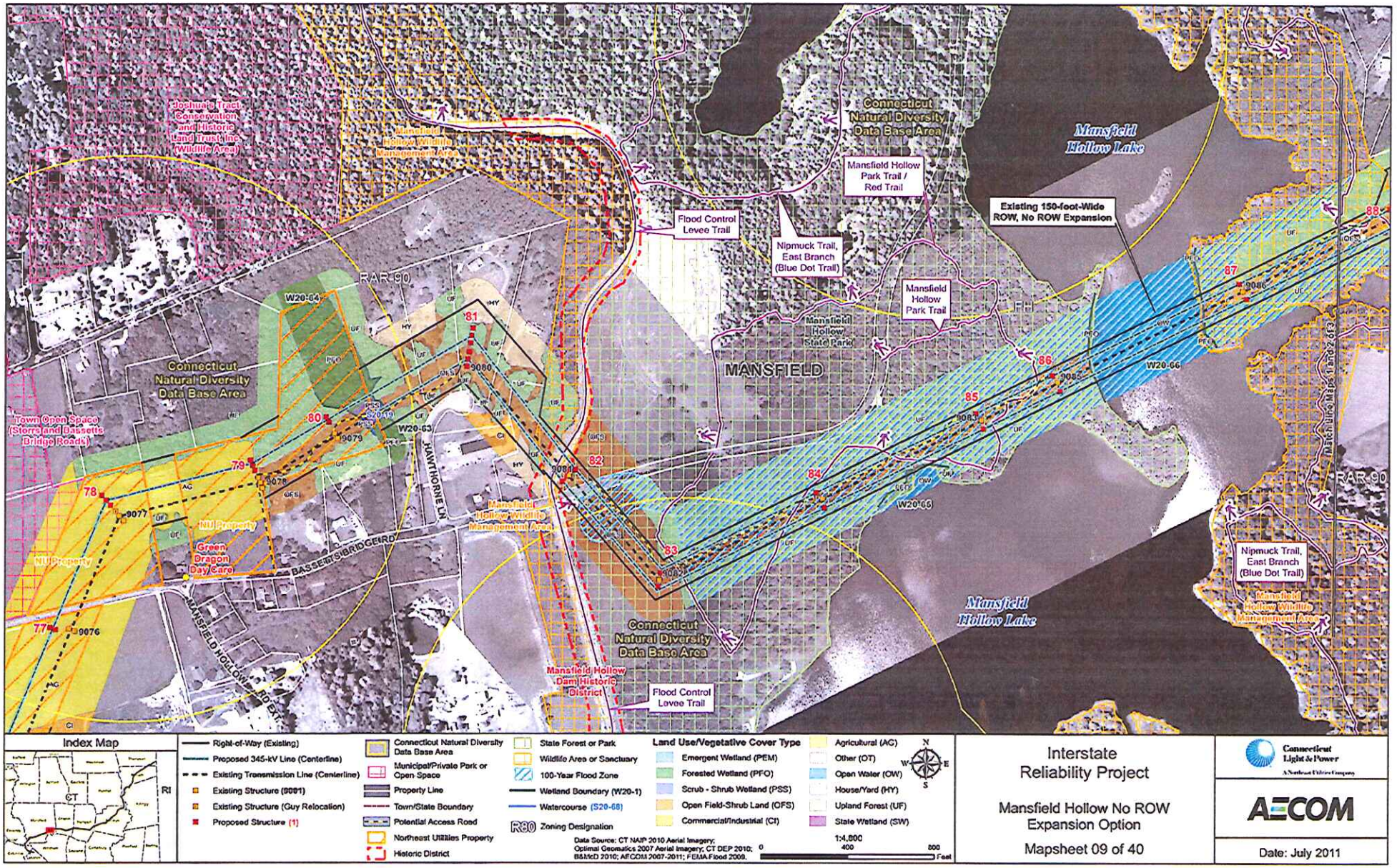
- 100 to 300 feet

Additional Managed Right-of-Way Width Required

- 50 to 90 feet (50-foot-width within USACE-owned property Mansfield Hollow State Park and WMA only)

Road Crossings/Major Utility Crossings

- Bassetts Bridge Road between structures 9076 and 9077, and 9081 and 9082



Index Map

- Right-of-Way (Existing)
- Proposed 345-kV Line (Centerline)
- Existing Transmission Line (Centerline)
- Existing Structure (9081)
- Existing Structure (Guy Relocation)
- Proposed Structure (1)
- Connecticut Natural Diversity Data Base Area
- Municipal/Private Park or Open Space
- Property Line
- Town/State Boundary
- Potential Access Road
- Northeast Utilities Property
- Historic District
- State Forest or Park
- Wildlife Area or Sanctuary
- 100-Year Flood Zone
- Wetland Boundary (W20-1)
- Watercourse (S20-68)
- R80 Zoning Designation

Land Use/Vegetative Cover Type

- Emergent Wetland (PEM)
- Forested Wetland (PFO)
- Scrub - Shrub Wetland (PSS)
- Open Field-Shrub Land (OFS)
- Commercial/Industrial (CI)
- Agricultural (AG)
- Other (OT)
- Open Water (OW)
- House/Yard (HY)
- Upland Forest (UF)
- State Wetland (SW)

Data Source: CT NAIP 2010 Aerial Imagery; Optimal Geomatics 2007 Aerial Imagery; CT DEP 2010; BSRKD 2010; AFCOM 2007-2011; FEMA Flood 2009.

1:4,800
0 400 800 Feet

Interstate Reliability Project

Mansfield Hollow No ROW Expansion Option

Mapsheet 09 of 40

Connecticut Light & Power
A Northeast Utilities Company

AECOM

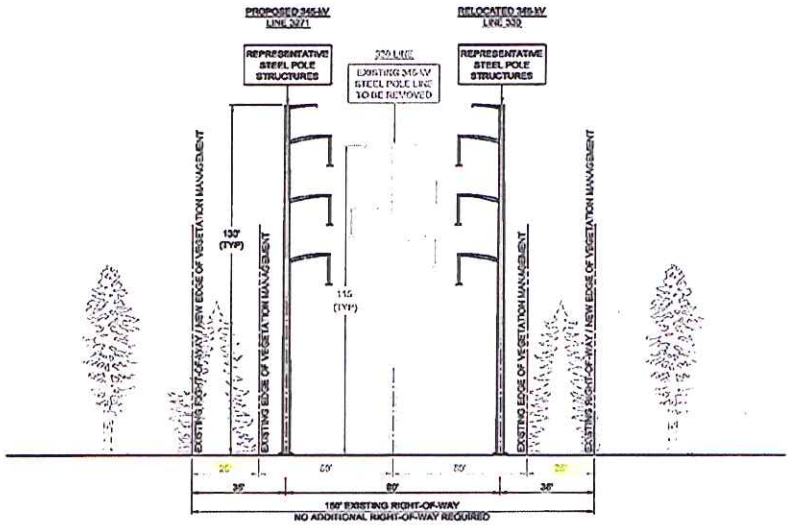
Date: July 2011

ATTACHMENT K

MAPSHEET 09 of 40:

Interstate Reliability Project
No ROW Expansion Configuration Option: Mansfield Hollow Area Segment 1
Existing Structure Locations 9077 to 9086
Bassetts Bridge Road to Nipmuck Trail (East Branch)
Town of Mansfield, CT

Note: Cross-section shown (XS-3-MII-NRE) applies to USACE property only. See cross-section (XS-2) in Exhibit 2 on Mapsheet 08 for transmission line and ROW configuration on non-USACE lands.



AREA DESCRIPTION

Existing Land Use

- Residential
- Agricultural
- Commercial/Industrial
- CT Protected/Open Space (Joshua's Tract Conservation and Historic Land Trust (The Pond Lot and Wildlife Area) privately managed, Town Open Space (Storrs & Bassetts Bridge Roads) managed by the Town of Mansfield, Mansfield Hollow State Park and Mansfield Hollow Lake managed by the CT DEEP and the U.S. Army Corps of Engineers (USACE), and Mansfield Hollow Wildlife Management Area (WMA) managed by the CT DEEP)
- Mansfield Hollow Levee (recreational trail); Red Trail (hiking trail in State Park); CFPA's Nipmuck Trail (East Branch)

Zoning

- Current:
  - Rural Agriculture Residence 90 Zone (RAR-90)
  - Flood Hazard Zone (FH)

Natural Systems

- Open water (ponds)
- State/Federal jurisdictional wetlands
- Natural Diversity Data Base Area
- Mansfield Hollow Lake
- Mixed hardwood forest varying in size and age
- 100-year flood zone – Mansfield Hollow Lake

Visual Character

- Residential, agricultural, commercial/industrial, and forest

RIGHT-OF-WAY DESCRIPTION

Land Use

- Agricultural adjacent to and between structures 9076 to 9078
- Residential near structures 9080, and 9081
- Mansfield Hollow State Park (USACE-owned property) adjacent to and northwest of structure 9081 to east side of Mansfield Hollow Lake
- Mansfield Hollow WMA (USACE-owned property) east side of lake to east of structure 9086
- Upland and/or wetland forest adjacent to structures 9077 to 9080, and 9082 to 9086
- Flood Control Levee Trail between structures 9080 and 9081
- Mansfield Hollow Park Trail (Red Trail) between structures 9082 and 9085
- Nipmuck Trail, East Branch (CFPA Blue Dot Trail) between structures 9086 and 9087

Wetlands, Watercourses and Waterbodies

- Wetland Nos.: W20-63, W20-64, W20-65, W20-66
- Wetland Cover Types: Palustrine Scrub-Shrub Wetland (PSS), Palustrine Forested Wetland (PFO), Open Water (OW)
- Waterbody: Mansfield Hollow Lake
- Stream No.: S20-19

Potential Access

- Structures 9077 to 9085 can be accessed from Bassetts Bridge Road; structure 9086 can be access from Bassetts Bridge Road on east side of lake.

Right-of-Way Vegetation

- Agricultural, house/yard, open field, shrub-land, upland forest, forested and scrub-shrub wetland (W20-66 adjacent to Mansfield Hollow Lake)

Terrain

- Broad, rolling hills

Existing Right-of-Way Width

- 150 (USACE property) to 300 feet

Additional Right-of-Way Width Required

- 0 feet

Existing Managed Right-of-Way Width

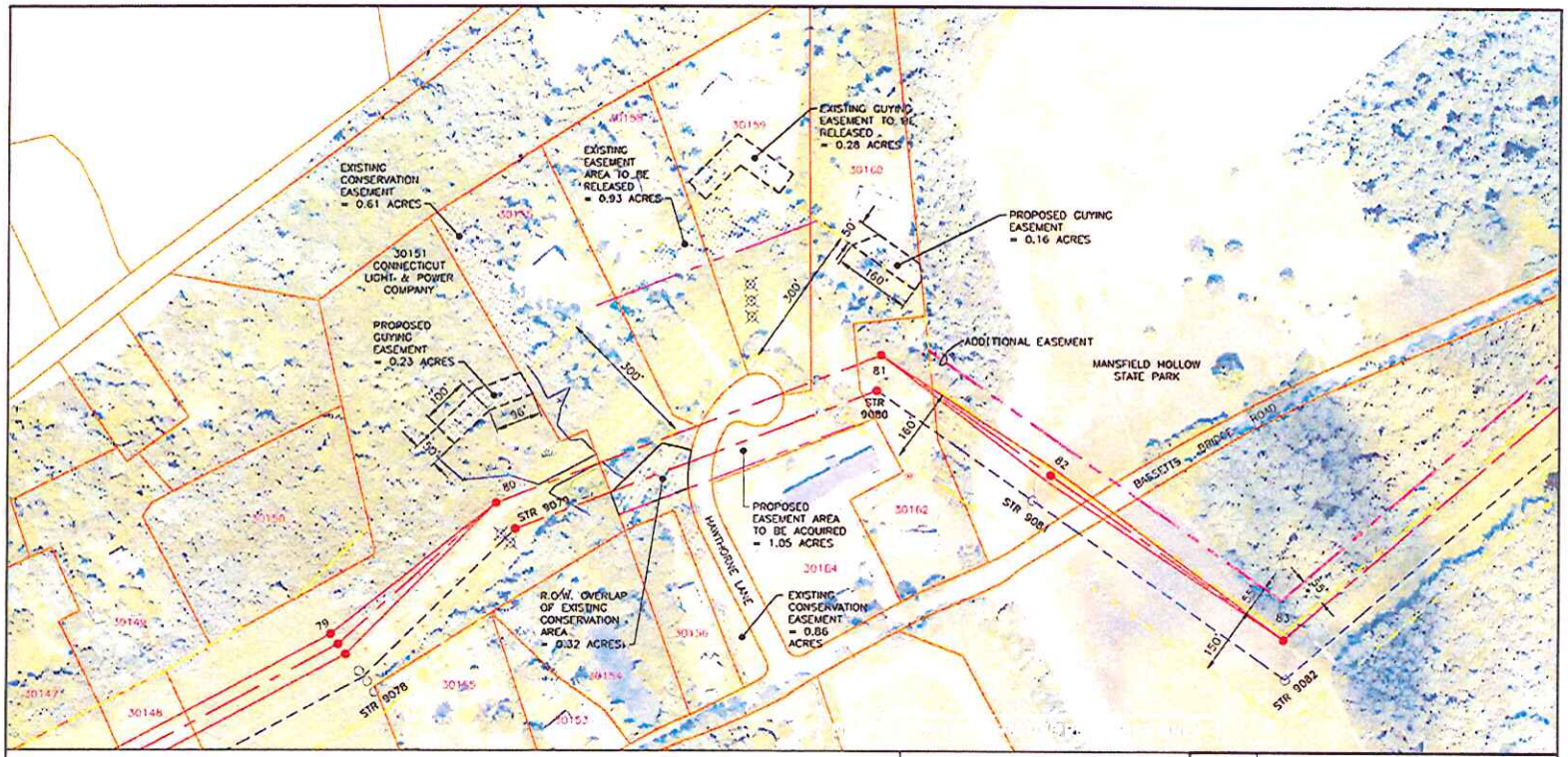
- 100 feet (USACE property) to 300 feet

Additional Managed Right-of-Way Width Required

- 50 to 90 feet (50 feet within existing easement on USACE property)

Road Crossings/Major Utility Crossings

- Bassetts Bridge Road between structures 9076 and 9077, and 9081 and 9082



LEGEND

- EXISTING STRUCTURE TO BE REMOVED
- EXISTING STRUCTURE TO REMAIN
- PROPOSED STRUCTURE
- WETLANDS
- VERNAL POOL HABITAT
- PROPERTY LINE
- EXISTING RIGHT-OF-WAY LINE
- PROPOSED RIGHT-OF-WAY LINE
- EXISTING 345kV CENTERLINE
- PROPOSED 345kV CENTERLINE
- PROPOSED 345kV CONDUCTOR
- VEGETATION CLEARING LIMITS
- 30150 TYPICAL PARCEL NUMBER

Burns & McDonnell SINCE 1898

46197

date	detailed
AUG. 4, 2011	D. LAURSEN
designed	checked
S. CASTEEL	-

Northeast Utilities Service Co.

FOR CONNECTICUT LIGHT & POWER

TITLE INTERSTATE RELIABILITY PROJECT
345-kV LINE SHIFT
(HAWTHORNE LANE)

BY DWCD	CHKD	APP	APP
DATE 08/04/11	DATE	DATE	DATE
H-SCALE 1"=200'	SVC	FIELD BOOK & PGS	
V-SCALE N/A	W.S	R.E.DWG. NO.	
RE PROJ NUMBER		NUSCO DWG NO	SHEET 5

N:\NUSCO\46197 - Interstate\Cadd\Proposed Route Aerials\HAWTHORNE_LN\HAWTHORNE_LN-5_CONSERVATION.dwg (SHT-5 34x22) 08-09-2011 15:03 BDL BAKER

ATTACHMENT L

ATTACHMENT M

Herbicide Use on Transmission Rights-of-Way

Connecticut Light & Power

Western Massachusetts Electric

Northeast Utilities Companies

The vegetation management program for the Northeast Utilities (NU) companies is focused on controlling vegetation within transmission rights-of-way to support the safe and reliable operation of the electric transmission system. Maintenance work under the program includes the use of federally approved, state-registered herbicides by state-licensed applicators in a carefully prescribed and targeted way specifically to control undesirable vegetation.

NU is a member of the U.S. Environmental Protection Agency's (EPA) "Pesticide Environmental Stewardship Program," which is committed to the proper management of right-of-way vegetation programs and to reducing risks with pesticide applications.

NU's vegetation management strategies have been recognized by state agencies and the EPA, which in 2003 named NU as the first electric utility to receive its Champion Award under the "Pesticide Environmental Stewardship Program."

NORTHEAST UTILITIES ADHERES TO ALL LOCAL, STATE AND FEDERAL REGULATIONS PERTAINING TO THE USE OF HERBICIDES.

MAINTENANCE

The safe and reliable operation of our electric transmission system requires NU to control and remove certain plant species from power line rights-of-way. To do this, NU uses herbicides as part of its ongoing maintenance programs.

Vegetation maintenance on rights-of-way is typically conducted once every four years, when targeted vegetation usually attains heights that require control.

NU adheres to all local, state and federal regulations pertaining to the use of herbicides. This includes the preparation and submission of a detailed application plan, which is reviewed and approved by the respective state authority and then followed by NU and its applicators. These regulations require maintaining specific distances from public and private wells, water supply areas, wetlands and standing water.

NU employs state certified and licensed contractors for herbicide application. These contractors must undergo regular recertification training covering many aspects of vegetation control, including laws and regulations, new materials, application methods and wildlife concerns.

A low-volume, low-pressure application method is employed when herbicides are used, and application is made to the individual stems of the targeted plants. NU vegetation management experts select the herbicides to be used on power line rights-of-way. Both the products and the application methods are environmentally sound and provide the optimum level of control of targeted plant species, while protecting and preserving the natural habitats on the rights-of-way.

continued >

Transmission Right-of-Way Activities in Agricultural Lands

Northeast Utilities

Connecticut Light & Power
Public Service of New Hampshire
Western Massachusetts Electric

Northeast Utilities (NU), through its operating companies, Connecticut Light & Power, Western Massachusetts Electric and Public Service of New Hampshire, manages nearly 1,900 miles of transmission line rights-of-way in Connecticut, Massachusetts and New Hampshire. Where transmission lines span agricultural lands, NU works closely with property owners to protect their farmland while maintaining the right-of-way for utility transmission and distribution uses. On NU-owned property, we also consider licensing portions of our property to farmers for agricultural or other purposes.

As NU improves its transmission system to better serve customers, we may need to temporarily work in croplands and pasturelands located within rights-of-way. In some instances, this may affect ongoing agricultural activities in and around the rights-of-way. While easement agreements typically grant NU rights to clear vegetation that may interfere with construction, operation or maintenance of the transmission system, we are committed to being good neighbors and partners. As such, when we undertake transmission system improvements, NU will work closely with landowners, licensees and stakeholders to minimize agricultural impacts.

NORTHEAST UTILITIES MAKES REASONABLE EFFORTS TO COORDINATE THE SCHEDULE OF CONSTRUCTION-RELATED ACTIVITIES AROUND THE GROWING AND HARVEST SEASONS.

Some of our routine practices include:

Scheduling Considerations

Whenever possible, NU makes reasonable efforts to coordinate the schedule of construction-related activities around the growing and harvest seasons to minimize the impacts on agricultural operations. When this is not possible, NU pursues reasonable measures to mitigate any impacts.

Restoration of Disturbed or Compacted Soils

NU recognizes that disturbed soils, or soils compacted by heavy construction equipment, may affect the soil's ability to support certain agricultural activities. NU takes reasonable steps to avoid or minimize soil compaction, and will restore soils that are compacted by construction equipment. NU also works with affected landowners to determine the appropriate method for restoring the soils, and is open to discussing and implementing the landowners' alternative restoration suggestions.

After a transmission system improvement is complete, NU removes all construction-related equipment and debris from the right-of-way.

Soil Preservation and Erosion Controls

NU will implement all required and other reasonable efforts for soil preservation and erosion controls in compliance with all applicable permits and good utility practices. These practices are designed to minimize or eliminate potential adverse environmental effects that may result from construction activities. Examples of these mitigation measures include the use of hay bales and silt fences.

continued >

Northeast Utilities

Connecticut Light & Power
Public Service of New Hampshire
Western Massachusetts Electric

Northeast Utilities (NU), through its electric operating companies, Connecticut Light & Power, Western Massachusetts Electric, and Public Service of New Hampshire, manages nearly 1,900 miles of transmission line rights-of-way (ROW) in Connecticut, Massachusetts and New Hampshire. During line maintenance and construction activities within these ROWs, NU will make reasonable efforts to avoid or minimize disturbances to a landowner's property including damage to trees, shrubs, lawns, and gardens, as well as non-vegetation items such as walls and fences. However, despite such efforts during these activities, some damage to private property may be unavoidable. If this occurs, NU will restore property to its pre-construction condition in a manner that is compatible with NU's operations and maintenance activities. This will take place as soon as is reasonably possible following construction completion.

Restoring Vegetation Areas

When construction or maintenance is complete, disturbed ROW areas will be restored. Erosion controls will also be removed, although some may need to remain until the area is stabilized or until removal is directed by a regulating authority. In previously unlandscaped areas, native shrubs and ground cover will be allowed to grow. In areas that were previously covered with grass, NU will restore the area to its pre-construction condition with topsoil and seed. In some areas where visual impacts are greatest, NU will replant trees and shrubs with vegetation that is compatible with the future operation and maintenance of its transmission lines according to NU's guideline entitled, "Vegetation for Transmission Rights-of-Way" and as required by state law and/or regulatory directive.

Restoring Access Roads and Work Areas

Construction and maintenance vehicles must be able to safely access each structure location. In the early stages of a new line's construction, gravel roads approximately 15 to 20 feet wide may be built to support the movement of large equipment and materials. Level gravel work areas ("crane pads") are also needed to stabilize equipment.

When construction is complete, access roads may remain for future maintenance of the transmission facilities within the ROW. Most crane pad areas will be removed and the area will be rehabilitated with topsoil and reseeded. Temporary erosion controls, such as hay bales and silt fences, may need to remain in some areas to prevent soil erosion until the grass or other vegetation regenerates.

Addressing Damage to Property or Other Losses

NU will attempt to minimize property damage or other losses that may occur as a result of construction and maintenance activities. If a landowner believes that transmission system work has caused property damage or other losses, the owner should contact his or her NU project representative, account executive or customer service representative by calling 800.286.2000 (860.947.2000 in the Hartford/Meriden, CT, area). NU will investigate the claim, and the landowner will be advised as soon as practicable concerning the response to the claim.

For More Information

www.NUrightsofway.com

Anthony (Tony) Johnson
johnsaw@nu.com
860.665.3858

Transmission Vegetation Management
Northeast Utilities, P.O. Box 270, Hartford, CT 06141-0270

Guideline G8-MT-007, Rev. 0, as referenced by NU Procedure: "Managing Rights-of-Way Impacts"

June 2010 CD0610750

Vegetation for Transmission Rights-of-Way

Northeast Utilities

Connecticut Light & Power
Public Service of New Hampshire
Western Massachusetts Electric

Northeast Utilities (NU) manages nearly 1,900 miles of transmission rights-of-way in Connecticut, Massachusetts and New Hampshire. Building and maintaining a safe, reliable transmission system that has a minimal impact on the environment is one of our key goals. That's why we use best management practices when clearing and maintaining vegetation in these rights-of-way.

As a property owner, you take great pride and enjoyment in your home. However, some plant species may not be compatible with the construction, operation and maintenance of NU's transmission system.

Federal, regional and electric industry standards require minimum safety clearances to ensure that vegetation doesn't come into contact with high-voltage overhead transmission lines. If the vegetation located in the transmission rights-of-way is not compatible with the safe operation of the system, it can result in widespread electric power outages or unsafe conditions for electric system workers and the public.

This handout is designed to assist in the selection of the correct shrub and tree types that are acceptable to plant within or along a transmission right-of-way. Please remember that this information is only a guide; any vegetation located within, or along the immediate edge of, the right-of-way is planted at your own risk. During emergencies it may be necessary to remove plantings that meet these guidelines so that NU can access the transmission system and make repairs.

There are numerous shrub and tree species that are acceptable for planting within the "Wire and Peripheral Zones" (see diagram on reverse page) of a transmission right-of-way. In general, low-growing shrubs, grasses, forbs (wildflowers), ferns and certain low-growing tree species are allowed within the established right-of-way, with minor restrictions. To allow for inspection and maintenance of the transmission facilities, new plantings should not be placed where they will obstruct existing access roads or be within 10 feet of a structure or supporting wires.

The potential mature height of the tree species will dictate whether or not a tree may be planted within the right-of-way. Generally, trees with mature heights in excess of 30 feet may not be planted anywhere within the right-of-way. Lower-growing tree species, with mature heights less than 30 feet, may only be planted within the peripheral zones, which are the areas beyond the outermost conductors where the heights of vegetation are less of an issue. Only plant species with mature heights of 15 feet or less are acceptable within the wire zone; low-growing shrubs, forbs, ferns and grasses may be planted in any zone. Note that each property is unique, and plantings may need to be evaluated on a case-by-case basis.

When purchasing trees to plant on a transmission line right-of-way over your property, please review the description that comes with the plant or check with a knowledgeable person at the store for plant growth characteristics. Also, vegetation management specialists from NU are available to answer questions regarding planting within the right-of-way.

continued >

Shrubs, wildflowers, ferns and grasses

may be planted anywhere within the transmission corridor.