



**Connecticut
Light & Power**

A Northeast Utilities Company

**Connecticut Siting Council
Docket No. 435**

**STAMFORD RELIABILITY CABLE PROJECT
Stamford, Connecticut**

DEVELOPMENT AND MANAGEMENT PLAN

115-kV Underground Transmission Line

VOLUME II of III

October 31, 2013

***Submitted to:*
Connecticut Siting Council
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VOLUME II
STAMFORD RELIABILITY CABLE PROJECT
DEVELOPMENT AND MANAGEMENT PLAN
115-kV Underground Transmission Line

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- Exhibit 3 Plan and Profile and Detail Drawings
- Exhibit 4 Sediment and Erosion Control Figures
- Exhibit 5 Pavement Restoration Plan

Volume I
(under separate cover)
D&M Plan - Glenbrook and South End Substations

Volume III
(under separate cover)
D&M Plan - General Appendices

- Appendix A.** Docket No. 435 Decision and Order
- Appendix B.** Northeast Utilities' *Construction and Maintenance Environmental Requirements Best Management Practices Manual: Connecticut, December 2011*
- Appendix C.** Spill Prevention and Countermeasures Plan
- Appendix D.** Soil Handling and Dewatering Plan
- Appendix E.** Snow Removal and De-Icing Procedures
- Appendix F.** Post-Construction Electric and Magnetic Field Monitoring Plan
- Appendix G.** City of Stamford Comments on D&M Plan

1. INTRODUCTION

1.1 PROJECT OVERVIEW AND PURPOSE OF THE PLAN

The Connecticut Light and Power Company (“CL&P”) has prepared this Development and Management Plan (“D&M Plan” or the “Plan”) as part of the Stamford Reliability Cable Project (“SRCP” or “the Project”). CL&P proposes to construct and operate a new 115-kilovolt (“kV”) underground transmission line, extending approximately 1.5 miles between CL&P’s Glenbrook and South End Substations in Stamford (the “City”), and to make related modifications to both substations (Figure 1-1).

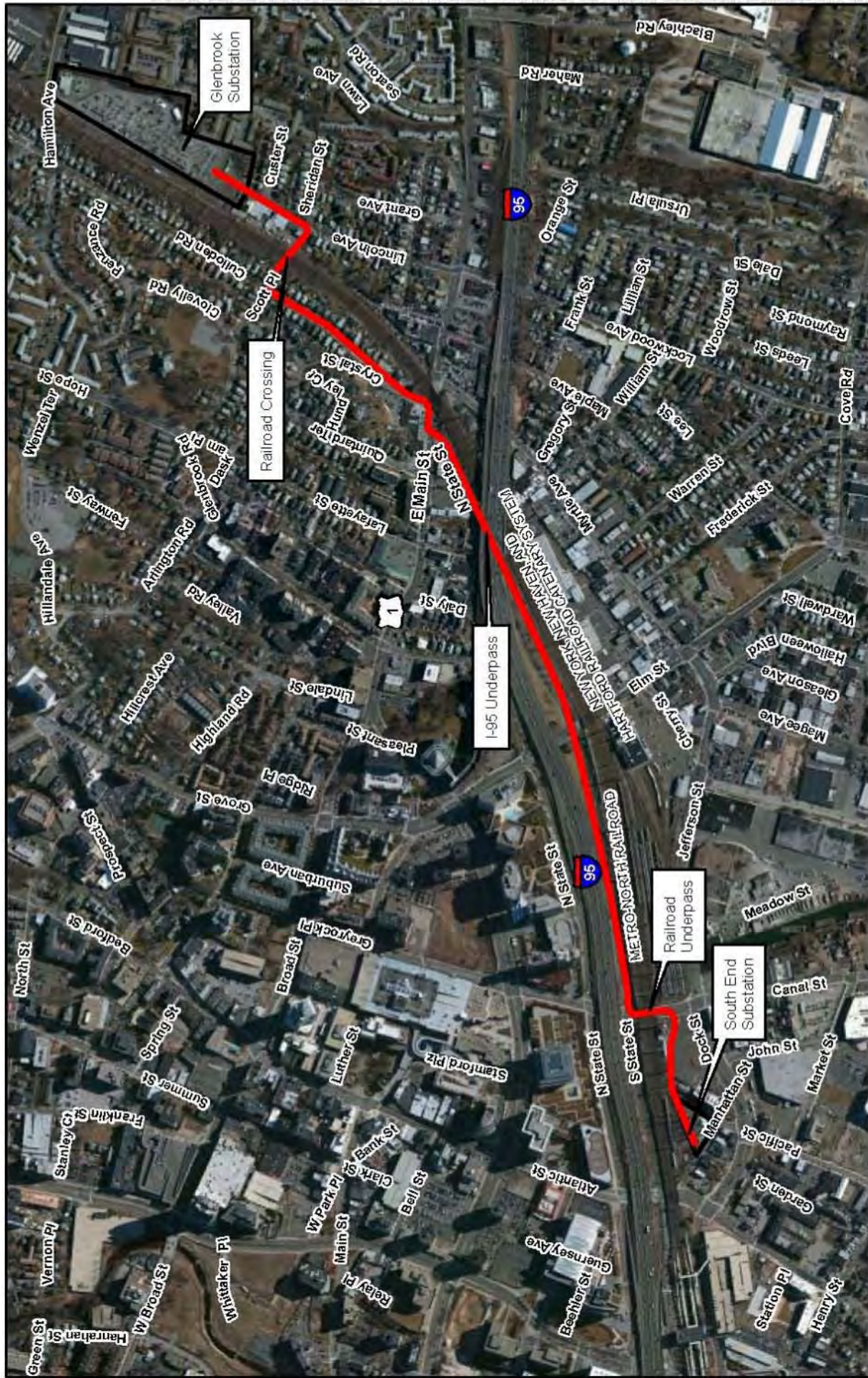
On January 18, 2013, CL&P submitted to the Connecticut Siting Council (“Council” or “CSC”) an Application for a Certificate of Environmental Compatibility and Public Need for the Project (Council Docket No. 435). After public meetings, evidentiary hearings, interrogatories and related technical reviews, the Council approved the Project on September 5, 2013. Condition #2 of the Council’s Decision and Order approving the Project requires that CL&P prepare a D&M Plan in compliance with Sections 16-50j-60 through 16-50j-62 of the Regulations of Connecticut State Agencies (“RCSA”; *Requirements for a D&M Plan, Elements of a D&M Plan, Reporting Requirements*).

A portion of the underground transmission line route, between Lincoln Avenue and Scott Place, will require the acquisition of easements from a third party landowner and the City. This area will also require a crossing agreement with Metro-North Railroad. A second portion of the route, to the west of Canal Street and south of the Metro-North Railroad, will also require easements from third party landowners. Except for these areas and the use of temporary construction staging areas, all other portions of the underground transmission line route will be within public roadways. Please see Appendix A, Exhibit 2 of this Volume.

1.2 ORGANIZATION OF THE D&M PLAN

To address both the procedures unique to the substation modifications and the 115-kV underground transmission line components and to adhere to Project-wide specifications applicable to such work, this D&M Plan consists of three volumes:

- Volume I - A D&M Plan that addresses all construction activities for the modifications to Glenbrook Substation and South End Substation;
- Volume II - A D&M Plan that addresses all construction activities for the 115-kV underground transmission line; and,



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AECOM

Date: July 22 2013

Stamford Reliability Cable Project

Figure 1-1
Preferred Route With Canal
Street Option (Updated)

Legend

— PREFERRED ROUTE WITH CANAL STREET OPTION (UPDATED)

17,200 1" = 800'
0 600 1,200 Feet

Data Source: ESRI Bing Imagery
AECOM Survey: May 2012



- Volume III - A D&M Plan that contains Project-wide approvals, plans, guidelines, and specifications that apply universally to the construction activities at the Glenbrook and South End Substations.

This D&M Plan is Volume II, which addresses construction activities associated with the 115-kV underground transmission line.

1.2.1 Volume I – Glenbrook and South End Substations D&M Plan

Volume I includes specific information relevant to the Project modifications to the Glenbrook and South End Substations. Volume I (Sections 1 through 10) includes general Project data and procedures that are pertinent to work at both substations, including regulatory requirements, general Project construction procedures and plans, overall construction schedule, environmental inspection, public outreach, and Council-required notices and reporting, including the process for requesting and noticing D&M Plan changes.

Table 1-1 summarizes each of the Council's D&M Plan requirements and indicates where within the Plan this information is located. For each D&M Plan requirement, Table 1-1 either identifies the location in the D&M Plan where the requirement is addressed or states why the requirement is not relevant to the substation modifications. Table 9-1 identifies the requirements pertaining to substations contained in the Council's Decision and Order and Opinion for the Project.

All of the substation modifications will be implemented in upland areas, within presently developed, fenced portions of the two substations. As a result, certain regulatory requirements (e.g., those pertaining to water resources, forested vegetation clearing, active farmland protection) are not applicable to the substation modifications, as identified in Table 1-1 and are therefore not included in this D&M Plan.

Appendix A of Volume I provides detailed, site-specific construction information, plans, and drawings regarding the modifications to Glenbrook and South End Substations, including:

- Key Map/Site Locus (Appendix A, Exhibit 1);
- Aerial Photograph of Glenbrook Substation and Surroundings (Appendix A, Exhibit 2);
- Aerial Photograph of South End Substation and Surroundings (Appendix A, Exhibit 2A);
- General Arrangement Plans (Appendix A, Exhibit 3); and,
- Sediment and Erosion Control Figures (Appendix A, Exhibit 4).

1.2.2 Volume II – 115-kV Underground Transmission Line D&M Plan

Volume II includes plans and specifications that pertain to specific construction activities associated with the 115-kV underground transmission line route. Volume II provides the transmission line counterparts of the substation materials noted in Section 1.2.1 including:

- Key Map/Site Locus (Appendix A, Exhibit 1);
- Preferred Route with Canal Street Option (Updated), Aerial Photograph Base (Appendix A, Exhibit 2).
- Plan and Profile and Detail Drawings (Appendix A, Exhibit 3);
- Sediment and Erosion Control Plan (Appendix A, Exhibit 4); and,
- Pavement Restoration Plan (Appendix A, Exhibit 5)

As in Volume I, Table 1-1, summarizes the Council's D&M Plan requirements and compliance with RCSA and indicates either where within the Plan this information is located or why the requirement is not relevant to this component of the Project. Table 9-1 is a checklist which identifies the requirements pertaining to the transmission line component contained in the Council's Decision and Order and Opinion for the Project.

All of the transmission line work will be done in previously developed upland areas. As a result, certain regulatory requirements (e.g., those pertaining to water resources, forested vegetation clearing, active farmland protection) are not applicable to this Project component, as identified in Table 1-1 and are therefore not included in this D&M Plan.

1.2.3 Volume III – General Appendices

Volume III includes Project-wide approvals, plans, guidelines, and specifications that apply universally to the construction activities at the Glenbrook and South End Substations as well as the underground transmission line route. In particular, Volume III includes the following appendices:

Appendix A. Docket No. 435 Decision and Order

Appendix B. Northeast Utilities' *Construction and Maintenance Environmental Requirements Best Management Practices Manual: Connecticut, December 2011*

Appendix C. Spill Prevention and Countermeasures Plan

Appendix D. Soil Handling and Dewatering Plan

Appendix E. Snow Removal and De-Icing Procedures

Appendix F. Post-Construction Electric and Magnetic Field Monitoring Plan

Appendix G. City of Stamford Comments on D&M Plan

1.3 DEVELOPMENT AND MANAGEMENT PLAN DIRECTORY

Table 1-1 summarizes each of the Council's D&M Plan requirements and indicates either where in the Plan this information is located or why the requirement is not relevant to this component of the Project.

Table 1-1: D&M Plan Directory for 115-kV Underground Transmission Line Compliance with RCSA Sections 16-50j-60, -61 and -62

RCSA Section	Description	D&M Plan (Section Reference, as Applicable)
16-50j-60	Requirements for a D&M Plan	
(a)	Purpose. The Council may require the preparation of full or partial D&M Plans for proposed energy facilities, modifications to existing energy facilities, or where the preparation of such a plan would help significantly in balancing the need for adequate and reliable utility services at the lowest reasonable cost to consumers with the need to protect the environment and the ecology of the state.	This D&M Plan (Volume II of III) applies to the 115-kV underground transmission line component of the Project.
(b)	When required. A partial or full D&M plan shall be prepared in accordance with this regulation and shall include the information described in Sections RCSA 16-50j-61 to 16-50j-62, inclusive, for any proposed energy facility for which the Council issues a certificate of environmental compatibility and public need, except where the Council provides otherwise at the time it issues the certificate. Relevant information in the Council's record may be referenced.	This D&M Plan (Volume II of III) includes all information applicable to the construction of the 115-kV underground transmission line component of the Project.
(c)	Procedure for preparation. The D&M plan shall be prepared by the certificate holder or the owner or operator of the proposed facility or modification to an existing facility. The preparer may consult with the staff of the Council to prepare the D&M plan.	This D&M Plan was prepared by CL&P.
(d)	Timing of plan. The D&M plan shall be submitted to the Council in one or more sections, and the Council shall approve, modify, or disapprove each section of the plan not later than 60 days after receipt of it. If the Council does not act to approve, modify or disapprove the plan or a section thereof within 60 days after receipt of it, the plan shall be deemed approved. Except as otherwise authorized by the Council, no clearing or construction shall begin prior to approval of applicable sections of the D&M plan by the Council.	This D&M Plan (Volume II and III of III) includes all relevant information for the 115-kV underground transmission line component of the Project except for the list of contractor personnel as specified in Section 16-50j-61(c)(8). Contact information for the prime contractor(s) for the transmission work will be provided to the Council in a supplemental submission, after contract award and prior to the commencement of construction.

RCSA Section	Description	D&M Plan (Section Reference, as Applicable)
16-50j-61	Elements of D&M Plan	
(a)	Key Map. 1"=2,000' USGS topographic map.	Volume II, Appendix A, Exhibit 1.
(b)	Plan Drawings. 1"=100' or larger, and supporting documents, which shall contain the following information:	Plan drawings for the 115-kV underground transmission line component as well as aerial-based maps are included in Volume II, Appendix A, Exhibits 2 and 3
1.	Edges of the proposed site and any existing site contiguous to or crossing the site, portions of the site owned by the company in fee, and the identity of property owners of record of the portions of the site not owned by the company in fee.	Volume II, Appendix A, Exhibits 1, 2 and 3.
2.	Public roads and public land crossing or adjoining the site.	Volume II, Appendix A, Exhibit 2.
3.	Location of 50' contours along the site.	Volume II, Appendix A, Exhibit 1.
4.	Probable location, type, and height of the proposed facility and components (including each new transmission structure, position of guys, description of foundations, and locations of any utility or other structures to remain on the site or to be removed.	N/A - There are no structures associated with the underground transmission line route component of the Project.
5.	Probable points of access to the site, and the route and likely nature of accessways, including alternatives.	N/A - The transmission line route will be accessed from public roadways.
6.	Edges of existing and proposed clearing areas, the type of proposed clearing along each part of the site, and the location and species identification of vegetation that would remain for aesthetic and wildlife value.	Except for minor clearing of small trees/trimming along the Metro-North Railroad corridor embankment and between Pacific and Canal Streets, no vegetation clearing will be required for the Project.
7.	Identification of sensitive areas and conditions within and adjoining the site, including but not limited to:	
	A. Wetland and watercourse areas regulated under Connecticut General Statutes ("C.G.S.") Chapter 440 and any locations where construction may create drainage problems	N/A - There are no wetlands or watercourses proximate to the Project.
	B. Areas of high erosion potential	N/A - There are no steep slopes or highly erodible soils within or adjacent to any of the locations where Project work activities will occur along the transmission line route.
	C. Critical habitats or areas identified as having rare, endangered, or threatened, or special concern plant or animal species listed by the state or federal government	N/A - No rare or other listed species habitat has been identified along the Project route.
	D. Location of known underground utilities or resources to be crossed (electric lines, fuel lines, drainage systems and natural or artificial public or private water resources)	Underground utilities and the location of the culverted East Branch of the Rippowam River are included on the Plan and Profile Drawings in Volume II, Appendix A, Exhibit 3.
	E. Residences or businesses within or adjoining the site that may be disrupted during construction	Volume II, Section 5.6
	F. Significant environmental, historic and ecological features (significantly large or old trees, buildings, monuments, stone walls or features of local interest)	N/A - None of these features occur along the Project route

RCSA Section	Description	D&M Plan (Section Reference, as Applicable)
(c)	Supplemental Information	
1.	Plans (if any) to salvage marketable timber, restore habitat and maintain snag trees within or adjoining the site	N/A - No forest clearing.
2.	All construction and rehabilitation procedures with reasonable mitigation that shall be taken to protect areas and conditions identified in 7(b), above, including but not limited to:	
	A. Construction techniques at wetland and watercourse crossings	The plan describing the Project's crossing over the culverted East Branch of the Rippowam River is described in Volume II, Section 3.3 and on the Plan and Profile Drawings in Volume II, Appendix A, Exhibit 3. No wetlands or watercourses are anticipated to be impacted by the Project.
	B. Sediment and Erosion control and rehabilitation procedures, consistent with the Connecticut Guidelines for Soil Erosion and Sediment Control, as updated and amended for areas of high erosion potential	Volume II, Sections 3, 5.2 and Appendix A, Exhibit 4
	C. Precautions and all reasonable mitigation measures to be taken in areas within or adjoining the site to minimize any adverse impacts of such actions or modifications on E, T, or special concern plant or animal species listed by federal or state agencies and critical habitats that are in compliance with federal and state recommended standards and guidelines, as amended	N/A - No habitat for listed species is present along the Project route.
	D. Plans for modification and rehabilitation of surface, drainage, and other hydrologic features	N/A - No water features will be impacted by the Project
	E. Plans for watercourse bank restoration in accordance with Chapter 440 of the C.G.S.	N/A- No bank restoration is needed.
	F. Plans for the protection of historic and archaeological resources with review and comment from a state historic preservation officer of the Connecticut Department of Economic and Community Development ("CT DECD") or its successor agency	N/A - No historic impacts.
3.	Plans for the method and type of vegetation clearing and maintenance to be used within or adjacent to the site	N/A - Except for minor clearing of small trees/trimming along the Metro-North Railroad corridor embankment and between Pacific and Canal Streets, no vegetation clearing will be required for the Project.
4.	Location of public recreation areas or activities known to exist or being proposed in or adjacent to the site, together with copies of agreements between the company and public agencies authorizing the public recreation use of the site to the extent of the company's rights thereto	N/A - No recreation impacts.
5.	Plans for ultimate disposal of excess excavated material, stump removal, and periodic maintenance of the site	Volume III, Appendix D, Soil Handling and Dewatering Plan
6.	Locations of areas where blasting is anticipated	N/A - There are no plans to utilize explosives to remove bedrock at this time. See Volume II, Section 3.2.2 for contingency plan.

RCSA Section	Description	D&M Plan (Section Reference, as Applicable)
7.	Rehabilitation plans, including but not limited to reseeding and topsoil restoration	Volume II, Section 3.7.
8.	Contact information for the personnel of the contractor assigned to the project	Contact information for the prime contractor(s) for the transmission work will be provided to the Council in a supplemental submission, after contract award and prior to the commencement of construction.
9.	Such site-specific information as the CSC may require	Volume II, Section 9.2.1
(d)	Notice. A copy, or notice of the filing, of the D&M Plan, or a copy, or notice of the filing of any changes to the D&M Plan, or any section thereof, shall be provided to the service list and the property owner of record, if applicable, at the same time the plan, or any section thereof, is submitted to the CSC	Volume II, Section 7
(e)	Changes to the Plan. The CSC may order changes to the D&M plan, including but not limited to vegetative screening, paint color, or fence design at any time during the preparation of the plan	Volume II, Section 7.2, CL&P's Notice of Changes to D&M Plan
16-50j-62	Supplemental Reporting Requirements	
(a)	Site Testing and Staging Areas. The certificate holder, or facility owner or operator, shall provide the CSC with written notice of the location and size of all areas to be accessed or used for site testing or staging areas. If such an area is to be used prior to approval of the D&M plan, the CSC may approve such use on terms as it deems appropriate.	Volume II, Sections 3 and 7 Appendix A Exhibits 1, 2 and 3
(b)	Notice	
1.	The certificate holder, or facility owner or operator, shall provide the CSC, in writing with a minimum of two weeks advance notice of the beginning of:	Volume II, Section 7.1
	A. Clearing and access work in each successive portion of the site, and	
	B. Facility construction in that same portion	
2.	The certificate holder, or facility owner or operator, shall provide the CSC with advance written notice whenever a significant change of the approved D&M plan is necessary. If advance written notice is impractical, verbal notice shall be provided to the CSC immediately and shall be followed by written notice not later than 48 hours after the verbal notice. Significant changes to the approved D&M plan shall include, but not be limited to, the following:	Volume II, Section 7.2, CL&P's Notice of Changes to D&M Plan
	A. The location of wetland or watercourse crossing	
	B. The location of an accessway or structure in a regulated wetland or watercourse area	
	C. The construction or placement of any temporary structures or equipment	
	D. A change in structure type or location including, but not limited to, towers, guy wires, associated equipment or other facility structures	

RCSA Section	Description	D&M Plan (Section Reference, as Applicable)
	E. Utilization of additional mitigation measure, or elimination of mitigation measures. The CSC or its designee shall promptly review the changes and shall approve, modify, or disapprove the changes in accordance with subsection (d) of Section 16-50j-60 of the RCSA	
3.	The certificate holder, or facility owner or operator, shall provide the CSC with a monthly construction progress report or a construction progress report at intervals determined by the CSC or its designee, indicating changes and deviations from the approved D&M Plan. The CSC may approve changes and deviations, request corrections, or require mitigation measures.	Volume II, Section 7.2 and 7.3
4.	The certificate holder, or facility owner or operator, shall provide the CSC with written notice of completion of construction and site rehabilitation.	Volume II, Section 7.1
(c)	Final Report. The certificate holder, or facility owner or operator, shall provide the CSC with a final report for the facility not later than 180 days after completion of all site construction and site rehabilitation. The report shall identify:	Volume II, Section 7.3
1.	All agreements with abutters or other property owners regarding special maintenance precautions	
2.	Significant changes of the D&M plan that were required because of property rights of underlying and adjoining owners for other reasons	
3.	The location of construction materials which have been left in place including, but not limited to, culverts, erosion control structures along watercourses and steep slopes, and corduroy roads in regulated wetlands	
4.	The location of areas where special planting and reseeded have been done	
5.	The actual construction cost of the facility, including but not limited to the following costs:	
	A. Clearing and access	
	B. Construction of the facility and associated equipment	
	C. Rehabilitation; and	
	D. Property acquisition for the site or access to the site	
(d)	Protective Order. The certificate holder, or facility owner or operator, may file a motion for protective order pertaining to commercial or financial information related to the site or access to the site.	N/A

A CSC Decision and Order and Opinion Checklist (Table 9-1) can be found in Section 9. Additional Elements Pursuant to Council Order presents the Council’s requirements for the Project pursuant to the Docket No. 435 Decision and Order and Opinion and indicates where within the D&M Plan the relevant information is located.

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2. REGULATORY APPROVALS AND CONSULTATIONS FOR 115-KV UNDERGROUND TRANSMISSION LINE

2.1 REGULATORY APPROVALS AND REQUIREMENTS

This D&M Plan: (i) complies with the requirements of RCSA Sections 16-50j-60 through 16-50j-62 (*Requirements for a D&M Plan, Elements of a D&M Plan, Reporting Requirements*); (ii) incorporates CL&P's commitments as contained in the record of the Council's Docket 435 regulatory process; and (iii) reflects adherence to the conditions of the Council's certificate for the Project and other relevant regulatory approvals. All of the Project work will be at upland sites. Therefore, no regulatory authorization from the U.S. Army Corps of Engineers is necessary. Consequently, the controlling regulatory approvals for the transmission line construction activities are:

- The Council's Decision and Order for the Project, Conditions #1 through 10 (Volume III, Appendix A), and
- Connecticut Department of Energy and Environmental Protection ("CT DEEP") Contaminated Soil Transfer and Staging General Permit.

The construction procedures will be summarized in the *Method and Manner of Construction* filing, which CL&P will submit to the CT DEEP, Public Utilities Regulatory Authority ("PURA") pursuant to Connecticut General Statutes ("Conn. Gen. Stat.") Section 16-243.

2.2 CONSULTATIONS

During the preparation of this D&M Plan, CL&P consulted with representatives of the City providing information regarding the D&M Plan process, the transmission line construction and installation and CL&P's outreach process. CL&P also provided to the City appropriate contact information for Project representatives prior to and during construction. Additional information regarding CL&P's community outreach process is included in Section 8.

As specified in the D&M Plan requirements, CL&P consulted with the State Historic Preservation Officer ("SHPO") confirming that the construction and installation of the 115-kV underground transmission line will not affect archaeological or historic resources. In addition, CL&P has compiled information concerning current land use, future land use patterns and other environmental resources as a result of consultations with federal, state, and local agency representatives. Copies of Project correspondence were previously included in the Municipal Consultation Filing ("MCF") and the CSC Application.

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3. GENERAL CONSTRUCTION PROCEDURES FOR 115-kV UNDERGROUND TRANSMISSION LINE

The construction procedures for the 115-kV underground transmission line will involve a sequential, phased, construction approach. The following sections summarize the general construction procedures that will be associated with the transmission line. Construction activities specific to the transmission line including detailed site-specific construction drawings and plans are presented in Appendix A, Exhibit 3, of this Volume. Actual sequences and methods of construction may vary based on the characteristics observed along the transmission line route and the final specific engineering designs for each location.

3.1 CONSTRUCTION MANAGEMENT AND CONTACT INFORMATION

Prior to the commencement of construction work, CL&P will provide the Council with contact information for the prime construction contractor(s), consisting of name, corporate address, telephone number, and e-mail.

The Project construction along the transmission line route will be monitored by personnel from CL&P and CL&P's construction manager, POWER Engineers, Inc. ("POWER"). These personnel will be present for the construction of the entire underground transmission line route. Personnel will be based in the field and will observe and report on construction activities, including adherence to engineering, safety, and environmental requirements. A CL&P Environmental Scientist will be assigned to oversee the environmental requirements during construction.

3.2 GENERAL CONSTRUCTION SEQUENCE

CL&P will construct the Project in several stages, some overlapping in time. The following summarizes the sequence of activities for the construction of the transmission line component.

3.2.1 Staging Area Identification

To support construction, areas used to store equipment and materials necessary for construction (staging areas) will be located within the Stamford Area Work Center and the Glenbrook and South End Substations as follows:

Stamford Area Work Center: 626 Glenbrook Road, Stamford, Connecticut.

The area is approximately 177' x 117' x 177' x 84' and is located at the southwest corner of the existing parking lot. Approximate Area = 17,820 square feet.

Glenbrook Substation: 95 Hamilton Avenue, Stamford, Connecticut.

The area is within the fence line and is approximately 52' x 185', south of the substation fence. Approximate Area = 9,620 square feet.

South End Substation: Corner of Manhattan and Pacific Street, Stamford, Connecticut.

The area is within CL&P's fence line and is approximately 79' x 69' x 48' (triangular in shape) at the north end of property. However, due to the limited space available at the South End substation, this location will be used only if necessary. Approximate area = 1,650 square feet.

Staging areas for the SRCP will be temporary and be in use only during Project construction and shortly thereafter. After completion of construction activities, these sites will be restored substantially to their preconstruction condition.

If additional sites were to be proposed, once the negotiations for the use of the site(s) were completed, the proposed locations would be submitted to the CSC for approval.

3.2.2 Site Preparation

The type of site preparation work required for any particular area of the transmission line route will vary depending on the characteristics of each locality, the locations of adjacent, existing infrastructure, and the location of staging areas required to support the work. Site preparation may include:

- Deploying temporary construction storage containers, and related equipment and materials to locations along the transmission line or associated staging areas and setting up temporary services required to support construction (e.g., portable toilets).
- Erecting "construction zone" warning signs on public roads in the immediate vicinity of the active construction sites.
- Installing protective fencing (e.g., snow fence) around work sites.
- Installing and maintaining, as necessary, temporary soil erosion and sedimentation controls (e.g., silt fence, straw bales) around areas of planned pavement/soil disturbance. Such controls would be maintained and replaced, as necessary, throughout the construction process. The primary objective of these controls would be to minimize the potential for erosion and sediment migration away from construction activity.
- Temporary erosion and sedimentation controls will be maintained until the disturbed areas are satisfactorily stabilized.
- Removing and/or graveling over minimal vegetation (if present) in work areas.

No grading or blasting is expected to be required along the transmission line route. In general, site preparation work typically would involve the use of construction equipment such as backhoes, excavators, trucks (various sizes), compressors, and flat-bed trailers. If further geotechnical studies or field conditions establish the need for blasting, a blasting plan will be prepared and provided to the CSC (and local Fire Marshal, as necessary) prior to its use along the route. If blasting becomes necessary, the blasting plan would also include measures to inform other utilities of the intent to blast. See Section 3.2.9 for more information.

3.2.3 Soil Handling and Dewatering

Handling, transport, intermediate storage, and disposal of excess excavated material will be in accordance with the Soil Handling and Dewatering Plan prepared for this Project (Volume III, Appendix D). Staging area locations, intermediate storage, treatment and/or disposal facilities, and associated property information will be provided to the CSC once the locations have been selected and agreements have been negotiated.

3.2.4 Erosion and Sediment Controls

To minimize the potential for erosion and sediment migration during construction, the following general construction best management practices (“BMPs”) will be used:

- Temporary erosion control structures will be placed around work sites prior to conducting any earth moving activities and will be inspected on a routine basis,
- Trench dewatering will not be conducted within 100 feet of a wetland or watercourse unless a fractionation tank (“frac tank”) or similar engineering controls for sediment containment is employed,
- Equipment will not be refueled within 100 feet of any wetland or watercourse, unless appropriate containment procedures are in place,
- Petroleum products will not be stored, mixed, or loaded within 100 feet of a wetland or watercourse, and
- In case of an on-site reportable spill, personnel will contact the on-site construction manager who will then immediately contact the National Response Center at 1-800-424-8802 and the on-call emergency response contractor.

In addition to these BMPs, all construction activities will comply with the *2002 Connecticut Guidelines for Soil Erosion and Sediment Control* (as amended). The sediment and erosion control measures for the underground transmission line component of the Project are provided in Appendix A, Exhibit 4, of this Volume. Additional information pertaining to the anticipated erosion and sediment controls is located in Section 5.2.

3.2.5 Vegetation Clearing

The transmission line will be located primarily within or adjacent to public roadways and in largely developed urban areas. As a result, construction will require only limited vegetation clearing. The limited locations where tree clearing is required have been identified on the Sediment and Erosion Control Figures in Appendix A, Exhibit 4, of this Volume. There will be no marketable timber derived from the construction of the Project.

3.2.6 Typical Duct Bank Installation

The Project will require the construction of an underground duct bank to house the cross-linked polyethylene (“XLPE”) power transmission cables and associated communication fiber, grounding wires and temperature monitoring system. The duct bank will consist of polyvinyl chloride (“PVC”) conduits encased in a concrete envelope. Construction of the duct bank will require several distinct activities inside the work zone. The following activities will occur in the work zone and are discussed in the following sections:

- Pavement cutting (Section 3.2.7)
- Splice vault installation (Section 3.2.8)
- Excavation (Section 3.2.9)
- Trench excavation (Section 3.2.10)
- Duct placement (Section 3.2.11)
- Backfilling (Section 3.2.12)
- Grading (Section 3.2.13)

Several activities will occur simultaneously within the work zone (e.g., pavement cutting at the beginning of the work zone and backfilling at the end of the work zone may occur at the same time). All related activities associated with the installation of the duct bank in a particular area are part of a common work zone. The entire work zone will typically measure approximately 400 feet in length. Upon completion of all activities in the work zone, the work zone will progress along the transmission line route until the entire duct bank is complete between the two substations.

3.2.7 Pavement Cutting

A pavement saw will be used to cut roadway pavement on both sides of the planned excavation to a width of approximately 4 to 5 feet for the standard duct bank configuration (Appendix A, Exhibit 3, of this Volume). Alternate duct bank configurations to avoid existing utilities will likely result in slight variations in the pavement width being cut.

3.2.8 Splice Vault Installation

Splice vaults will be located where consecutive lengths of cable must be spliced together. Each splice vault will contain three cable splices (one cable splice for each phase of the circuits, three phases per circuit). Pre-cast concrete splice vaults with approximate outside dimensions of 24 feet in length, 9 feet in width and 9 feet in height, with an approximate one-foot wall thickness will be installed at typical intervals of 2,000 feet along the route. There are three splice vault locations for the transmission line. Specific details and locations of these vaults are provided on plan and profile drawings in Appendix A, Exhibit 3, of this Volume.

In addition, hand holes measuring 4 feet long, 4 feet wide, and 4 feet deep will be located close to vault locations for splicing and pulling fiber optic cables. Hand holes will also be installed for the City near street intersections. Drawings of these hand holes and associated equipment are included in Appendix A, Exhibit 3, of this Volume. Installation of these hand holes may be performed simultaneous with vault construction.

Splice vault installation will take approximately 3 to 5 days for each vault location depending on site specific conditions such as proximity to existing structures and geotechnical conditions encountered.

CL&P has made extensive efforts to locate splice vaults in locations that maximize the allowable cable length in order to minimize the number of splice vaults. A temporary steel plating system may be used at splice vault locations within roadways to maintain traffic flow outside of allowable work hours. Traffic control for splice vault locations is addressed in the summary of the Traffic Management Plan (“TMP”) in Section 5.6.1 of this volume.

3.2.9 Excavation

The Soil Handling and Dewatering Plan (Volume III, Appendix D) that was prepared for the Project addresses handling, storage, and disposal of contaminated or polluted excess material removed during trenching and splice vault installation. Excess materials will be segregated where necessary and hauled off-site to approved disposal facilities or staging areas for subsequent reuse or disposal in accordance with federal, state and local regulations. The Council will be notified of the locations of all staging areas and CL&P would obtain the Council’s approval prior to their use. At a minimum, the contractor will remove all excess soil, rock, and debris and dispose of it in accordance with local, state, and federal regulations. Some excavated material may be retained and used as backfill material over the duct bank or splice vaults.

Blasting is not anticipated to be needed during construction. However, if blasting is determined to be required to facilitate line construction, CL&P will retain a certified blasting specialist

(blasting contractor licensed by the Connecticut Commissioner of Emergency Services and Public Protection) to develop a site-specific blasting plan, in compliance with state and local regulations and CL&P guidelines. The plan would take into consideration local geologic conditions and the locations of nearby transmission line structures and other development, as well as the performance of pre- and post-blast surveys of nearby properties, as necessary. The blasting plan would typically address the following:

- Location(s) along the transmission line where blasting would be performed and general summary of work to be performed.
- List of permits required (e.g., from local Fire Marshal).
- Blasting schedule (days and hours per day).
- Safety meetings to be held prior to the performance of the blasting.
- Noise monitoring.
- Traffic control measures, as warranted.
- The blasting locations would be provided to the local Fire Marshal and to the Council.

Prior to initiating any blasting, CL&P would conduct community outreach to inform local officials and the public about the planned work and about any pre- and post-work inspections, as necessary, of properties abutting the work sites. Typically, the construction contractor would arrange for pre- and post-work inspections of abutters' properties. CL&P would coordinate directly with City officials, including notifications to the local police and fire departments regarding the schedule for the work.

3.2.10 Trench Excavation

The standard duct bank configuration requires the excavation of a trench with minimum dimensions of 4 feet wide and 5 feet 9 inches deep. This depth provides a minimum cover of 3 feet. As previously mentioned, alternative duct bank configurations will be required to avoid existing utilities in some locations. These locations may require greater trench depths and/or widths. Typical duct bank cross sections are shown in Appendix A, Exhibit 3, of this Volume.

Trenching is anticipated to proceed at a rate of approximately 50 linear feet per day per crew. However, this rate may vary, depending on the occurrence of rock and/or groundwater within the trench or the density of other utilities encountered along the transmission line route. Steel plates to temporarily cover open trenches will be used as allowed by the City and Connecticut Department of Transportation ("ConnDOT") to facilitate the construction process and to open travel lanes during periods when construction is not occurring.

3.2.11 Duct Placement

Schedule 40 PVC conduits to house the XLPE cables, grounding cables, and communication fibers will be placed into the excavated trench in a predefined arrangement. The complete duct bank will consist of:

- four 6-inch diameter conduits,
- one 4-inch diameter conduit,
- two 2-inch diameter conduits, and
- as requested by the City, one additional 4-inch diameter conduit for a portion of the route from East Main Street to Canal Street.

Three of the 6-inch conduits will contain a single 115-kV XLPE insulated power cable (three cables make up the circuit), leaving the fourth 6-inch conduit open as a spare. The 4-inch conduit will contain communication and relaying cables. One of the 2-inch conduits will contain a coated copper grounding cable and the other 2-inch conduit will contain a temperature sensing fiber-optic cable. The City's 4-inch diameter conduit will be located on top of the concrete duct bank to be used for traffic signal communications.

The conduits will be supported by incrementally spaced plastic spacers to maintain the prescribed configuration. In certain locations, these conduits will be strapped together to prevent movement during backfilling operations. Maintaining adequate spacing between conduits is critical for overall system ampacity requirements. Inadequate spacing between conduits can negatively affect system ampacity due to the mutual heating between the cables. Detailed information regarding spacing is provided in the duct bank cross-section drawings in Appendix A, Exhibit 3, of this Volume.

3.2.12 Backfilling

The conduits will be encased in a single concrete envelope (earthen form). The concrete provides mechanical protection for the conduits and typically has a compressive strength of 3,000 pounds per square inch ("psi"). The remainder of the trench will then be backfilled with either a fluidized thermal backfill (typically 300 psi) or thermally tested and approved processed aggregate. The trench will be topped with a temporary bituminous concrete wearing course of a depth agreed to by the City and ConnDOT. Trenches through unpaved areas may be backfilled with native material provided it has the appropriate thermal qualities.

For final pavement restoration, the temporary wearing course and some backfill material will be removed and replaced with a permanent pavement structure consisting of varying thicknesses

of processed aggregate overlaid by bituminous concrete, in accordance with the requirements of the City or ConnDOT (depending on road ownership).

3.2.13 Grading

The majority of the transmission line is in within public roadways. Therefore, CL&P does not plan to change any existing elevations. Where limited grading may be required (e.g., at the substations), the area will be substantially restored to existing grade after the installation of the cable system. In general, disturbed areas along all portions of the route will be returned as closely as possible to pre-existing elevations and conditions.

3.3 EAST BRANCH OF THE RIPPOWAM RIVER CROSSING

The duct bank will cross the East Branch of the Rippowam River on South State Street. The river crosses under South State Street at this location in a 14 feet wide by 6 feet high concrete box culvert, the depth of which has been determined using soft dig techniques. The reinforced duct bank will be installed over the top of the box culvert in a flattened arrangement. To protect the duct bank during future maintenance or repair of the river's concrete culvert, steel reinforcement will be installed in the concrete envelope along this portion of duct bank. Details depicting this crossing are located within the Plan and Profile and Detail Drawings (Appendix A, Exhibit 3, of this Volume).

3.4 METRO-NORTH RAILROAD TRENCHLESS CROSSING

Between Lincoln Avenue and Scott Place, the Metro-North Railroad ("MNRR") corridor will be crossed by installing the duct bank using trenchless construction. A pipe jacking methodology will be used, one of which is the jack and bore construction technique discussed in the application. This method of construction involves the use of hydraulic jacks to push a casing pipe under the railroad corridor. As the pipe is advanced, the soils and solids are removed, either by hand or mechanically, from the pipe. Once the casing pipe has been installed across the railroad corridor, the conduits of the duct bank are placed within the casing pipe and backfilled with an acceptable thermal backfill material.

A centrifugally cast fiberglass-reinforced polymer-mortar pipe (trade-name: HOBAS) with an outside diameter of forty-two inches will be used for the casing pipe. The four 6-inch, one 4-inch, and two 2-inch PVC conduits will be installed inside the casing pipe using specially designed spacers. The annulus of the casing will be filled with a flowable grout material designed to produce acceptable thermal characteristics. The grout will serve to solidify the installation from movement, provide a solid fill within the railroad corridor and help to dissipate heat away from the cable system.

Trenchless construction requires the excavation of a launching or bore pit off of Lincoln Avenue. The launching pit will have approximate dimensions of thirty feet in length, twelve feet in width and nineteen feet in depth. The casing pipe will be advanced to the receiving pit located on the opposite side of the railroad corridor on green space just east of Scott Place. The receiving pit will have approximate dimensions of twenty feet in length, eight feet in width and twelve feet in depth.

While not anticipated, the pipe jacking operation may require an around-the-clock construction schedule to satisfy Metro-North Railroad license conditions. In the unlikely event a 24-hour workday becomes necessary, a Noise Abatement Plan would be developed to mitigate the disturbance. The Noise Abatement Plan would be submitted to the Council prior to implementation. CL&P would also notify the Council prior to initiating work outside of previously approved construction hours.

3.5 CABLE INSTALLATION

Cable installation is comprised of two main procedures described in the following sections. Cable installation, to include duct proofing and approval, may begin after a contiguous section of the duct bank / splice vault system has been completed.

3.5.1 Cable Pulling

The XLPE transmission cable will be pulled into ducts using reel trailers located above one splice vault and the pulling machine situated at the adjacent vault along the alignment. Due to the size of the reel trailers and clearance limitations along the route, an engineering review will be performed by the cable supplier to designate shipping routes and approved travel routes from potential material staging areas. Cable will be pulled using a truck-mounted winch and special cable handling equipment. Pulling of communication fiber optics and grounding cables will also be completed in a similar fashion. Specific traffic control measures for each vault location are included in the TMP.

3.5.2 Cable Splicing

Cable splicing within the splice vaults require that a conditioned environment (i.e., controlled temperature and humidity) be maintained. The conditioned environment is accomplished by parking splicing trailers, equipped with sealed hoses, on top of the splice vaults. Splicing operations will typically take up to 7 days per vault.

3.6 TESTING AND INTERCONNECTIONS

The transmission line, as well as associated equipment, conductors and wires will be installed, as necessary, to connect to the existing substations. All components of the line will be commission-tested prior to final connection to the transmission grid.

3.7 RESTORATION

Temporary and permanent restoration will be necessary following the construction of the duct bank and splice vaults. The types of restoration are described in the following sections.

3.7.1 Off-Roadway Restoration

Temporary and permanent restoration measures for areas affected by construction in off-roadway areas will be site specific. However, any restoration will be completed in accordance with Northeast Utilities' *Construction and Maintenance Environmental Requirements Best Management Practices Manual: Connecticut*, December 2011 (Volume III, Appendix B). The construction area will be substantially restored to pre-construction site conditions.

Depending on the time of year in which these activities are completed, final off-roadway restoration (in areas requiring reseeding and/or other planting measures) may not be completed until the following growing season. Disturbed areas will be stabilized as needed over winter and will be restored as soon as practical thereafter.

3.7.2 In-Roadway Restoration

Temporary pavement restoration will consist of the "hot patch" method until final pavement restoration occurs. Hot patch is completed by applying and leveling a few inches of asphalt to the disturbed area. The temporary hot patch will be installed in the width of the saw cut trench and will match the existing roadway grade. Final pavement restoration will be performed to standards outlined by ConnDOT and/or the City for locations within paved public roadways. Final pavement restoration on disturbed private drives will be completed as soon as practical. For further details regarding pavement restoration, please refer to the Pavement Restoration Plan, which has been developed for the Project (Volume II, Appendix A, Exhibit 5).

3.7.3 Final Cleanup

Construction debris will be properly disposed of in accordance with local, state and federal regulations. The contractor will remove all excess soil and rock and dispose of it in accordance with local, state and federal regulations, as outlined in the Soil Handling and Dewatering Plan (Volume III, Appendix D).

4. CONSTRUCTION SCHEDULE, OUTAGES AND WORK HOURS

4.1 CONSTRUCTION SCHEDULE INCLUDING OUTAGES

There are no anticipated outages for the transmission line construction. As currently planned, the transmission line construction is anticipated to begin within the first quarter of 2014 and be completed by the end of the year. As described in Volume I, substation work is anticipated to begin in the first quarter of 2014.

4.2 WORK HOURS

Work conducted in the public thoroughfares is limited to the hours outside peak traffic flow. Because typical peak traffic hours occur between 7 AM and 9 AM in the morning and 4 PM and 6 PM in the evening, the construction work hours are set to avoid those peak traffic hours. CL&P has collaborated with the City of Stamford to develop a Traffic Management Plan; the Plan was submitted for approval by the City of Stamford's Traffic Advisory Committee. (A summary of the Plan is included in Section 5.6.1 of this Volume.) The schedules included in the Traffic Management Plan were further refined to take into consideration street surroundings and work locations for desirable work hours of construction for the applicable street work locations:

Table 4-1: Work Hours

Location of Work	Street Work Begins	Street Work Ends	Hours of Construction
Manhattan St.	Manhattan St.	Manhattan St.	Daytime/Weekend Daytime
Pacific St.	Pacific St.	Pacific St.	Nighttime/Weekend
Canal St.	Dock St.	State St.	Nighttime/Weekend
S. State St.	Canal St.	Lafayette St.	Nighttime/Weekend
S/N State St.	Lafayette St.	East Main St.	Daytime/Weekend Daytime
E. Main Street	N. Main Street	Crystal St.	Nighttime/Weekend
Crystal St.	East Main St.	Culloden Rd.	Nighttime/Weekend
Culloden Rd.	Crystal St.	Scott Place	Daytime/Weekend Daytime
Scott Place	Culloden Rd.	Metro-North R.R.	Daytime/Weekend Daytime
Lincoln Ave.	Sheridan St.	Glenbrook Substation	Daytime/Weekend Daytime

Hours are defined as:

1. Daytime hours: 9 AM to 4 PM, Monday through Friday
2. Nighttime hours: 8 PM to 5 AM, Monday through Thursday
3. Weekend hours: 8 PM Friday evening to 5 AM Monday morning
4. Weekend Daytime hours: Saturday 8 AM to 8 PM, and Sunday 8 AM to 8 PM

Note: Construction workers may arrive for work and leave outside the above-listed hours.

The pipe jacking operation under the MNRR will typically consist of a 10-hour period occurring sometime between the hours of 7:00 AM and 7:00 PM, six days per week (Monday through Saturday). Although it is not anticipated at this time, as noted in Section 3.4, the pipe jacking operation may require an around-the-clock construction schedule to satisfy MNRR license conditions. If a twenty-four hour workday is necessary, a Noise Abatement Plan would be developed to mitigate the disturbance. Said Noise Abatement Plan would be submitted to the Council prior to implementation.

5. GENERAL CONSTRUCTION PLANS

5.1 SPILL PREVENTION AND COUNTERMEASURES PLAN

The Spill Prevention and Countermeasures Plan (“SPCP”) is included in Volume III, Appendix C. The SPCP describes measures to minimize the potential for a spill of petroleum products or a hazardous or toxic substance and, in the event that a spill does occur, measures to contain and control the release to minimize the effects. CL&P requires all construction contractors to adhere to the procedures presented in this Plan during the construction of the Project.

5.2 EROSION AND SEDIMENTATION CONTROL MEASURES AND STORMWATER MANAGEMENT

Erosion and sedimentation control measures will be installed prior to the initiation of soil-disturbing activities and will be inspected and maintained throughout construction along the underground transmission line route. Temporary erosion and sedimentation controls will be left in place until the areas disturbed by construction activities are permanently stabilized.

For previously paved areas, temporary pavement restoration will consist of the “hot patch” method described in Section 3.7.2 until final pavement restoration occurs. Final pavement restoration will be performed to standards outlined by the City and ConnDOT for locations within paved public roadways. For any previously vegetated off-road areas, restoration will consist of reseeded to establish a uniform vegetative cover of 70% density on disturbed areas that will not otherwise be paved or graveled (e.g., staging areas, previously vegetated roadside areas). After final stabilization is achieved, all temporary erosion and sedimentation controls will be removed and disposed of properly.

All erosion and sedimentation control practices will be in accordance with the following:

- *2002 Connecticut Guidelines for Soil Erosion and Sediment Control* (as amended);
- *Northeast Utilities’ Construction and Maintenance Environmental Requirements Best Management Practices Manual: Connecticut, December 2011* (Volume III, Appendix B); and,
- CT DEEP Contaminated Soil Transfer and Staging General Permit.

5.2.1 Site-Specific Erosion and Sedimentation Controls

Site-specific erosion and sedimentation control figures for the transmission line are included in Appendix A, Exhibit 4 of this Volume.

5.2.2 Winter Stabilization

Some of the transmission line construction work may be conducted during the winter or may be completed too late in the growing season to initiate permanent stabilization of disturbed areas (including road shoulder areas and temporary staging areas that may require reseeding) until the following spring. In such cases, temporary erosion and sedimentation controls will be left in place and augmented, as necessary until permanent site stabilization can be achieved.

5.3 AIR QUALITY PROTECTION (DUST AND DIRT TRACKING) AND VEHICLE IDLING PROTOCOL

To minimize short-term adverse effects to air quality during construction all work areas and staging areas will be watered, graveled, or swept as necessary to suppress dust emissions. Additionally, crushed stone aprons will be installed at all gravel or dirt access points to public roadways, with the objective of minimizing tracking of soil onto the roadway.

Vehicular emissions will be limited by requiring contractors to properly maintain construction equipment and vehicles, and by minimizing diesel construction equipment idling time in accordance with regulatory standards. "Idling" is defined as the period when mobile construction equipment is not in motion or is not otherwise actively performing its designated function. Thus, "idling" does not apply to the use of certain types of mobile construction equipment (e.g., cranes, cement mixers) that may be stationary, but is actively operating at a work site.

For the Project, pursuant RCSA 22a-174-18, the allowable idling time for diesel construction equipment is three minutes. However, under winter work conditions (when the ambient temperature is below 20-25 degrees Fahrenheit) the following apply:

- Construction equipment may require longer periods to warm up after overnight shut down or other extended periods of inactivity. Such "warm up" periods, as required to bring the equipment up to a safe operating temperature (as defined by the equipment manufacturer), are exempt from the idling specifications. However, most diesel engines take 3 minutes or less to warm up (contractors should consult the equipment-specific engine manufacturer's recommendations).
- Construction equipment may have to idle for longer periods to operate defrosting or heating equipment to ensure the safety and/or health of the driver.

5.4 HANDLING AND DISPOSITION OF EXCAVATED SOIL, GROUNDWATER, RECYCLABLE MATERIALS, AND WASTES

The construction contractor will be responsible for the proper handling and disposal of all excess soils, groundwater, recyclable materials, and other wastes generated during the construction process. Excavated soil and groundwater (if encountered in excavations) will be handled and disposed of in accordance with the procedures specified in the Soil Handling and Dewatering Plan (Volume III, Appendix D).

General waste materials and debris other than soil and groundwater will be collected in secure containers, which will be inspected regularly and removed for off-site disposal at approved, regulated waste disposal sites. In no case will solid or liquid wastes (except for excess soil or groundwater, if appropriate) be buried or otherwise disposed of along the transmission line route.

5.5 LIGHTING AND NOISE MITIGATION

Transmission line construction work (including staging areas) will be concentrated on and in the immediate vicinity of the existing public roadways and will have only minor and short-term effects of noise and light emissions. Further, any temporary construction-related noise and light emissions associated with the construction will be mitigated by virtue of the location of the transmission line route largely within industrial/commercial areas. The environment along the transmission line route consists of busy urban roadways, where the existing noise environment is influenced by traffic noise, including I-95 and the MNRR corridor.

In general, construction activities would typically occur during the hours of 7:00 AM to 7:00 PM, when human sensitivity to noise is lower. However, as outlined in Section 4.2, based upon the volume of traffic present along some segments of the Project route, there may be times when work occurs at night and/or on weekends. At all times during construction, contractors will be required to properly maintain and muffle equipment and vehicles to minimize noise emissions. Construction-related noise, which would be short-term and highly localized in the vicinity of work sites, would typically result from the operation of construction equipment, truck traffic, earth moving vehicles and equipment, and jackhammers. Engine-powered construction equipment would be properly muffled and maintained to minimize excessive noise to the extent possible. In areas where rock removal is required, efforts would be made to schedule work to minimize noise and vibration disturbances. Once constructed, the operation of the transmission line itself would not result in any adverse noise impacts.

Most Project construction activities will occur during daylight hours. Therefore, the need for temporary lighting will be limited. However, nighttime and weekend hours, as outlined in Section 4.2, would require temporary lighting to facilitate construction. Any temporary lighting

that may be required for specific tasks will be focused on the work area and is expected to be needed only for a limited time.

5.6 SITE ACCESS, TRAFFIC CONTROL AND CONSTRUCTION SIGNS

The transmission line route is primarily located within public roadways, which readily provides access to most work areas for construction equipment and workers. Appropriate rights will be negotiated for any off roadway locations.

CL&P is coordinating with ConnDOT and the City to prepare a TMP. The TMP details the location of traffic control devices (such as signs, barricades and striping), lane closures and alternate traffic routes to minimize impacts to vehicular and pedestrian traffic. Police personnel will direct traffic around or through the construction areas. A summary of the contents of the TMP is included in Section 5.6.1. CL&P is working in close cooperation with the City to develop a TMP that meets their requirements; the TMP was submitted for approval by the City of Stamford's Traffic Management Committee. As detailed in the TMP, measures will be taken to maintain access to all affected residences and businesses during construction.

The construction of the new transmission line between the two substations would have, short-term, and localized effects on transportation patterns in the immediate vicinity of the Project. These effects would stem primarily from in-road construction activity, as well as additional traffic on local roads associated with the movement of construction vehicles and equipment to and from contractor yards, staging areas, and work sites along the transmission line route. Construction of the Project would not affect railroads or other utilities (e.g., pipelines, water lines, stormwater, or sanitary sewers).

During construction, the well-established public road network in the Project area would afford ready access to most Project work sites for vehicles and equipment. Along the route, construction equipment, materials, and support vehicles are anticipated to use existing public roads to reach work sites. During construction, personnel traveling to and from work sites, as well as the movement of construction equipment, may cause temporary localized increases in traffic. When heavy equipment must be transported along public roads for delivery to the work sites, temporary disruptions in local traffic patterns or delays may occur. In addition, alternate traffic routes, which direct traffic away from distinct work sites may be utilized. However, any such traffic-volume increases would be localized and short-term, as would any potential alternate traffic routes.

Trenching, conduit installation, and backfilling would proceed progressively along the route such that relatively short sections of trench (typically 400 feet) would be open at any given time and location. During non-work hours, temporary cover (steel plates) would be installed over the open trench within paved roads to maintain traffic flow over the work area. After backfilling, the

trench area would be repaved using a temporary asphalt patch or equivalent. Disturbed areas would be permanently repaved as part of final restoration.

CL&P would also inform businesses, landowners, and residents along the route of the TMP and of the construction schedule. Consideration would be given to minimize the impact of construction activity on vehicular traffic and pedestrians in the vicinity of the Project and disruption to access along existing travelled ways would be minimized by utilizing steel plates, and performing crossings in phases to maintain operations.

5.6.1 Traffic Management Plan Summary

The route for the SRCP has been divided into individual sections based upon the street segment characterizations between Glenbrook and South End Substations. The installation of the 115-kV underground transmission line duct bank and the associated fiber optic cable will require open trench widths of approximately 4 – 8 feet and will require a work zone of up to 400 feet in length. To account for the width of the trench and the equipment necessary for construction, two traffic lanes will be required for construction.

When one lane of traffic in each direction can be maintained, the length of work zone will have minimal impact on traffic. Alternating one-way traffic will be directed by local police or qualified flagmen and will require brief stoppage of traffic. Alternative traffic plans, suggested by the Contractor, will be expected to comply with these guidelines, the Manual of Uniform Traffic Control Devices (“MUTCD”), and ConnDOT requirements and guidelines, where applicable. Any alternative traffic plans will need prior approval by CL&P and the City of Stamford. A Stamford Street Opening Permit must be obtained prior to public roadway use.

During several meetings over the past year with the City of Stamford’s Traffic Engineer, it was suggested that the following three schedules be considered as desirable hours of construction for the proposed route at the high traffic volume streets identified below. These timeframes closely follow ConnDOT recommendations for lane closures:

1. Daytime hours: 9 AM to 4 PM, Monday through Friday
2. Nighttime hours: 8 PM to 5 AM, Monday through Thursday
3. Weekend hours: 8 PM to 5 AM, Friday evening through Monday morning

Construction work hours for this project will comply with these durations unless altered by mutual agreement between the City of Stamford and CL&P representatives. Because typical weekday peak traffic hours occur between 7 AM to 9 AM (peak AM) in the morning and 4 PM to 6 PM (peak PM) in the evening, the construction work hours are set to avoid these peak traffic hours.

CL&P obtained weekday peak AM and weekday peak PM traffic counts (2009) from ConnDOT for several intersections along the route. ConnDOT guidelines indicate that lane closures can only occur during periods when the traffic volume is less than 750 vehicles per hour. During weekday peak morning and peak evening peak hours, the streets along the route that experience high traffic flows in excess of 750 VPH are: 1) Canal Street; 2) South State Street between Canal Street and Elm Street; and 3) and East Main Street.

Three splice vaults, 22 feet long, 7 feet wide and 7 feet tall, will be located along the route. Splice vault installation, including excavation, will take approximately 3 to 5 days to complete, depending on site specific conditions such as proximity to existing structures and geotechnical conditions encountered. A minimum roadway width of 25 feet will be required to accommodate the equipment necessary for vault installation, although the crane is on site for only a few hours.

The XLPE transmission cable will be pulled into ducts using reel trailers located above one splice vault and the pulling machine situated at the adjacent vault along the alignment. Cable will be pulled using a truck-mounted winch and special cable handling equipment. Pulling of communication fiber optics and grounding cables will also be completed in a similar fashion. Lane closure will be required for up to two lanes for certain activities.

Cable splicing within the splice vaults require that a conditioned environment (i.e., controlled temperature and humidity) be maintained. The conditioned environment is accomplished by parking splicing trailers, equipped with sealed hoses, on top of the splice vaults. Splicing operations can take up to 7 days per vault. It is expected that a single lane closure will be required during splicing operations. Adjustments may have to be made to work hours to accommodate the cable splicing activities at the vault locations.

At the end of each working shift, the Contractor will be required to remove all work equipment and debris from the roadway, remove all road barricades and cones, and restore the driving lanes to safely allow vehicles to travel over the excavation during non-working hours. To restore the driving lane over the duct bank, a steel plate may be placed over the trench to allow vehicles to drive over the trench. The vault excavation will be too large for steel plating alone. Therefore, the Contractor must supply a method to allow vehicles safe passage, such as a plating system with steel beams or temporarily backfilling the excavation.

The duct bank and cable installation Contractors shall submit a plan compliant with these guidelines, for approval by CL&P and the City of Stamford, discussing the specifics of lane closures necessary for cable installation and cable splicing.

The TMP for the Project is being developed, in cooperation with the City of Stamford. It includes drawings depicting traffic control patterns, and the placement of construction signs, traffic cones, and barricades. The vault installation plan, cable installation plan and cable

splicing plan must adhere to the requirements and guidelines as outlined in the TMP as submitted to the City of Stamford.

5.7 UNANTICIPATED CULTURAL RESOURCES DISCOVERY PLAN

The transmission line construction will take place in areas where soils have been disturbed by previous development. Consequently, the potential for locating intact, undocumented archaeological sites during construction activities is minimal.

All contractor personnel will be required to attend Project-specific environmental training, a component of which provides procedures for generally identifying and protecting cultural resources. The training will describe the procedures to be followed should potential cultural materials be discovered during the construction of the transmission line facilities. Specifically, construction personnel will be instructed to stop the task that resulted in the potential discovery and inform CL&P. CL&P would then contact a professional archaeological consulting firm and request that they respond to handle any potential cultural resource discoveries. Construction work at the potential cultural resource discovery site would not resume until authorized by the professional archaeologist and CL&P.

5.8 CONSTRUCTION EQUIPMENT AND VEHICLE WASHING

No construction equipment or vehicle washing will be allowed along the transmission line route. However, cement trucks will be allowed to washout and discharge washout water directly into the trench, provided that said water remains in the trench and does not interfere with construction operations or the operation of the transmission line and/or associated components.

5.9 WATER SOURCES

Water may be required for dust suppression or other construction activities. All water sources must be pre-approved by CL&P.

5.10 SNOW REMOVAL AND DE-ICING PROCEDURES

No winter work is anticipated to occur during transmission line construction. However, in the event of an unanticipated snowstorm, snow accumulated in the portion of the transmission line route that is within public roadways would be removed by the City and ConnDOT, as appropriate. In addition, CL&P's contractor(s) may provide additional snow and ice removal as necessary and described in the Snow Removal and De-Icing Procedures, which is included in Volume III, Appendix E. On private property, CL&P will assume the responsibility of snow removal when active construction activity is occurring. Snow removal will be performed on the easement area secured for performing the construction activity.

5.11 POST-CONSTRUCTION EMF MONITORING PLAN

Pursuant to Condition #2(f) of the Council's Decision and Order, CL&P has prepared a post-construction electric and magnetic field ("EMF") monitoring plan for the Project. This plan is included in Volume III, Appendix F.

6. CL&P'S ENVIRONMENTAL COMPLIANCE PROGRAM

The transmission line construction contractor(s) will be responsible for complying with all applicable environmental regulatory requirements, as well as with this D&M Plan. To verify the contractor's environmental compliance, CL&P will dedicate to the Project a team of management and field personnel, who will routinely monitor transmission line construction activities for conformance to this D&M Plan and to other Project-specific permits and/or approvals.

The Project's field environmental compliance program will be administered by CL&P and will include environmental inspectors, who will be assigned to monitor transmission line construction and will include updates of environmental conditions encountered in the Monthly Construction Progress Reports.

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7. NOTICES AND REPORTS

7.1 NOTICES TO THE COUNCIL: START AND COMPLETION OF CONSTRUCTION (INCLUDING ACCESS AND VEGETATION CLEARING)

CL&P will provide written notification to the Council a minimum of two weeks in advance of each of the following:

- The commencement of vegetation clearing along the transmission line.
- The commencement of transmission line construction.

CL&P will provide the CSC with written notice of the completion of transmission line construction (including site restoration and rehabilitation).

CL&P will also provide written notification to and seek approval from the Council regarding the location and size of all areas to be accessed or used for site testing or staging and not otherwise included in this D&M Plan.

7.2 NOTICE OF CHANGES TO D&M PLAN

7.2.1 D&M Plan Changes Requiring Notice to the Council

Pursuant to RCSA Section 16-50j-62(b)(2), the Council must pre-approve any significant changes to this D&M Plan, whereas CL&P (or its agent) will identify, track, and approve all changes, whether significant or insignificant. *No changes to the D&M Plan will be implemented without such documented approvals.*

CL&P will provide the Council with advance written notice whenever a significant change of the approved D&M Plan is necessary. If advance written notice is impractical, CL&P will provide immediate verbal notice to the Council, followed by written notice no later than 48 hours after the verbal notice.

RCSA Section 16-50j-62(b)(2) defines a “significant” change to the approved D&M Plan as including, but not limited to, Project modifications that entail a change in:

- The location of a wetland or watercourse crossing.
- The location of an accessway or structure in a regulated wetland or watercourse area.
- The construction or placement of any temporary structures or equipment.

- Transmission line structure type or location including, but not limited to, towers, guy wires, associated equipment, or other structures.
- Utilization of additional mitigation measures or elimination of mitigation measures.

In addition to the above criteria, CL&P proposes to define a “significant” Project change as one that would substantially reduce the amount of protection to the environment; substantially increase potential public concern; or would otherwise potentially result in a meaningful effect on the environment, the public, or other Project permits and approvals.

7.2.2 D&M Plan Change Approval Process

A request for a change to the D&M Plan may originate from the Project team, the construction contractor, or others, or be driven by regulatory approvals issued after the approval of the D&M Plan, with which the D&M Plan must be consistent. The following procedures will be used to identify, track, and obtain the approval of the Council, if required, for changes to this D&M Plan. Figure 7-1 provides a flow chart illustrating this change approval process.

7.2.2.1 Identify Proposed Project Change

A proposed change is identified and described by the change originator and provided to CL&P. Data to be provided will include, for example:

- Specifics of the change (location, type);
- Reason/need for the change;
- When the change is required (timing);
- Project schedule and cost implications (if applicable); and
- Effects (if any) on the environment and on the public.
- The Project change request will be supported by maps and drawings, as appropriate.

7.2.2.2 Assess Significance of Proposed Change

CL&P will evaluate each proposed change to determine whether it either:

- Represents a significant change to the approved D&M Plan and thus requires advance notification to and approval by the Council; or
- Constitutes a minor change requiring only CL&P approval.

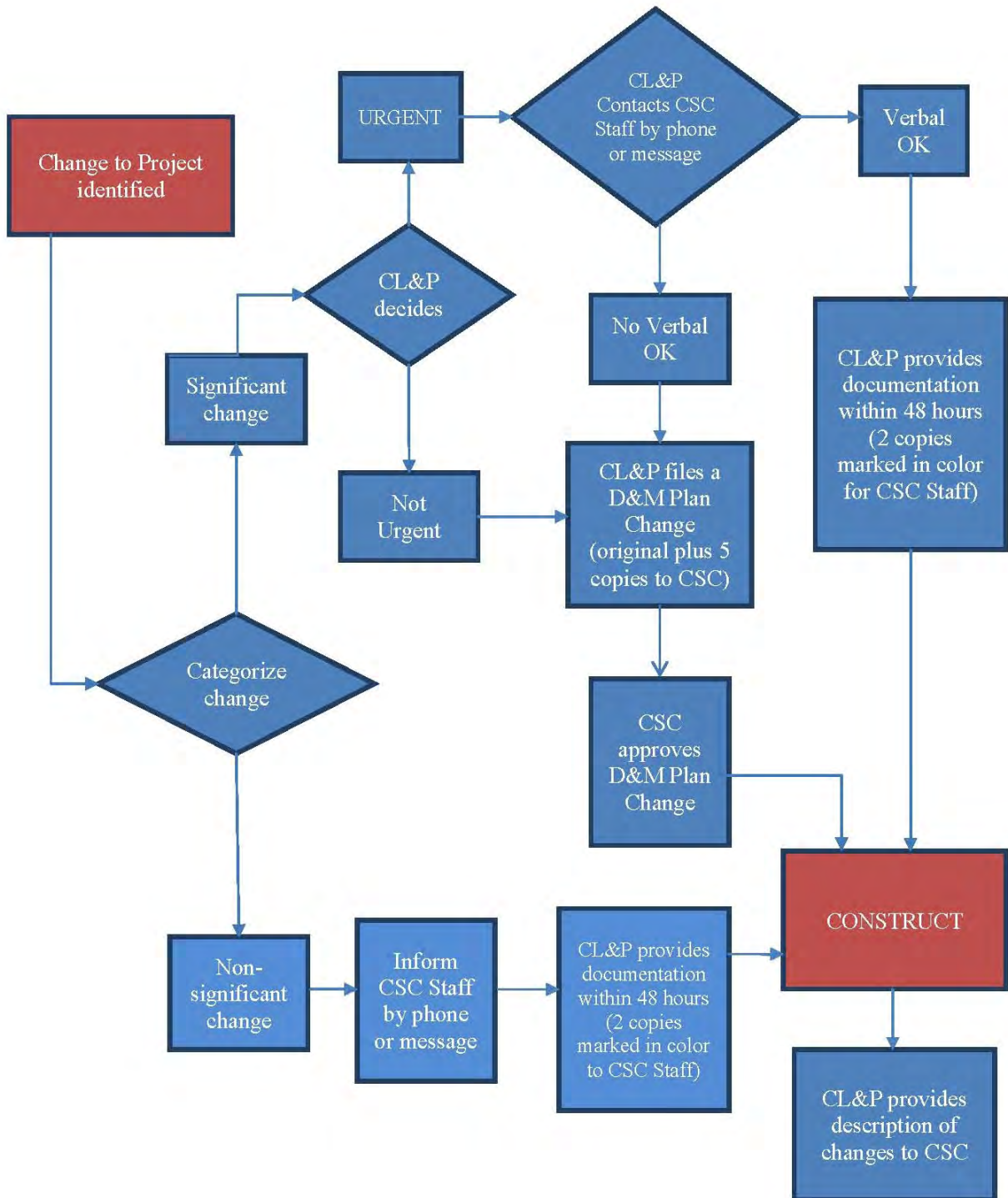


Figure 7-1: D&M Plan Change Process

7.2.2.3 Significant Changes Requiring Notice to and Prior Approval by the Council

After CL&P determines that a proposed change represents a significant change to the D&M Plan requiring notification to the Council and the Council's pre-approval, CL&P will categorize each proposed change as either "urgent" or "non-urgent", based on the following:

- **Urgent.** A Project change will be considered "urgent" if waiting until the next regularly-scheduled Council meeting to obtain approval of the change would have a negative impact on Project construction costs or scheduling, or if the provision of written notice is impractical for other reasons. For "urgent" changes, CL&P will provide verbal notification of the change to Council staff and will request that the Council approve the change expeditiously. CL&P will promptly implement the D&M Plan change in accordance with the Council's expedited approval (verbal or written). Not later than 48 hours after the provision of verbal notice of the D&M Plan change request to the Council, CL&P will file written notice to the Council, the service list and the property owner of record, if applicable. If the Council elects not to act on the proposed D&M Plan change request pursuant to the urgent (verbal) notice, CL&P will provide the Council, the service list and the property owner of record, if applicable with written notice of the proposed Project Change within 48 hours and will defer any construction activities related to the change request pending the Council's determination.
- **Non-Urgent.** If CL&P determines that a D&M Plan change request is "non-urgent", CL&P will provide written notice to the Council, the service list and the property owner of record, if applicable seeking the Council's consideration of the proposed D&M Plan change at the next regularly-scheduled Council meeting.

7.2.2.4 Non-Significant D&M Plan Change: No Council Pre-Approval Required

Minor changes to the approved D&M Plan will require CL&P approval prior to implementation, as well as Project documentation.

7.3 REPORTS

Table 7-1 identifies the written reports that will be provided to the Council. CL&P will include updates of environmental conditions in the Monthly Construction Progress Reports.

Table 7-1: Reports to be Provided to the Council

Report Type (Regulatory Requirement)	Content
<p>Monthly Construction Progress Report (RCSA Section 16-50j-62(b)(3))</p>	<p>Report will identify changes and deviations to the approved D&M Plan, including minor changes that did not require Council action as well as an update of environmental conditions encountered during the installation of the underground transmission cable.</p>
<p>Final Report (RCSA Section 16-50j-62(c))</p>	<p>CL&P will provide to the Council a final report no later than 180 days after the completion of all site construction and rehabilitation. The report will identify the following:</p> <ul style="list-style-type: none"> • All agreements with abutters or other property owners regarding special maintenance precautions. • Significant changes to the D&M Plan that were required because of property rights or underlying and adjoining owners or for other reasons. • The location of construction materials that have been left in place, including but not limited to, culverts, erosion control structures along watercourses and steep slopes, and corduroy roads in regulated wetlands. • The location of areas where special plantings and reseeding have been performed. • The actual construction cost of the facility, including but not limited to the following costs: <ul style="list-style-type: none"> • Clearing and access; • Construction of the facility and associated equipment; • Rehabilitation; and, • Property acquisition for the site or access to the site.
<p>Operating Report (Docket No. 435, Decision and Order, Condition #7)</p>	<p>Within three months after the conclusion of the first year of the operation of all Project facilities, and annually thereafter for three years, CL&P will provide to the Council a report that describes the overall condition, safety, reliability, and operation of the transmission systems.</p>

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8. COMMUNITY OUTREACH

8.1 COMMUNITY OUTREACH ON D&M PLAN

Pursuant to Condition #2 of the Council's Decision and Order, CL&P served the D&M Plan on the City of Stamford and to all parties to the Project (Council Docket 435) for comment. On September 18, 2013, CL&P met with City officials, briefed them on the Plan, responded to any questions, and sought their comments. Documents containing comments from staff of the City of Stamford are included in Volume III, Appendix G.

In addition, CL&P has provided the opportunity for public participation in the D&M Plan review process by posting the filed Plan on the Project web site (www.stamfordcable.com). A letter was also sent to all abutting property owners of record, notifying them of the Project's approval and subsequent submittal of the D&M Plan to the Council, and inviting their comment on the Plan by contacting Project representatives via email (TransmissionInfo@nu.com) or CL&P's Transmission Information Line (1-800-793-2202). Any comments received will be forwarded to the Council.

8.2 COMMUNITY OUTREACH DURING CONSTRUCTION

Throughout the Project planning and the Council's siting processes, CL&P conducted extensive community outreach, including a public open house during the Municipal Consultation Phase of the siting process. CL&P will continue its outreach efforts throughout the Project's construction phases and will notify affected stakeholders of upcoming construction activities.

As described above, the Transmission Information Line and email address are currently in operation and will continue as the primary means for residents, businesses, and other stakeholders to contact Project representatives during construction of the Project. The public can also access the Project website, which provides an overview of the Project, a map of the Project facilities, and contact information.

Once construction begins, the Project website will include regular updates on construction activities that will be easily accessible by town residents, businesses, and other stakeholders. Briefings will be held with nearby residents and businesses most affected by construction activities to review the construction process, key construction stages, and expected timelines. Project representatives will also contact adjacent and nearby residents and businesses to notify them of upcoming construction activities and address any specific questions or concerns.

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9. ADDITIONAL ELEMENTS PURSUANT TO COUNCIL ORDER

9.1 CSC DECISION AND ORDER AND OPINION CHECKLIST

Table 9-1 presents the Council's requirements for the Project as provided in the Docket No. 435 Decision and Order and Opinion and indicates where within the D&M Plan the relevant information is located.

Table 9-1: D&M Plan Directory of Docket No. 435 Decision and Order and Opinion Requirements for 115-kV Underground Transmission Line

Condition or Page Number	Description	D&M Plan (Section Reference, as Applicable)
Condition No.	Decision and Order	
(1)	The Certificate Holder shall construct the proposed transmission circuit along the Preferred Route with Canal Street Option (Updated).	D&M Plan Volumes I, II and III
(2)	The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-60 through 16-50j-62 of the Regulations of Connecticut State Agencies. The D&M Plan shall be served on the City of Stamford for comment, and all parties and intervenors as listed in the service list, and submitted to and approved by the Council prior to the commencement of facility construction and shall include:	Applies to the City of Stamford. Volume I, Section 8
	a. A detailed site plan showing the underground route, splice boxes, provisions for underground cable protection, substation improvements, and equipment and material staging areas;	Volume I, Appendix A, Exhibit 3 Volume II, Appendix A Exhibit 3 Staging Areas will be identified and submitted to the Council for review and approval
	b. Identification of horizontal directional drill and jack and boring sites;	Volume II, Section 3.4 Volume II, Appendix A Exhibit 3
	c. An erosion and sediment control plan (that includes provisions for any areas for the temporary storage of fill materials), consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control as amended;	Volume II, Appendix A, Exhibit 4
	d. A spill prevention and countermeasures plan;	Volume III, Appendix C
	e. A vegetative clearing plan;	Except for minor clearing of small trees/trimming along the Metro-North Railroad corridor embankment and between Pacific and Canal Streets, no vegetation clearing will be required for the Project.
	f. A post-construction electric and magnetic field monitoring plan;	Volume II, Section 5.11 and Volume III Appendix F
	g. A schedule of construction hours during nights and/or weekends and mitigation of lighting and noise;	Volume II, Section 4
	h. A blasting plan;	N/A - There are no plans to utilize explosives to remove bedrock at this time. See Volume II, Section 3.2.27 for contingency plan.

Condition or Page Number	Description	D&M Plan (Section Reference, as Applicable)
	i. A restoration plan to include vegetation and paving	Volume II, Section 3.7
	j. A decommissioning plan;	Volume II, Section 9.2.1
	k. Identification of developed areas for staging and equipment lay down, field office trailers, sanitary facilities and parking before establishing a new area;	When potential staging area(s) have been identified, CL&P will communicate this to the Council and seek the Council's approval prior to using the site.
(3)	The Certificate Holder shall conform to the Council's Best Management Practices for Electric and Magnetic Fields.	Volume II, Section 5.11
(4)	The Certificate Holder shall comply with all future electric and magnetic field standards promulgated by State or federal regulatory agencies. Upon the establishment of any new standards, the facilities granted in this Decision and Order shall be brought into compliance with such standards.	To be addressed as part of CL&P operations and maintenance.
(5)	The Certificate Holder shall obtain necessary permits from the United States Army Corps of Engineers, the Connecticut Department of Energy and Environmental Protection, and the Connecticut Department of Transportation and/or Metro North Railroad prior to the commencement of construction.	N/A for U.S. Army Corps of Engineers permit. Volume II, Sections 2, 3.4 and 5.6
(6)	The Certificate Holder shall include an update of environmental conditions encountered during the installation of the underground transmission system as part of any periodic progress reports to be provided to the Council, as determined in the Development and Management Plan.	Volume II, Section 7.3, Table 7-1
(7)	The Certificate Holder shall provide to the Council an operating report within three months after the conclusion of the first year of operation of all facilities herein, and annually thereafter for a period of three years, with information relevant to the overall condition, safety, reliability, and operation of the transmission systems.	Volume II, Section 7.3 and Table 7-1
(8)	This Decision and Order shall be void if all construction authorized herein is not completed within four years of the effective date of the Decision and Order, or within four years after all appeals to this Decision and Order have been resolved.	Volume II, Section 4.1
(9)	This Certificate may be surrendered by the Certificate Holder upon written notification to the Council.	
(10)	The Council may reopen this docket under changed conditions should the regionalized allocation of the costs of this Project differ substantially from the representations made by the Certificate holder.	
Page No.	Opinion	
<u>4</u>	To ensure the proposed Project is properly developed, the Council will require the Applicant to submit a D&M Plan that will include:	
	a. Provisions for public comment and review,	Volume I, Section 8 Volume II, Section 8
	b. Detailed site plans identifying structure and equipment locations,	Volume I, Exhibit 3 Volume II, Exhibit 3
	c. A Sediment and Erosion Control Plan, consistent with the 2002 Connecticut Guidelines for Sediment and Erosion Control,	Volume I, Exhibit 4 Volume II, Exhibit 4

Condition or Page Number	Description	D&M Plan (Section Reference, as Applicable)
	d. A Spill Prevention, Control and Countermeasures Plan,	Volume III, Appendix C
	e. Provisions for re-vegetation and maintenance of the proposed ROW,	Volume I, Sections 3.2.6 and 3.2.9 Volume II, Section 3.7
	f. Provisions for the inspection and monitoring of the proposed underground cable and other accessory equipment, and	Volume I, Section 7.3 and Table 7-1 Volume II, Section 7.3 and Table 7-1
	g. Pre-construction and post-construction measurements of electric and magnetic fields.	Volume III, Appendix F

9.2 SUPPLEMENTAL PLANS AND INFORMATION

9.2.1 Decommissioning Plan

Pursuant to Condition #2(i) of the Council's Decision and Order, CL&P has generated a decommissioning plan for the Project. Upon determination to decommission the circuit, the facility would be dismantled. The cable would be removed from the duct bank, the terminations at the substations would be removed, and line relays would be removed or re-purposed. The concrete encased duct bank, the concrete splice vaults and the concrete hand holes would remain in place in accordance with current practices.

9.2.2 Flood and Storm Surge Mitigation

No flood and storm surge mitigation is needed for the transmission line. Please refer to Volume I for flood and storm surge mitigation for the South End Substation.

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10. GLOSSARY AND TERMS

Access Road: A road that provides access into and out of the substations or staging areas.

Ampere (Amp): A unit of measure for the flow (current) of electricity. A typical home service capability (i.e., size) is 100 amps; 200 amps is required for homes with electric heat.

BMPs: Best Management Practices

Bus: Electrical conductor that serves as a common connection between the source of electric power and the load circuits.

CEO: Chief Elected Official

Certificate: Certificate of Environmental Compatibility and Public Need (from the Connecticut Siting Council)

C.G.S.: Connecticut General Statutes

Circuit: A system of conductors (three conductors or three bundles of conductors) through which an electrical current is intended to flow and which may be supported above ground by transmission structures or placed underground.

Circuit Breaker: A switch, located in substations, that automatically disconnects power to the circuit in the event of a fault condition. It performs the same function as a circuit breaker in a home.

City: City of Stamford

CL&P: The Connecticut Light and Power Company

ConnDOT: Connecticut Department of Transportation

Conductor: A metallic wire, busbar, rod, tube or cable which serves as a path for electric current flow.

Conduit: Pipes, usually PVC plastic, typically encased in concrete, or rigid galvanized steel (“RGS”) for housing underground power and control cables.

Construction: Construction refers to Project activities commencing with work site / staging area preparation through final restoration and site stabilization.

Contingency: The unexpected failure or outage of a system component, such as a generator, transmission line, circuit breaker, switch or other electrical element.

Council or CSC: Connecticut Siting Council

CT DECD: Connecticut Department of Economic and Community Development

CT DEEP: Connecticut Department of Energy and Environmental Protection

D&M Plan: Development and Management Plan (required by the Connecticut Siting Council)

dBA: Decibel, on the A-weighted scale.

Decision and Order: Council approval of the Project

Distribution Line or System: Facilities that transport electrical energy from the transmission system to the customer.

Disconnect Switch: Equipment installed to isolate circuit breakers, transmission lines or other equipment for maintenance or sectionalizing purposes.

Docket 435: Council Docket number for the Project

Electric Field: Produced by voltage applied to conductors and equipment. The electric field is expressed in measurement units of volts per meter (V/m) or kilovolts per meter (kV/m); 1 kV/m is equal to 1,000 V/m.

Electric Transmission: The facilities (69 kV+) that transport electrical energy from generating plants to distribution substations.

EMF: Electric and magnetic fields.

Environmental Inspector, Environmental Monitor: Environmental scientist retained by CL&P to monitor the conformance of Project construction to the environmental requirements

Fault: A failure (short circuit) or interruption in an electrical circuit.

Frac Tank: Fractionization tank, used to temporarily hold water pumped from Project excavations or otherwise used during Project construction activities

Idling: The period when mobile construction equipment is not in motion or is not otherwise actively performing its designated function.

Independent Environmental Inspector(s): Environmental scientist with formal training in civil or environmental engineering, retained by CL&P but reporting to the Council to verify compliance with the Council's Decision and Order.

kV: Kilovolt, equals 1,000 volts

Line: A series of overhead transmission structures which support one or more circuits; or in the case of underground construction, a duct bank housing one or more cable circuits.

Magnetic Field: Produced by the flow of electric currents; however, unlike electric fields, most materials do not readily block magnetic fields. The level of a magnetic field is commonly expressed as magnetic flux density in units called gauss (G), or in milligauss (mG), where 1 G = 1,000 mG.

MCF: Municipal Consultation Filing

MNRR: Metro-North Railroad

MUTCD: Manual of Uniform Traffic Control Devices

NGVD: National Geodetic Survey Datum

NU: Northeast Utilities (CL&P is a wholly owned subsidiary of NU)

Project: Stamford Reliability Cable Project

Protection/Control Equipment: Devices used to detect faults, transients and other disturbances in the electrical system in the shortest possible time. Customized or controlled per an entity's operational requirements.

psi: Pounds per square inch

PT: Potential transformer

PURA: Public Utilities Regulatory Authority (part of CT DEEP, formerly Department of Public Utility Control).

PVC: Polyvinyl chloride

RCSA: Regulations of Connecticut State Agencies

SHPO: State Historic Preservation Office

SPCP: Spill Prevention and Countermeasures Plan

SRCP: Stamford Reliability Cable Project

Substation: Part of the electric transmission system, a high-voltage electrical facility with a fenced-in yard containing switches, transformers, line-terminal structures, and other equipment enclosures and structures to regulate and distribute electrical energy, such as receiving power from a generating facility, changing voltage levels, limiting power surges, etc. Adjustments of voltage, monitoring of circuits and other service functions take place in this installation.

Switchgear: General term covering electrical switching and interrupting devices. Device used to close or open, or both, one or more electric circuits.

Terminal Structure: Structure typically within a substation that ends a section of transmission line.

TMP: Traffic Management Plan

Transformer: A device used to transform voltage levels to facilitate the efficient transfer of power from the generating plant to the customer. A step-up transformer increases the voltage while a step-down transformer decreases it.

Transmission Line: Any line operating at 69,000 or more volts.

USGS: United States Geological Survey (U.S. Department of the Interior).

Vegetation Clearing: Removal of forest vegetation. May also refer to mowing or cutting of scrub-shrub vegetation.

VPH: Vehicles per hour.

Voltage: A measure of the push or force that transmits energy.

Watercourse: Rivers, streams, brooks, waterways, lakes, ponds, marshes, swamps, bogs, and all other bodies of water, natural or artificial, public or private.

Wetland: Is an area of land consisting of soil that is saturated with moisture, such as a swamp, marsh, or bog.

XLPE: Cross-linked polyethylene