

APPENDIX C

RIGHT-OF-WAY VEGETATION CLEARING STANDARD TRM
81.021

General

The major factor positively affecting transmission line reliability is a well managed program of vegetation control directed toward tall and fast-growing trees and invasive shrub species in and adjacent to transmission line rights-of-way. Vegetation related outages of high-voltage transmission lines can be minimized by applying this clearing standard to new and replacement lines and post-construction periodic vegetation management. The clearance minimums in this standard will provide safe clearances after re-growth at the end of a typical four (4) year maintenance cycle.

This specification conforms to the scope and intent of the NEPOOL Operating Procedures OP-3 Appendix 3-D1 titled “NEPOOL Right-of-Way Vegetation Management Standard” dated 02/26/99.

Clearance Between Conductors and Woody Vegetation

Transmission lines within the Northeast Utilities’ system present a variety of woody vegetation control situations. Regulatory permit conditions often specify “buffers” or “screenings” at visually sensitive highway and local road crossings and other locations which require special attention to the desired screening and to the necessary clearances. Northeast Utilities’ right-of-way vegetation clearing practices differ in specific areas as defined below:

1. Under and adjacent to the conductors of the transmission line as depicted on Figure C; cut all tall-maturing tree species of any height while retaining existing compatible woody shrub species (see Appendix 1).
2. At structure sites and access roads; clear cut what is required to insuring clear construction and maintenance areas as depicted on Figure C.
3. At road crossings, within 15 feet of the edge of clearing and other sensitive areas that may be specified under the regulatory permit; retain low-maturing tree species such as Flowering Dogwood (see Appendix 2) to the extent that they will not conflict with operation of the transmission line throughout the vegetation maintenance cycle.
4. At ravines, river crossings, and similar locations; allow tree species to remain where the conductors will be significantly higher than normal and where the vegetation at full mature height would not violate Figure A clearances or will not cause construction, or access or problems.

The minimum clearances established in Figures A, B, and C between conductors and woody vegetation includes the allowance for re-growth over the periodic maintenance cycle of 4 years in order to prevent clearance problems to the energized conductors between maintenance cycles. The defined clearances cover all types of vegetation including natural growth, orchards, ornamental plantings, nursery stock, and danger trees.

The minimum clearances applicable to woody vegetation are shown in the included figures.

Figure A; Minimum Conductor Clearances

Figure B; Danger Tree Clearance

Figure C; Clear Cut Area for New Construction

Where orchards, ornamental plantings, or nursery stock exist, the maximum tree height is shown in Figure A. Individual easements or other legal instruments may define site specific maximum allowable tree heights.

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Where rights exist beyond the edge of the right-of-way, any tree designated as a “danger tree”, i.e.; a tree that can fall within the dimensions noted in Figure B, will be removed at the discretion of the arborist. In sensitive areas adjacent to or within the right-of-way or where rights or other permission to remove danger trees cannot be obtained, the solution is to remove those portions of the tree canopy projecting into the right-of-way and those portions of a tree which, if they become detached, may fall within the clearance area.

On sidehill rights-of-way, danger trees can be found significantly further from the conductors on the up-hill side of the right-of-way than they will be on the down-hill side of the right-of way.

Clearing Activities

There are four distinct right-of-way vegetation clearing areas and activities:

1. Preparatory clearing for new transmission line construction.
2. Preparatory clearing for the replacement of an existing line, structure or appurtenance.
3. Clearing for wind-displaced conductor clearances.
4. Maintenance clearing.

Each clearing activity accomplishes a different objective by completing a different level of vegetation removal. New construction, equipment replacement, or repair typically involves activities 1 or 2, and 3.

Preparatory Clearing for New Construction

This clearing consists of clear cutting three distinct areas of the right-of-way and removing other trees which may be a hazard to the line due to their mature height as defined by Figure C. These clearing areas are:

1. At each structure site for a distance of twenty-five (25) feet from all surfaces of the structure, all poles of a multiple pole structure, and all anchor locations.
2. The full length of all access road and spurs to structure sites for a cleared width of fifteen (15) feet.
3. A width along the centerline of construction to a horizontal distance outside the two outermost conductors in accordance with Figure A. Low-maturing woody shrub species are typically not removed, and low maturing tree species such as Flowering Dogwood may be allowed to remain along the outer edges (“B” dimension of Figure A).

For new construction, in addition to the twenty-five (25) foot cleared area around the structure, a lay-down and assembly area may be required that is considerably larger. This area is dependant upon topography, the type of structure to be assembled, and the type of foundation required at the site.

Preparatory Clearing for Structure Maintenance or the Replacement of an Existing Line

This clearing is similar to new construction clearing with the following exceptions:

1. Clearing is dependant on the relative location of the rebuilt line with respect to the existing

cleared area and the proposed construction method for installation of conductors and shield wires. These factors may significantly reduce or eliminate needed clearing.

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2. The structure site and access clearing will still be required but may also be significantly reduced.
3. When structures from the old line are removed, the clear area at these sites and the access spurs to them will be allowed to naturally re-vegetate with native plant species which may include native grasses, forbs or shrubs.

Clearing for Conductor Clearance

After the conductors are installed a reference is established to determine required conductor clearances. Additional "danger trees" outside of the initial cleared area will be identified and removed in accordance with the clearance envelope lines shown in Figure B.

Maintenance Clearing

This clearing will allow natural re-vegetation across the entire width of the right-of-way to the extent that the mature height of any second growth vegetation remains under the clearance envelope lines shown in Figure A. Normally maintenance in the area under the conductors will result in vegetation heights which do not exceed eight (8) feet. Additionally, at each clearing cycle the right-of-way will be examined to determine if any new danger trees have developed. If so, arrangements for their removal will be negotiated as needed and the trees removed or overhanging portions trimmed.

Decision Responsibility for Clearing Woody Vegetation

For initial clearing, the transmission line Construction Manager, with assistance as necessary from the Project Engineer, will be responsible for obtaining approval from the Transmission Supervisor, Vegetation Management before allowing vegetation to remain which conflicts with the clearances shown in Figures A, B, and C.

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APPENDIX 1

SHRUB SPECIES ALLOWED TO REMAIN: (PARTIAL LIST)

<u>COMMON NAME</u>	<u>GENUS/SPECIES</u>
Arrowwood Viburnum	<i>Viburnum dentatum</i>
Bayberry	<i>Myrica pennsylvanica</i>
Blueberry - Highbush	<i>Vaccinium corymbosum</i>
Blueberry - Lowbush	<i>Vaccinium angustifolium</i> & <i>V. vacillans</i>
Brambles	<i>Rubus spp.</i>
Buttonbush	<i>Cephalanthus occidentalis</i>
Dogwood - Gray	<i>Cornus racemosa</i>
Dogwood - Redosier	<i>Cornus stolonifera</i>
Dogwood - Silky	<i>Cornus amomum</i>
Elderberry	<i>Sambucus spp.</i>
Hazelnut	<i>Corylus americana</i> & <i>C. cornuta</i>
Honeysuckle - Bush	<i>Diervilla lonicera</i>
Honeysuckle - Fly	<i>Lonicera canadensis</i>
Honeysuckle - Tartarian	<i>Lonicera tatarica</i>
Huckleberry	<i>Gaylussacia spp.</i>
Maple-leaf Viburnum	<i>Viburnum acerifolium</i>
Meadowsweet - Broad-leaved	<i>Spirea latifolia</i>
Meadowsweet - Narrow-leaved	<i>Spirea alba</i>
Mountain Laurel	<i>Kalmia spp.</i>
Oblong Fruited Juneberry	<i>Amelanchier bartramiana</i>
Oldfield Common Juniper	<i>Juniperus depressa</i>
Pasture Juniper	<i>Juniperis communis</i>
Running Shadbush	<i>Amelanchier stolonifera</i>
Sheeplaurel	<i>Kalamia augustifolia</i>
Spicebush	<i>Lindera benzoin</i>
Steeplebush	<i>Spirea tomentosa</i>
Sweetfern	<i>Comptonia peregrina</i>
Sweetpepperbush	<i>Clethra alnifolia</i>
Winterberry	<i>Ilex verticillata</i>
Witch Hobble	<i>Vburnum alnifolium</i>
Witherod	<i>Viburnum cassinoides</i>

APPENDIX 2

Original	<p>Right-of-Way Vegetation Clearing Standard for 69-kV through 345-kV Transmission Lines</p>			
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LOW-MATURING TREE SPECIES ALLOWED TO REMAIN ALONG THE SIDES OF CLEARING: (PARTIAL LIST)

All species listed above including:

Alder	<i>Alnus spp.</i>
Dogwood - Alternate-leaved	<i>Cornus alternifolia</i>
Dogwood - Flowering	<i>Cornus florida</i>
Sumac - Shining	<i>Rhus copillina</i>
Sumac - Smooth	<i>Rhus glabra</i>
Sumac - Staghorn	<i>Rhus typhina</i>
Willows (except tree species)	<i>Salix spp.</i>
Witch-Hazel	<i>Hamamelis virginiana</i>

Figure A

Minimum Conductor Clearances

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* All Other Woody Species		
Line Voltage	A (ft.)	B (ft.)
69 & 115 kV	12	11
230 & 345 kV	16	15

* Orchards		
Line Voltage	A (ft.)	B (ft.)
69 & 115 kV	14	11
230 & 345 kV	18	15

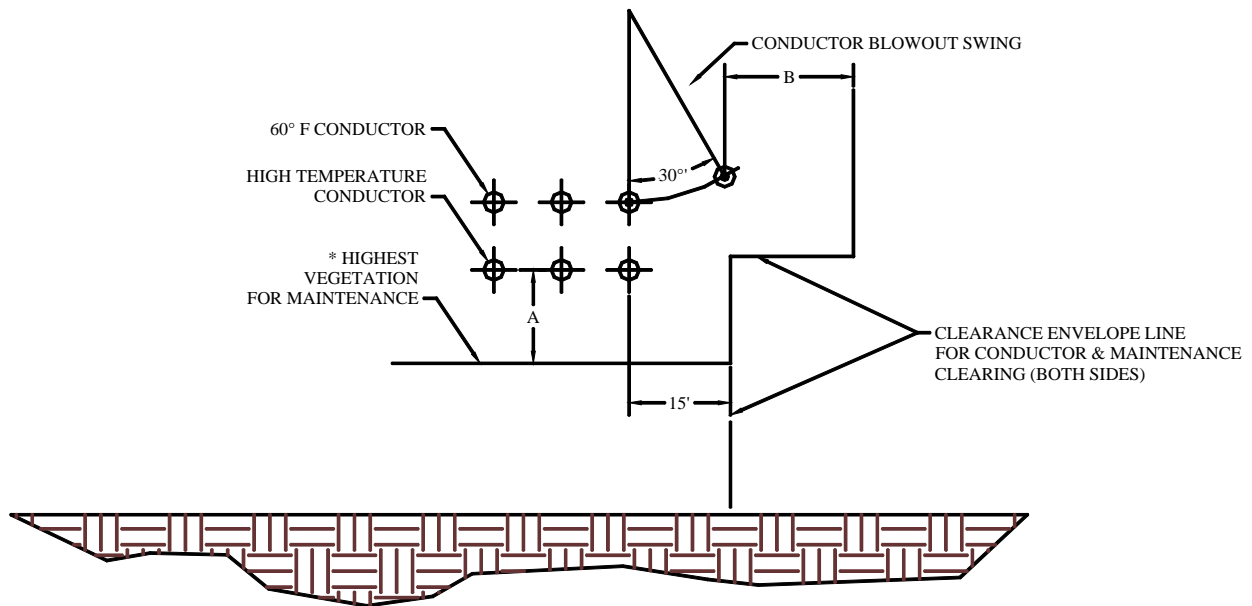


Figure B

Danger Tree Clearances

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Line Voltage	A (ft.)
69 & 115 kV	6
230 & 345 kV	10

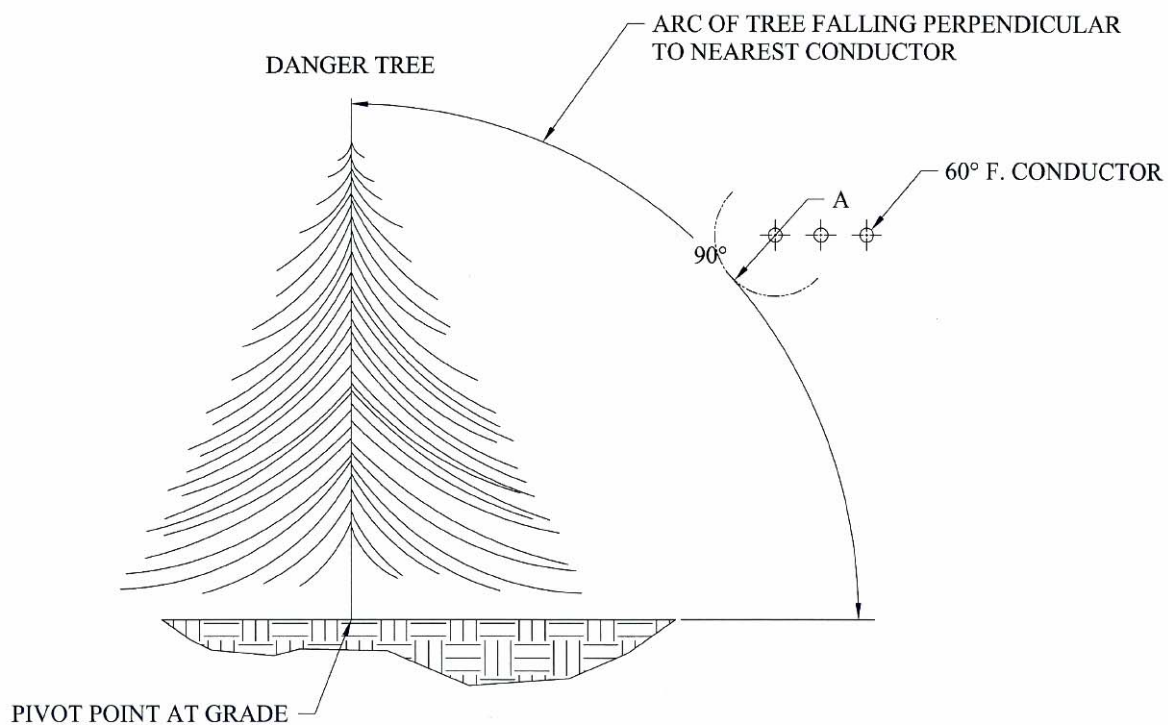
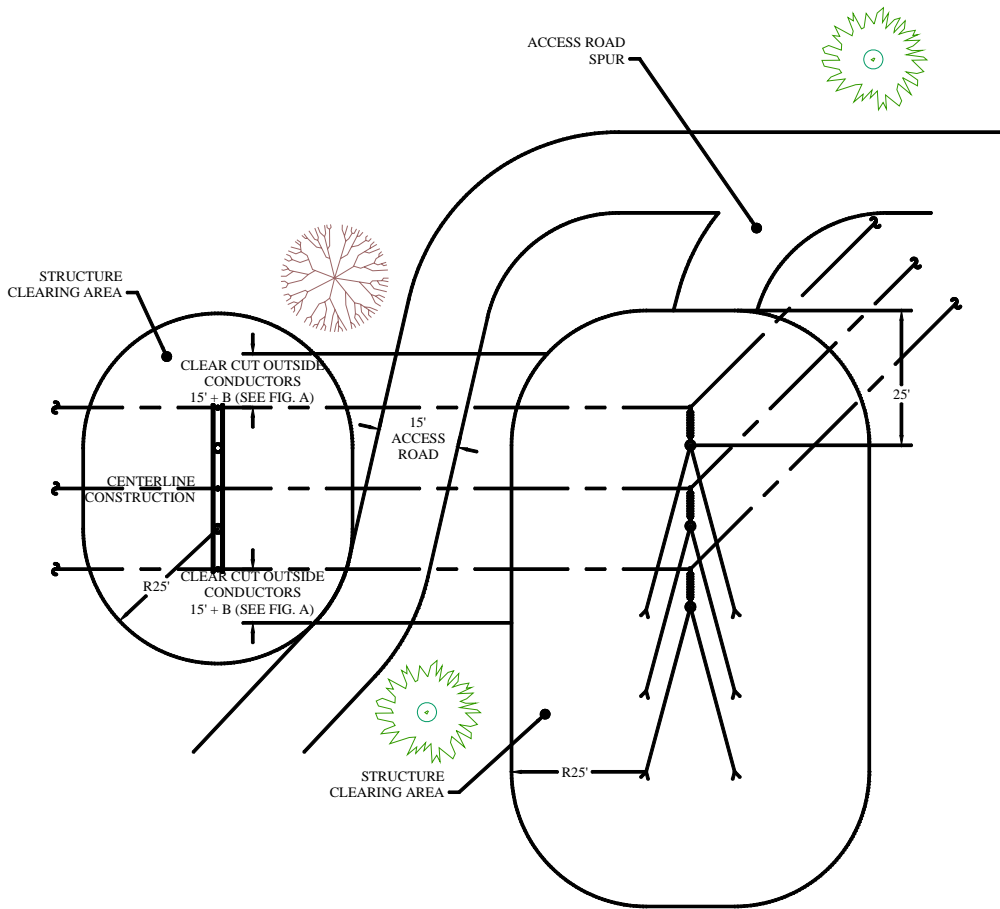


Figure C

Clear Cut Area for New Construction

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APPENDIX D

SEDIMENT AND EROSION CONTROL PLAN

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SEDIMENT AND EROSION CONTROL PLAN

The objective of this Plan is to minimize the potential for erosion and sedimentation impact during construction and to effectively restore the work areas and other disturbed areas. This objective will be met by implementing the erosion and sediment control measures contained in this section. These erosion and sediment control measures will serve as minimum erosion sedimentation by:

- Minimizing the quantity and duration of soil exposure
- Protecting areas of critical concern during construction by redirecting and reducing the velocity of runoff
- Installing and maintaining erosion and sediment control measures during construction
- Establishing vegetation where required as soon as possible following final grading
- Inspecting the work areas and maintaining erosion and sediment control as necessary until final stabilization and inspection are achieved.

It is Connecticut Light and Power Company (CL&P) responsibility for ensuring that all contracts implement and maintain erosion and sediment control measures during construction. This plan includes erosion and sediment control techniques that apply to all areas of construction, expands on the impact minimization associated with clearing, grading, installation, and restoration phases and discusses the use of construction safety precautions.

1.0 Standard Construction Methods

Construction of an aboveground electric transmission line consists of several distinct phases: clearing, grading, drilling of foundations, installation of new structures and restoration.

1.1 CLEARING

All clearing activities will conform to the methods dictated in this section.

- Transmission line right-of-way boundaries will be clearly delineated in the field before commencement of clearing activities. The Owner's Representative (OR) will ensure that no clearing occurs beyond these boundaries.
- Trees to be saved shall be clearly marked (flagging, snow fencing, etc.) before commencement of clearing operations. As part of the pre-construction planning and vegetation inventory, efforts have been, and will continue to be, made to identify unique or specimen trees that are located within or near the construction workspace. Landowners will be consulted concerning their desire to protect such trees. The specified trees will be flagged and, to the extent practical, attempts will be made to preserve the identified trees during the construction process.
- Stemmed vegetation such as brush, shrubs and trees shall be removed at or near the ground surface to allow the root system to remain intact.
- All existing fences and walls shall be maintained by the use of temporary fences section (gap). Prior to removal, the fence or wall will be properly braced and similar material used to construct the gap. At no time will an opening be left unattended. The gap will be replaced after cleanup with a permanent fence or wall of the same or similar material and condition.
- When pruning is necessary, it shall be conducted as follows:
 - a. Cuts shall be smooth
 - b. Branch collars shall not be cut (i.e., cuts should be made immediately in front of the branch collar)

- c. Large, heavy branches shall be precut on the underside to prevent splitting or peeling
- d. Climbing spurs shall not be used
- Trees shall be cut to grade within the non-paved work area
- Trees and limbs will not be permitted to fall into wetlands or watercourses, where possible.
- Construction activity with the potential for generating high-decibel noise levels will be restricted to the period between 7am and 7pm or in accordance with local regulations.
- Brush will be piled at the edge of the work area to provide additional runoff protection or additional wildlife habitat.
- All brush will be removed from wetland areas.
- Chips may be left on the workspace with OR approval if placement does not inhibit revegetation.
- Chips will not be left in wetlands or agricultural lands or stockpiled in such a location that they may be transported into wetland or agricultural lands.

1.2 GRADING

When existing topography and/or terrain does not permit crews and equipment to operate safely and does not provide access or an effective work area, grading may be required. The following general construction methods will be employed by CL&P during grading.

1.2.1 Removal of Tree Stumps

Stumps will be removed only if they are in a structure foundation location. Stumps that create construction constraints or safety concerns may require removal from under a work pad or on a side slope. Stumps may be chipped in upland areas. Grindings will be removed from the wetlands to the maximum extent practicable.

1.2.2 Rock Disposal

Excess rock, including drilled rock shall be used or disposed of by one or more of the following methods:

- Windrowed in uplands per landowner agreement and applicable permits, or removed if it exceeds that of surrounding terrain.
- Hauled to disturbed property per landowner agreement. As part of the agreement, the landowner will accept responsibility for the rock and not place it in a wetland area.
- Removed and disposed at an approved site that is traditionally used for rock debris disposal.
- Used to construct stone walls or fences, if approved by CL&P per landowner agreement.
- Used to improve designated construction access roads per appropriate approval.

1.2.3 Water Bars/Terraces (Slope breakers where necessary)

- Water bars/terraces shall be installed diagonally across the work area when needed.
- A temporary channel will be excavated and a compacted berm created adjacent to the channel or ridge of compacted soil.
- The type of soil, degree of slope, runoff area and location of suitable outlets determines the number and shape of water bars required. The minimum guidelines for water bar spacing per the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control are:

<u>Percent (%) Slope</u>	<u>Spacing (feet)</u>
1	400
2	245
5	125
10	78
15	58

- The bar/terrace will be created in such a way as not to prohibit safe passage.
- Water bars/terraces will be maintained and repaired at the end of each day.
- Water bars/terraces will divert water to a well vegetated area. If a vegetated area is unavailable, erosion control barriers shall be installed at the limit of the construction workspace at the outlet of the water bar.
- Silt fence, straw bales or sandbags may be used in place of water bars/terraces per the OR.

1.2.4 Temporary Erosion Control Barriers

Straw bales and silt fences are interchangeable, except where noted below. Temporary erosion control barriers shall be installed prior to initial disturbance of soil and maintained as described below.

- At the outlet of a water bar when existing vegetation is not adequate to control erosion.
- Along banks of waterbodies between the workspace and waterbody after clearing.
- Downslope of any stock piled soil in the vicinity of waterbodies and vegetated wetlands.
- At sideslope and downslope boundaries of the construction area where runoff is not otherwise directed by a water bar/terrace.
- Maintain throughout construction and remain in place until permanent soil stabilization has been judged successful, at which time they will be removed (straw bales may be left in place).
- Between wetlands and adjacent disturbed upland areas and as necessary to prevent siltation of ponds, wetlands, or other waterbodies adjacent to /downslope of the work.
- At the edge of the construction workspace as needed to contain soil and sediment.
- To be inspected on a daily basis in areas of active construction or equipment operation, on a weekly basis in areas with no construction or equipment operation and within 24 hours of a storm event that is 0.5 inches or greater.

1.2.4.1 Silt Fence Installation and Maintenance

- All silt fences shall be installed as directed by manufacturer and applicable permit conditions.
- A sufficient supply of silt fence shall be stockpiled onsite for emergency use and maintenance.

1.2.4.2 Straw Bale Installation and Maintenance

Straw bales may be used in place of, or in addition to, silt fence. If straw bales are to be used it must be installed and maintained as described below.

- It shall be anchored in place with at least two 2-inch diameter stakes.
- Bindings on bales shall be horizontal, in compliance with 2002 CT Guidelines for soil Erosion and Sediment Control.
- Bales shall be replaced if damaged or allowing water flow underneath.
- Damaged bales shall be replaced with new bales as deemed necessary by the OR.
- A sufficient supply of bales shall be maintained onsite for emergency use.

- Bales bound with wire or plastic shall not be used.

1.3 DRILLING OF FOUNDATIONS

To prepare for the installation of the concrete foundations, holes must be drilled into the ground. Since many of the proposed foundation locations are located on rock, rock drilling is likely to be required. Excess rock shall be disposed of as described in Section 1.2.2 of this Plan. Excess soil generated by the preparation for the foundation will be disposed of by:

- Spreading in uplands or removed if it exceeds that of surrounding terrain.
- Hauled to disturbed property per landowner request. As part of the agreement, the landowner will accept responsibility for the spoil. It cannot be placed in a wetland area.
- Removed and disposed at an approved site that is traditionally used for soil disposal.
- Used to improve designated construction access roads per appropriate approval.

Temporary erosion control barriers must also be installed around spoil piles as described in Section 1.2.4 of this Plan. Spoil will be stored at least 10 feet from waterbodies, where possible.

Underground utilities shall be located and carefully exposed, by hand digging if necessary. Appropriate authorities, such as "Call Before You Dig", will be notified 72 hours in advance of conducting any drilling.

1.4 INSTALLATION

Transmission line structures will be transported and unloaded in the general vicinity of their location. The structures will not be stored in wetlands or other waterbodies. Once the foundation holes are drilled, the foundations will be constructed. The foundations consist of re-inforced concrete with an above-grade bolting system. Excavations may require dewatering as a result of storm water or groundwater. Dewatering shall be conducted as described below.

- The dewatering location shall be a fairly level upland that is well vegetated, as to allow for the water to drain to the ground. Water will not be discharged to a wetland or waterbody.
- The dewatering area shall consist of a 10 ft by 10 ft straw bale perimeter (size adjusted per water volume). Straw bales shall be installed and maintained per Section 1.2.4.2 of this Plan.
- The pump hose shall be connected to a filter bag that is placed within the straw bale barrier. The pump hose shall contain a diffuser nozzle or be installed to allow for a low discharge rate to prevent scouring.
- Additional straw bales can be used to increase detention and filtering.

Once the foundations are cured (approximately 7 to 28 days) the steel transmission line structures will be erected and bolted securely to the foundation.

After all the structures are erected, the electric cables will be strung via pulley system from designated pulling areas. These areas will not be located within 50 feet of the edge of a wetland or waterbody.

1.5 RESTORATION AND REVEGETATION

Restoration and revegetation of the work areas incorporates permanent erosion and sediment control measures. However, in the event that final restoration cannot occur in a timely manner

due to weather or soil conditions, temporary erosion and sediment control measures will be maintained until weather is suitable for final cleanup and revegetation. In no case shall final cleanup be delayed beyond the end of the next growing season.

1.5.1 Temporary Erosion Control

- Stabilization measures shall be initiated as soon as practical on portions of the workspace where activities have temporary or permanently ceased except:
 - a. When the initiation of stabilization measures are precluded by weather. Stabilization measures shall be initiated as soon as machinery is able to obtain access to the work areas.
 - b. When activities will resume within 21 days, stabilization measures do not have to be initiated by the fourteenth day following the cessation of activities.
- If construction is completed more than 30 days before the perennial vegetation seeding season, wetland areas and adjacent to waterbodies shall be mulched with straw or equivalent for a minimum of 100 feet on either side of the waterbody.
- Temporary plantings will be fertilized in accordance with the recommendations of the local NRCS office or other soil conservation authority.
- Temporary sediment barriers will be removed when an area is successfully revegetated in compliance with applicable regulatory approvals.

1.5.2 Permanent Restoration Measures

- Final grading around structure foundations shall be completed after installing foundation and pole structure, weather permitting.
- For wetland and/or stream impacted areas, re-contouring will be completed as soon as the foundation and pole structures are installed and temporary wetland stream access location structures such culverts, pipe flume, or matting have been removed. These erosion and sediment control structures shall be removed upon completion of that portion of the project and when they are no longer needed for construction purposes/access. Permanent structures within streams or wetlands may require federal, state, or local permitting.
- Construction debris shall be removed from the workspace, and the area shall be graded so that the soil is left in the proper condition for mulching, seeding or natural revegetation.
- Permanent water bars/terraces shall be constructed in association with final grading and prior to seeding.
- Permanent water bars will be constructed to replace temporary erosion control barriers at road and waterbody crossings.
- Permanent water bars/terraces will be constructed to the same specifications as temporary water bars.

1.5.3 Revegetation and Seeding

- The workspace will be seeded within 7 working days of final grading, weather and soil conditions permitting and planted in accordance with recommended seeding dates.
- Where broadcast or hydro-seeding occurs the seedbed will be scarified to ensure sites for seed to lodge and germinate.
- The seedbed will be prepared to an average depth of 3-4 inches using appropriate equipment to provide a firm, smooth seedbed, free of debris.
- Slopes steeper than 3:1 shall be seeded immediately after final grading in accordance with recommended seeding dates, weather permitting.

- The seed shall be applied and covered uniformly in accordance with the 2002 Connecticut Guidelines for Erosion and Sedimentation Control Guidelines. Broadcast or hydro-seeding can be used at double the recommended seeding rates. Where broadcast seeding is used, the seedbed shall be firmed after seeding.
- Areas seeded will be mulched with straw to prevent erosion.

1.5.4 Mulching

- After seeding, mulch will be applied at a rate of approximately 2 tons per acre on the disturbed areas, except wetlands, lawns, agriculture areas and areas where hydro-mulch is used.
- If construction or restoration activity is interrupted for extended periods (greater than 21 days), mulch will be applied.
- If mulching before seeding, mulch application will be increased on all slopes within 100 feet of waterbodies and wetlands to a rate of 3 tons/acre at a 4 inch depth.
- Mulch shall be anchored immediately after placement on steep slopes and stream banks.
- When mechanically anchoring mulch, mulch anchoring tool or tracked equipment will be used to crimp the mulch to a depth of 2-3 inches.
- When anchoring with liquid mulch binders, application rates will be as recommended by the manufacturer. Liquid mulch binders will not be used within 100 feet of wetlands or waterbodies.

1.5.5 Matting/Netting

- Matting or netting will be applied to sensitive areas (i.e., steep slopes, banks of waterbodies, bar ditches, etc.), in accordance with permit requirements.
- Matting or netting will be anchored with pegs or staples.

1.5.6 Monitoring/Reporting

- CL&P will conduct follow-up inspections after the first and second growing seasons after seeding to monitor the success of revegetation. In upland areas, revegetation will be considered successful if vegetation cover is sufficient to prevent erosion of soils disturbed in the workspace. Sufficient vegetation coverage is defined as a uniform 70%. If sufficient vegetative cover has not been achieved after two full growing seasons, additional restoration measures will be implemented. Erosion control devices shall be removed upon successful stabilization and revegetation of disturbed areas.
- CL&P will implement one or more of the following measures in cooperation with the landowner, if warranted or required, to control off-road vehicles:
 - Post and maintain, as necessary, appropriate signage
 - Installing a locking gate with fencing to prevent bypassing
 - In extremely sensitive areas, planting conifers or other appropriate shallow-rooted trees and shrubs in underground areas and overhead line areas across the workspace except where access is required for periodic inspection and maintenance use by CL&P. The spacing of trees and shrubs and length of workspace plantings shall comply with CL&P and national codes. This method will be used only when reflected on site specific plans or required by a regulatory agency
 - Installing a slash and timber barrier or boulders across the ROW.

2.0 Safety

- Temporary safety fences shall be erected at ROW crossings (e.g., residential areas, sensitive environmental areas, road crossings, etc.) where necessary.
- The length of time that the foundation pit/hole is left open shall be minimized through coordination by the construction inspector and the construction contractor.
- Soil tracked onto roads by construction equipment shall be minimized and will be cleaned in a manner consistent with all applicable permits. If stone access pads are used in residential or active agricultural areas, synthetic fabric will be used to facilitate removal.
- CL&P may employ flagmen and/or police detail for traffic control, temporary traffic detours and/or off-site parking facilities and busing for work crews.
- An electric utility surveyor/inspectors will be on-site at all times while construction activities occur near electric utilities.
- Overhead spotters will be on-site during construction activities.

3.0 Access Roads

- The contractor will not make any arrangements with landowners to use, change, or improve private access roads or property beyond those specified on the drawings or designated in the landowner agreement.
- Water bars will be necessary on steep slopes if the road will require grading or regrading as described in Section 1.2.3.
- If side ditches are required to provide drainage, they shall be excavated parallel to the road to carry runoff away from the road.
- Where an access road crosses an intermittent drain, culverts or pipe flumes will be installed as necessary to maintain existing drainage patterns, and clean stone/rock will be used to improve the surface of access roads for stabilization and/or rutting protection.
- If open water crossings are required, an equipment bridge will be used.
- Access roads will be restored to pre-construction condition unless specified otherwise by the landowner and approved by applicable permits.
- If subsoils are unstable, the use of timber mats may be required. These materials will be removed during clean up.
- Erosion control barriers will be installed, inspected and maintained as required at the edge of access roads where necessary to prevent siltation of ponds, wetlands of other adjacent/downslope waterbodies.

4.0 Inadvertent Disturbance Off Right-Of-Way

CL&P will restrict all activities to the permitted construction work areas. However, under extreme circumstances, such as while working on steep slopes in slippery conditions, and while grading on steep side hills, some inadvertent disturbance may occur outside of these areas. In the event that inadvertent disturbances occur, the following procedures will be implemented:

- The operator or foreman will immediately report the occurrence to a CL&P Inspector, who will notify the construction inspector and environmental inspector. The environmental inspector will then notify the appropriate CL&P personnel.
- The conditions that caused the disturbance will be evaluated, and the construction inspector and environmental inspector will determine whether work at the site can continue under those conditions.

- The nature of the disturbance will be evaluated and corrective actions taken as deemed necessary by the construction inspector and environmental inspector. Such measures may include immediate re-contouring and seeding of the disturbed site, and/or installation of erosion control devices to contain the disturbance.
- CL&P will notify the landowner and appropriate agencies of the disturbance

5.0 Waterbodies and Wetlands

5.1 WETLANDS

CL&P will protect and minimize potential adverse impacts to wetlands by:

- Expediting construction in and around wetlands and limiting the amount of equipment and mainline construction activities within wetlands to reduce disturbances of wetland soils
- Limiting grading to the amount necessary to provide a safe workspace
- Segregating disturbed topsoil from subsoil, as practical, depending on soil saturation at the time of construction
- Restoring wetlands to their original configurations and contours
- Permanently stabilizing upland areas near wetlands as soon as practical after transmission line structure installation
- Inspecting the ROW periodically during and after construction and repairing any erosion control or restoration features until permanent revegetation is successful

Additional workspace at wetland crossings will be minimized and located at least 50 feet from the edge of the wetland where topographic conditions permit. No refueling of construction vehicles will occur within 100 feet of any wetland resource area. The setbacks from watercourses and wetlands will be clearly marked in the field before the start of construction. Hazardous materials, chemicals, fuels or lubricating oils will not be stored nor will concrete coating activities be conducted within 100 feet of a wetland or waterbody boundary.

5.1.1 Clearing

- Equipment will not be allowed to work in wetlands unless it will not damage the existing root systems and as approved by the OR. Bulldozers will not be used for clearing. Trees and brush will be cut at ground level by chainsaws or feller buncher.
- Stumps will be left in place unless the removal is necessary to ensure worker safety. Stumps may be ground to a suitable height for safety reasons.

5.1.2 Grading

- Grading will be limited to the immediate work area of the foundation location, except where topography requires additional grading for safety reasons. Where grading is required, topsoil will be segregated and returned as an even layer to all graded areas.
- Prior to grading along or within wetlands, temporary erosion control barriers shall be installed on the down slope side of the area to be graded.

5.1.3 Drilling/Stock Piling

Since the drilled hole/pit will be filled with concrete to form the foundation, the spoil will be removed from the wetland by side-casting in adjacent uplands or by hauling it out of the wetland by vehicle, to be disposed of as described below.

- Spread in uplands or removed if it exceeds that of surrounding terrain.

- Hauled to disturbed property per landowner agreement. As part of the agreement, the landowner will accept responsibility for the spoil. It cannot be placed in a wetland area.
- Removed and disposed at an approved site that is traditionally used for soil disposal.
- Used to improve designated construction access roads per appropriate approval.

Spoil will be stored at least 100 feet from wetlands. Spoil placed up gradient of wetlands will be contained with sediment control.

Excess rock shall be disposed of as described in Section 1.2.2 of this Plan.

5.1.4 Cleanup/Restoration

- All construction debris shall be removed following foundation completion and transmission line structure erection.
- Once the structures are erected, CL&P will restore the original contours (within 6 inches) and flow regimes to the extent practical with the exceptions of unnatural features and unstable grades.
- The disturbed areas will be seeded with annual rye grass (40 pounds/acre, unless standing water is present) to stabilize the area until indigenous hydrophilic vegetation can become reestablished. If the wetland is within an active agricultural parcel, reseeded will be performed according to appropriate land management or state agency permits and/or landowner agreements.
- If weather limits the effectiveness of reseeded efforts, non-paved work areas may be mulched to minimize erosion until conditions are suitable for reseeded at the discretion of the OR and as allowed by all applicable permits.
- No fertilizer or lime shall be used in wetlands unless specified by the NRCS.

5.1.5 Monitoring

CL&P or the OR will monitor wetland revegetation efforts annually for a period of two years. Revegetation will be considered successful if at least 70% of the total cover is native species and the level of diversity of the native species present after construction is at least 50 % of the level originally found in the wetland. If the area is not showing signs of re-establishing native wetland vegetation during the first growing season following construction, CL&P will develop and implement (in consultation with a professional wetland scientist) a plan to revegetate the wetland with native wetland species.

5.2 WATERBODIES

CL&P will ensure that construction across or within waterbodies is completed in the shortest amount of time possible to minimize the duration of potential adverse impacts.

5.2.1 Additional Work Space Areas

Cable pulling locations, additional temporary workspaces, or staging areas will be located 50 feet beyond the edge of an intermittent waterbody and 100 feet from perennial streams.

5.2.2 Spoil Pile Placement/Control

Spoil will be stored at least 50 feet from stream banks and waterbody crossings, where possible. Spoil placed up gradient of stream banks will be contained with sediment control.

5.2.3 Equipment Crossings

Measures will include the use of timber mats laid adjacent to and across streambeds, flume pipes covered by fill material (clean gravel or crushed stone) or portable bridges as approved by the OR. Flume pipes will conform to waterbody crossing dimensions and alignments. Stream channels will not be permanently straightened or realigned for any reason, unless a permit has been acquired to do so. The size and number of the flumes will be sufficient for maximum anticipated flows.

If fill for an equipment crossing includes log riprap or other erodable materials sandbags will be placed in the waterbody at the upstream and downstream ends of the crossing to stabilize and seal the flume pipes. To prevent erosion, sandbags will be placed high enough along both sides of the equipment crossing to contain the fill material (straw bales may also be used for this purpose).

5.2.4 Clearing/Grading

- The construction of the equipment crossing will use one of the following:
 - a. Timber mats with or without flumes
 - b. Clean rock fill and flumes
- Equipment bridges will be maintained to prevent soil from entering the waterbody.
- If more than one-week will pass between the time when the area is cleared and when the pipe is installed, the clearing crew may:
 - a. Leave a 10 foot vegetative strip on either side of the waterbody (excluding the equipment crossing). Trees greater than 4 inches in diameter may be removed from the vegetative strip at the time of initial clearing
 - b. Install sediment barriers at the top of the stream bank if no vegetation strip is left.

5.2.5 Drilling/Stock Piling

Procedures for drilling and stock piling shall be consistent with Section 5.1.3 of this Plan.

5.2.6 Cleanup/Restoration

- During restoration, flume pipes, sand bags and other materials will be removed and the stream will be restored to preconstruction contours or better.
- Stabilize waterbody banks and install temporary sediment barriers within 24 hours of completing the crossing.
- Equipment crossing will be left in place if needed for access during seeding. They will be removed if 1) more than one month will pass between final cleanup/grading and the beginning of initial permanent seeding and 2) appropriate alternative access is available.
- Jute thatching or other erosion control material will be used to stabilize stream banks as necessary.
- Banks of waterbodies disturbed during construction shall be restored in accordance with the 2002 CT Guidelines for Soil Erosion and Sediment Control as well as applicable approvals from the Department of Environmental Protection and the U.S. Army Corps of Engineers. Trees and/or shrub species selected for use in restoration shall be native and provide habitat components for existing fisheries as well as resident migratory wildlife.

5.2.7 Temporary Erosion and Sediment Control

- Install sediment barriers immediately after initial disturbance of the waterbody or adjacent upland. Sediment barriers must be properly maintained throughout construction and reinstalled as necessary, until replacement by permanent erosion controls or restoration of adjacent upland areas are complete.

- Install sediment barriers across the entire construction access road or disturbed area at all waterbody crossings. Temporary interceptor dikes may be used in lieu of sediment barriers in front of equipment bridges or timber mats across the travel lane.
- Install sediment barriers as necessary along the edge of the access road or construction area to contain spoil and sediment within them where waterbodies are adjacent or parallel to the access road or construction area.

5.2.8 Restoration

- Return waterbody banks to preconstruction contours.
- Limit the placement of riprap to the slopes along the disturbed waterbody crossing.
- Install seeded erosion control fabric along waterbodies with flow conditions.
- Revegetate disturbed riparian areas with conservation grasses and legumes. In the event that final cleanup is deferred more than 20 days after the structure is installed, all slopes adjacent to waterbodies shall be mulched with 3 tons/acre of straw for a minimum of 100 feet on each side of the waterbody crossing.
- Remove all temporary sediment barriers when restoration of adjacent upland areas is successful as specified in Section 1.5.2 of this Plan.
- Install a permanent interceptor dike at the base of slopes near each waterbody crossed. Permanent interceptor dikes may not be installed in agricultural areas.

6.0 Stabilization of Disturbed Areas Over Winter

If portions of the Project are constructed in the late fall or early winter (due, for example, to timing restrictions), revegetation and permanent site stabilization immediately after the completion of construction will be impractical. In addition, inclement weather late in the construction season also could delay final restoration on transmission line segments.

When such circumstances delay final restoration and permanent site stabilization, temporary erosion control measures will be used to minimize the potential for erosion until clean-up and permanent revegetation can proceed. These measures may include the following:

- Maintain or install hay or straw bales as silt barriers in swales, at the base of slopes, adjacent to streams and wetlands at access road crossings, and in other areas subject to sedimentation from low velocity runoff.
- Use straw or hay mulch stabilized with a binder or equivalent on disturbed slopes greater than 5%.
- Temporarily seed critical areas (e.g., stream banks on access roads) with a fast-germinating grass such as winter rye.
- Conduct periodic inspections of the construction ROW over the winter and early spring to ensure that the temporary measures are maintained and are effective.

In the event of such inclement weather conditions late in the construction season, final ROW restoration will be deferred until the following spring or early summer, after the ground has thawed, and soil conditions are suitable.

APPENDIX E
PROTECTED SPECIES SUMMARY LETTER



middletown | norwalk

August 18, 2005

Environmental & Geographic Information Center
Natural Diversity Data Base
Connecticut Department of Environmental Protection
79 Elm Street
Hartford, CT 06106

Attention: Dawn M. McKay

Subject: Middletown to Norwalk 345kV Transmission Line Project
Rare, Threatened, and Endangered Species Consultation

Dear Ms. McKay:

Thank you for reviewing our project, for your comments, and for forwarding our request for review and comments to the appropriate DEP biologists for their input. Subsequently, we consulted with the DEP biologists and this letter summarizes the results of those consultations.

Plants

Two species of special concern (Mudwort [*Limosella subulata*], and Bayonet Grass [*Scirpus paludosus*]) were identified as occurring within the project vicinity. Further consultations with Kenneth Metzler (DEP NDDB) indicated that these species occur hundreds of feet away from (and upstream of) the location of our crossing of the Saugatuck River, where we propose to use horizontal directional drilling to install the cable beneath the river bed. Mr. Metzler concurs that our project will have no affect on these species.

Amphibians

Two species of special concern (Wood Turtle [*Clemmys insculpta*], and Eastern Box Turtle [*Terrapene Carolina*]) are known to occur within the immediate vicinity of our right-of-way in several locations. We consulted with Julie Victoria (DEP Wildlife Division) about the potential to encounter these turtles, and what to do if that should happen.

Wood Turtle: this species is dormant from Nov. 1 to April 1, and because it hibernates within the banks of streams, will not be disturbed when construction occurs during these months. Environmental inspectors (including those working for the Companies, and the independent environmental monitor who will make periodic reports to the Siting Council) will be informed of the habitat areas of this species.

In instances where construction occurs between April 1 and November 1 within the Wood Turtle's habitat area, construction vehicles will be confined to existing right-of-way access roads except when approaching and working at pole locations. Access roads and construction work areas at pole locations will be "swept" prior to commencement of construction activities each

morning by the environmental inspectors. Construction personnel will be trained to look for turtles, and in the procedure to follow if one should occur within or near construction work areas and access roads.

In wetlands, construction mats will be placed over access ways and construction work areas to protect the wetland resources. The areas to be protected by construction mats will likewise be swept by the Companies' environmental inspector immediately prior to placement of the mats. Silt fencing can impact turtle travel, and it will not be used to limit construction zones, although it may be installed temporarily for erosion and sediment control where necessary.

Eastern Box Turtle: Like the Wood Turtle, this species is also dormant from November 1 to April 1. Eastern Box Turtles are often found on transmission line right-of-ways. The same measures used for protection of the Wood Turtle (above) will be used for the Eastern Box Turtle.

Birds

Four (4) species of birds were identified as occurring within or near the project.

Jenny Dickson (DEP Wildlife Division) addressed the two species of shorebirds which have been observed at the Durham Meadows Wildlife Management Area, the Blue-wing teal (Anas discors) and King Rail (Rallus elegans). The nesting period for these species is between April 1 and July 31. Ms. Dickson indicated that if the Companies could prohibit construction during this period, no other measures would be needed to protect these species. The Companies do not plan to construct in the area of the Durham Meadows Wildlife Management Area during the nesting period.

Julie Victoria (DEP Wildlife Division) addressed the other two bird species: Red-shouldered Hawk (Buteo lineatus) and Peregrine Falcon. The Red-shouldered Hawk has been delisted, and is no longer a species of special concern. The Peregrine Falcon (Falco peregrinus) does not occur on the Companies' route alignment.

Please contact me if you have any comments on the Companies' proposed mitigation efforts.

Thank you all again for your time and consideration.

Sincerely,



Jeffrey Borne, Sr. Scientist

cc: Kenneth Metzler, Jennie Dickson, Julie Victoria (DEP)
Donald D. Biondi, Susan Giansante, Anne Bartosewicz (NU)
Katherine Shanley, John Prete (UI)
Edward Beene (Burns & McDonnell)

APPENDIX F
D&M PLAN CHANGE APPROVAL PROCESS

APPENDIX F

D&M PLAN CHANGE APPROVAL PROCESS

Identification of Significant Changes:

Once CL&P identifies a required change to the D&M Plan, it must determine whether it is a “significant change,” because such changes require advance Council approval. CL&P proposes the following criteria for identifying significant changes: a “significant change” is a change to the Project that significantly reduces the amount of protection to the environment or significantly increases potential public concerns. To be “significant”, the change must have a meaningful impact to the environment, public, or other permits.

For the underground portion of the Project, once CL&P identifies a potential change, it will consult with a Connecticut Department of Transportation (CDOT) representative to reach an agreement as to whether the change is “significant.” Any changes to existing CDOT facilities or affecting planned projects of CDOT will be considered “significant.”

Procedure for Council Review of “Significant Changes” to D&M Plan:

“Urgent” Case: If the change is “urgent” (i.e., if having to wait until the next regularly scheduled meeting of the Council to obtain approval of the change would have a material impact on construction cost or scheduling), then CL&P will contact Council staff to determine if the Council chairman will grant oral permission for the change so as to allow construction to continue in accordance with the proposed change. If oral permission is granted, CL&P will continue construction in accordance with the change and will file documentation regarding the change within 24 hours. If oral permission is denied, CL&P will file the proposed D&M Plan Change with the Council for review and will hold construction impacted by the change pending the Council’s determination.

“Non-Urgent” Case: If the change is not “urgent,” then CL&P will file the proposed D&M Plan Change with the Council for review at its next meeting and will delay the construction impacted by the change pending the Council’s determination.

Procedure for Council Review of Other Types of Changes to the D&M Plan:

For purposes of reviewing and processing changes to an approved D&M Plan that are not deemed to be “significant”, CL&P will categorize the change as one of the following:

Non-significant change: a change to the Project that may reduce the amount of protection to the environment or may increase potential public concerns, but only in a minor or trivial manner.

Positive Change: A change to the Project that increases the amount of protection to the environment or decreases public concerns, having no negative aspects in this regard (that is, positive impacts may not be considered to offset any negative impacts).

Minor Change: A change to a design aspect of a drawing, where the design has no bearing on the environment or potential public concerns.

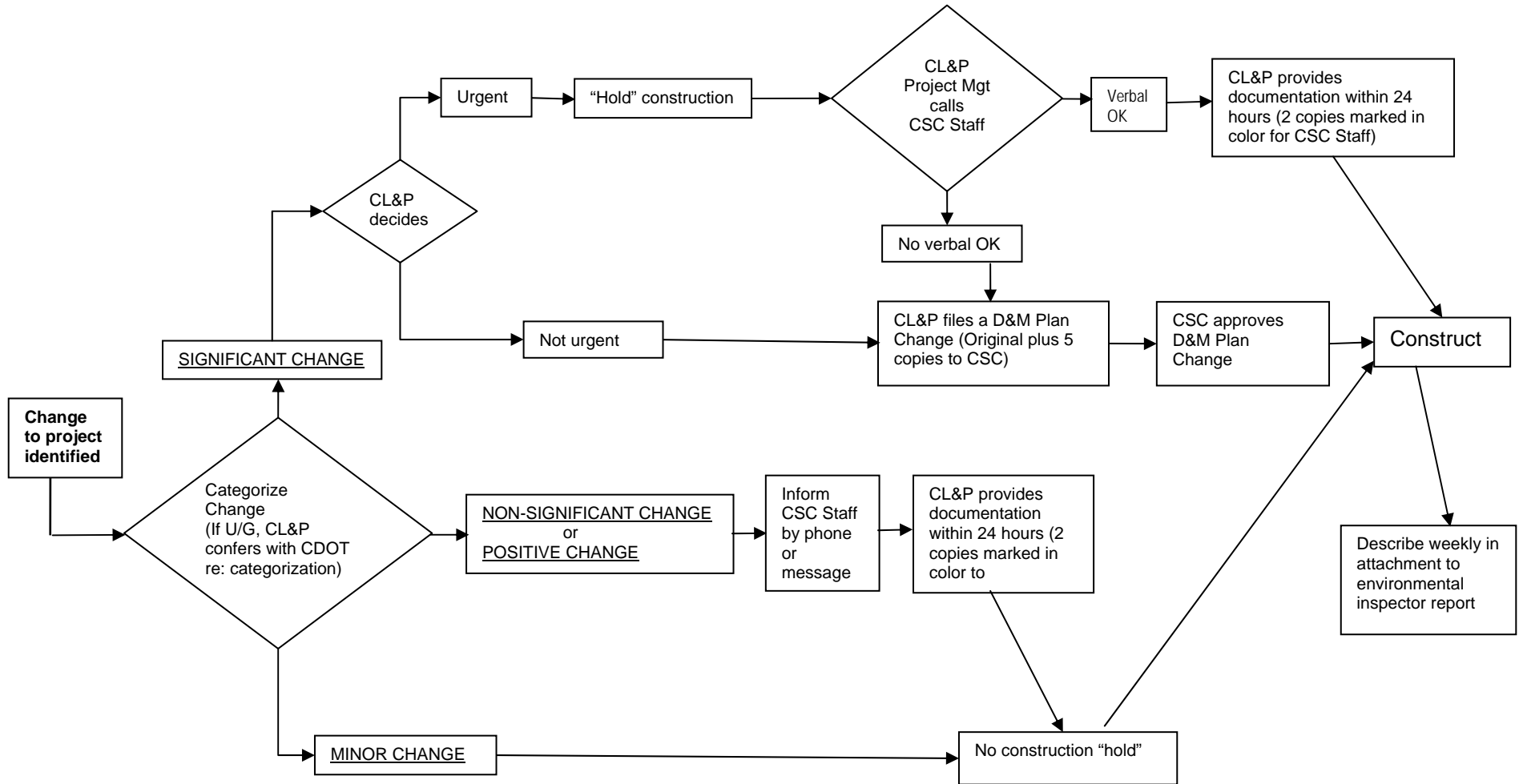
For “non-significant” and “positive” changes, CL&P will inform Council staff of the change by phone (or telephone message) and will file appropriate documentation with the Council within 24 hours. There will be no “hold” on construction for such non-significant and positive changes.

For “minor changes”, there will be no formal notification process prior to proceeding with construction incorporating the change, and the reporting of such changes will occur weekly, as described below.

Weekly Reporting of All Changes to D&M Plans

CL&P will document all D&M Plan changes - significant, non-significant, positive, and minor – in an attachment to the environmental inspector’s weekly report.

**Middletown-Norwalk Transmission Project
D&M Plan Change Approval Process**



APPENDIX G
TRAFFIC INVENTORY REPORT



APPENDIX G

TRAFFIC INVENTORY REPORT FOR MAINTENANCE AND PROTECTION OF TRAFFIC

MIDDLETOWN TO NORWALK 345-kV TRANSMISSION PROJECT

**SEGMENT 2A
TOWN OF CHESHIRE
CONNECTICUT**

**SEGMENT 2B
TOWN OF HAMDEN
CONNECTICUT**

Prepared By:
BL Companies
Engineers/Planners/Surveyors/Landscape Architects
Meriden, Connecticut

April 2006

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III	WORK BY OTHERS	10
IV	CONSTRUCTION SEQUENCE AND UNDERSTANDING	11
V	RECOMMENDATIONS FOR MAINTENANCE AND PROTECTION OF TRAFFIC	13

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II	Relevant ConnDOT Standard Construction Traffic Control Plans
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IV	Vault Location Maps

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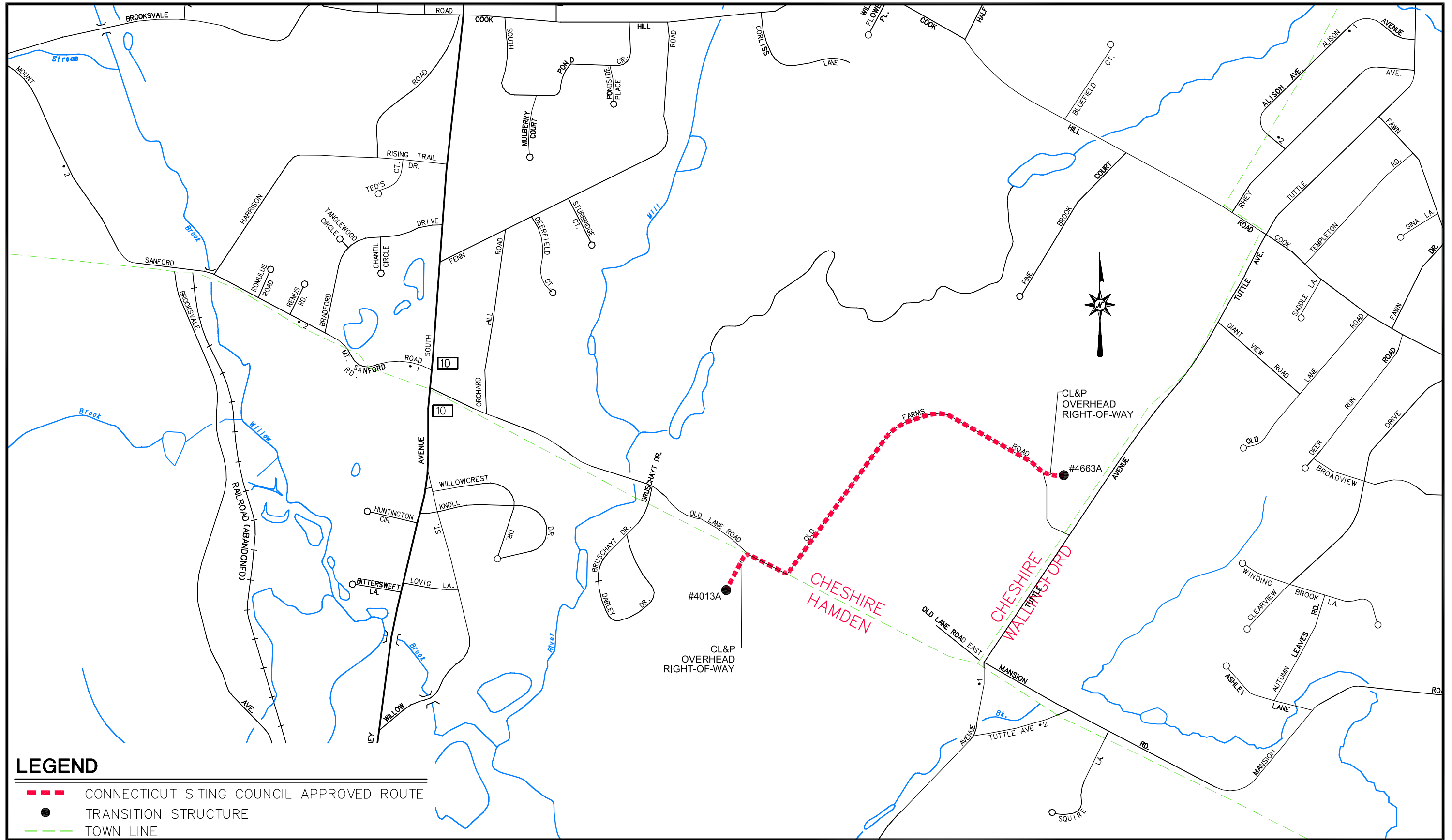
I. INTRODUCTION

The Connecticut Light and Power Company (CL&P), in conjunction with The United Illuminating Company, will be constructing approximately 24 miles of double circuit 345-kilovolt underground transmission line through Norwalk, Westport, Fairfield, Bridgeport, Stratford and Milford. This project also includes the construction of approximately 1 mile of single circuit 115-kilovolt underground transmission line through Hamden and Cheshire. As approved by the Connecticut Siting Council, most of this underground route is in the public right-of-way, primarily along the State Highway System. CL&P's 115-kV section in Hamden and Cheshire, however, is on Town roads and does not impact any State highways.

This report focuses on the 0.13 miles of proposed underground transmission line located in the Town of Hamden and the 0.80 miles of proposed underground transmission line located in the Town of Cheshire as illustrated in Figure C.1. The remaining municipalities will be addressed in separate documents. The selected route starts in Hamden, in the CL&P overhead right-of-way, at transition structure #4013A. The selected route enters Old Lane Road from the CL&P overhead right-of-way, crosses the Hamden-Cheshire town line and travels in an easterly direction on Old Lane Road until the intersection with Old Farms Road. The proposed underground transmission line route travels northeast and then southeast on Old Farms Road. (Between Station 39+06 and Station 42+08, and between Station 53+45 and Station 56+42, the proposed transmission line route is both within the roadway limits of Old Lane Road and within the CL&P overhead right-of-way.) The selected route then travels east onto the unpaved portion of the CL&P overhead right-of-way to transition structure #4663A.

This report provides a recommended strategy for maintenance and protection of traffic; for example, where standard Connecticut Department of Transportation (ConnDOT) templates can be utilized; where more specific maintenance and protection of traffic plans should be developed; and what hours of operation should be permitted. Recommendations are based on a detailed field inventory of the selected route and the

type and duration of construction. Local agencies were contacted for pertinent traffic data, roadway improvement projects, development projects, yearly local events, transit and bus routes and other data that may affect maintenance and protection of traffic planning. This report discusses the traffic/transportation environment along the route, the proposed construction, key locations, and traffic issues. It forms the basis for the development of detailed traffic control plans (TCP) and a detailed maintenance and protection of traffic report to be implemented for construction of the underground transmission line segment through the Town of Hamden and the Town of Cheshire.



LEGEND

- - - CONNECTICUT SITING COUNCIL APPROVED ROUTE
- TRANSITION STRUCTURE
- - - TOWN LINE



ARCHITECTURE
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115-kV UNDERGROUND CABLE ROUTE

MIDDLETOWN TO NORWALK
345-kV TRANSMISSION PROJECT
HAMDEN – CHESHIRE, CONNECTICUT

Scale 1"=1000'
Project No. 05C1314
Date 4/10/06
CAD File 025_TRPT05C1314 FIG C1

FIGURE C.1

XREF(s): NONE

II. CORRIDOR INVENTORY AND DESCRIPTION

An investigation of the existing traffic/transportation conditions of the roadways along the selected transmission line route formed the basis for preparing a recommended strategy for maintenance and protection of traffic. This investigation included a detailed field reconnaissance and preliminary research of pertinent planning and traffic data at local and State agencies.

Selected Transmission Line Route

As illustrated in Figure C.1, the selected route starts in Hamden, in the CL&P overhead right-of-way, at transition structure #4013A. The selected route travels underground in a northeasterly direction to Old Lane Road. The proposed underground route travels southeast along Old Lane Road, crosses the Hamden-Cheshire town line and continues east on Old Lane Road until the intersection with Old Farms Road. The proposed underground transmission line route travels northeast and then southeast on Old Farms Road. (Between Station 39+06 and Station 42+08, and between Station 53+45 and Station 56+42, the proposed transmission line route is both within the roadway limits of Old Lane Road and within the CL&P overhead right-of-way.) The selected route then travels east onto the unpaved portion of the CL&P overhead right-of-way to transition structure #4663A.

For description and for maintenance and protection of traffic purposes, the route was divided into segments of generally uniform characteristics. The following graphic/charts are included in this report to aid in the understanding of these characteristics:

- A route inventory sheet is located in Appendix I. The sheet summarizes, in tabular format, items such as number of travel lanes, roadway widths, speed limit, sidewalk and on-street parking locations, illumination, bus routes and abutting land use types.
- Figure C.3, located in Appendix I, pictorially summarizes land use classification along the route as well as typical roadway widths.
- Aerial photos of each vault location are provided in Appendix IV.

A. Old Lane Road from the CL&P Overhead Right-Of-Way to the Hamden-Cheshire Town Line

The selected transmission line route travels from the CL&P overhead right-of-way along 0.05 miles of Old Lane Road to the Hamden-Cheshire town line. This segment of Old Lane Road is an east-west, Town-maintained road that has one travel lane in each direction. The roadway has the following characteristics:

- The typical curb-to-curb width is 30'. See figure C.3, Appendix I for more detail.
- Posted speed limit is 25 miles per hour.
- There is no illumination along this segment of roadway.



Photo 1: Old Lane Road (Hamden), looking west.

B. Old Lane Road from the Hamden-Cheshire Town Line to Old Farms Road

The selected transmission line route travels from the Hamden-Cheshire town line along 0.45 miles of Old Lane Road to Old Farms Road. This segment of Old Lane Road is an east-west, Town-maintained road that has one travel lane in each direction. The roadway has the following characteristics:

- The typical curb-to-curb width is 30'. See figure C.3, Appendix I for more detail.
- Posted speed limit is 25 miles per hour.
- There is no illumination along this segment of roadway.



Photo 2: Old Lane Road (Cheshire-Hamden Town Line), looking southeast at the intersection with Old Farms Road.



Photo 3: Old Lane Road (Cheshire) at the intersection with Old Farms Road, looking northwest.

C. Old Farms Road from Old Lane Road to the CL&P Overhead Right-Of-Way

The selected transmission line route travels along 0.72 miles of Old Farms Road, in Cheshire, from Old Farms Road to the unpaved portion of the CL&P overhead right-of-way. This segment of Old Farms Road is a north-south, semi-circular, Town-maintained road that has one travel lane in each direction. The roadway has the following characteristics:

- The typical curb-to-curb width is 30'. See figure C.3, Appendix I for more detail.
- Posted speed limit is 25 miles per hour.
- There is illumination along the west side of the roadway.



Photo 4: Old Farms Road (Cheshire) at approx. Sta. 32+00, looking northeast.



Photo 5: Old Farms Road (Cheshire) at approx. Sta. 46+00, looking southeast.



Photo 6: Old Farms Road (Cheshire), looking east, at the unpaved portion of the CL&P overhead Right-Of-Way.

III. WORK BY OTHERS

Public Roadway Improvement Projects

Information regarding public roadway improvement projects has been requested from the Town of Hamden and the Town of Cheshire.

In Hamden, according to the Town's Council Approved Budget for the Fiscal Period January 1, 2005 to June 30, 2006, there are currently no planned projects that should affect the Hamden segment of Old Lane Road.

Preliminary information was received from the Town of Cheshire regarding projects that are slotted for the next five years and their anticipated start dates. According to the Town of Cheshire Five Year Capital Expenditure Plan and Annual Capital Expenditure Budget, there are currently no planned projects that should affect these segments of either Old Lane Road or Old Farms Road.

IV. CONSTRUCTION SEQUENCE AND UNDERSTANDING

The construction of the 115-kV underground transmission line is a five (5) step process. The steps are performed sequentially, but not necessarily continuously. Therefore, periods of no visible construction activity or traffic disruption may occur between steps.

1. Splice-vault Excavation and Installation

Large splice vaults will be installed at intervals of approximately 2,000 feet on center. There are two separate vault locations anticipated in Cheshire. Each vault measures 24' long, 7' wide and 10' high. An excavation of about 28' long, 14' deep and 11' wide is needed for each vault.

For the vaults in the roadway, the duration of construction for each vault is expected to be 4-8 days working 12 hours a day. Depending on the exact location and the task being performed, one traffic lane will have to be closed for installation. The installation of the pre-cast concrete vault sections will, at times, require the use of a crane, effectively using a minimum of an entire lane for the outriggers and swing clearance. This installation will typically occur in the timeframe of one day. Backfilling, etc., may use a narrower work area. Should the excavation have to remain "open" when work is not in progress, protective barrier will be required if traffic is not maintained in the lane of the excavation. If traffic is maintained in the lane of the excavation, a special design for bridging the excavation will be required.

2. Duct-bank Excavation and Installation

The pavement will be saw cut to the width of the excavation. The excavation and duct bank will be approximately 4' wide with a minimum 30" cover above the duct bank. The depth of the trench will vary depending on underground conflicts. The duct bank will contain 4 conduits and will be encased in concrete, cast in place. The trench will be backfilled and temporary pavement installed. In general, one travel lane will be required for this work. Steel plates will be required if the trench can not be backfilled at the end of the work day and the travel lanes must be opened. It is anticipated that 100-200 feet of duct-bank installation can be done per day per crew.

3. Cable Pulling

Cable reel carts and pulling machines will be set up over the vaults. Assuming a normal work shift, it is anticipated that two (2) work days will be required to pull cable between each vault. In general, one lane of traffic will have to be closed for this activity.

4. Cable Splicing

This is a time consuming activity requiring a controlled environment in the vaults. As such, a specially designed trailer is parked over the vault. Cable splicing will require 12 days per vault, assuming a 12-hour work shift. For vault locations within the roadway, one traffic lane will be occupied by this activity.

5. Pavement Restoration

The final task is to restore the pavement. The trench will be temporarily repaired in accordance with temporary trench repair details to be developed. Typically one travel lane will be occupied by this operation. At completion of the project, a mill and overlay for the entire width of the affected roadway will be constructed in accordance with the applicable Town standards of the Town of Hamden and the Town of Cheshire.

V. RECOMMENDATIONS FOR MAINTENANCE AND PROTECTION OF TRAFFIC

This project is a utility infrastructure improvement. However, from the perspective concerning the impact of construction on traffic, two of the construction elements, vault and duct installation, are similar to major roadway corridor reconstruction and thus have the need for detailed maintenance and protection of traffic procedures. Although the cable pulling and splicing may be less intrusive than the duct-bank and vault construction, the location of the vaults and duration of the splicing dictate the need to address maintenance and protection of traffic.

This section of the report is divided into two parts; General Recommendations applicable to the entire project; and Specific Recommendations developed for the individual areas of work.

General Recommendations

1. Temporary traffic control plans shall be developed in accordance with the Manual on Uniform Traffic Control Devices (MUTCD), Part 6, and ConnDOT specifications.

2. Where appropriate, the ConnDOT standard Construction Traffic Control Plans shall be used. Non-standard traffic control plans shall be developed where the standard Construction Traffic Control Plans do not apply, and submitted for review and approval by either the Town of Hamden or the Town of Cheshire, depending on the area of construction.

3. Traffic control devices shall meet the requirement of NCHRP Report 350, Recommended Procedures for the Safety Performance Evaluation of Highway Features.

4. Flaggers shall have completed training through ATSSA (American Traffic Safety Services Association) or other organizations, as approved by the Town of Hamden (for the portion of the project in Hamden) and The Town of Cheshire (for the portion of the project in Cheshire).
5. The Contractor shall have at least one person trained as a work zone safety supervisor through ATSSA, or as approved by the Town of Hamden (for the portion of the project in Hamden) and The Town of Cheshire (for the portion of the project in Cheshire).
6. The Contractor shall maintain access for emergency vehicles through the work zone at all times.
7. Access accommodations shall be made for pedestrians at all times.
8. The Contractor shall maintain vehicular access to and egress from all residential driveways. If a temporary closure of a residential driveway is necessary, the Contractor shall provide at least 48-hour advance notice of the closure.
9. Local noise ordinances will be investigated for daytime and nighttime activities. See the Specific Recommendations for allowable work hours.
10. During evening work, existing roadway lighting must be maintained. Temporary lighting may have to be provided.
11. Steel plates will be required if the duct-bank trench cannot be backfilled at the end of the allowable work period. No more than 300 feet of trench length shall be plated. Such plates shall be inspected and maintained on a daily basis.
12. The Contractors work schedule should be coordinated on a daily basis, with at a minimum: any inspection personnel and local police and fire departments.

The Contractor's work schedule shall be made available on a weekly basis to other impacted road users and local officials, such as: local elected officials, public works personnel, emergency service providers, hospitals, public transit providers, Board of Education transportation coordinators, US Postal Service, etc.

Specific Recommendations

The following recommendations apply to both Old Lane Road and Old Farms Road:

The Contractor will not be allowed to perform any work that will interfere with the existing number of lanes of traffic during the following periods:

- Monday – Saturday: 6:00 p.m. to 8:00 a.m.
- Sunday: All Day

When the Contractor is not actively working, the Contractor shall maintain and protect one lane of traffic in each direction on a paved travel path not less than 24' in width, in accordance with standard traffic control plan 13 (See Appendix II).

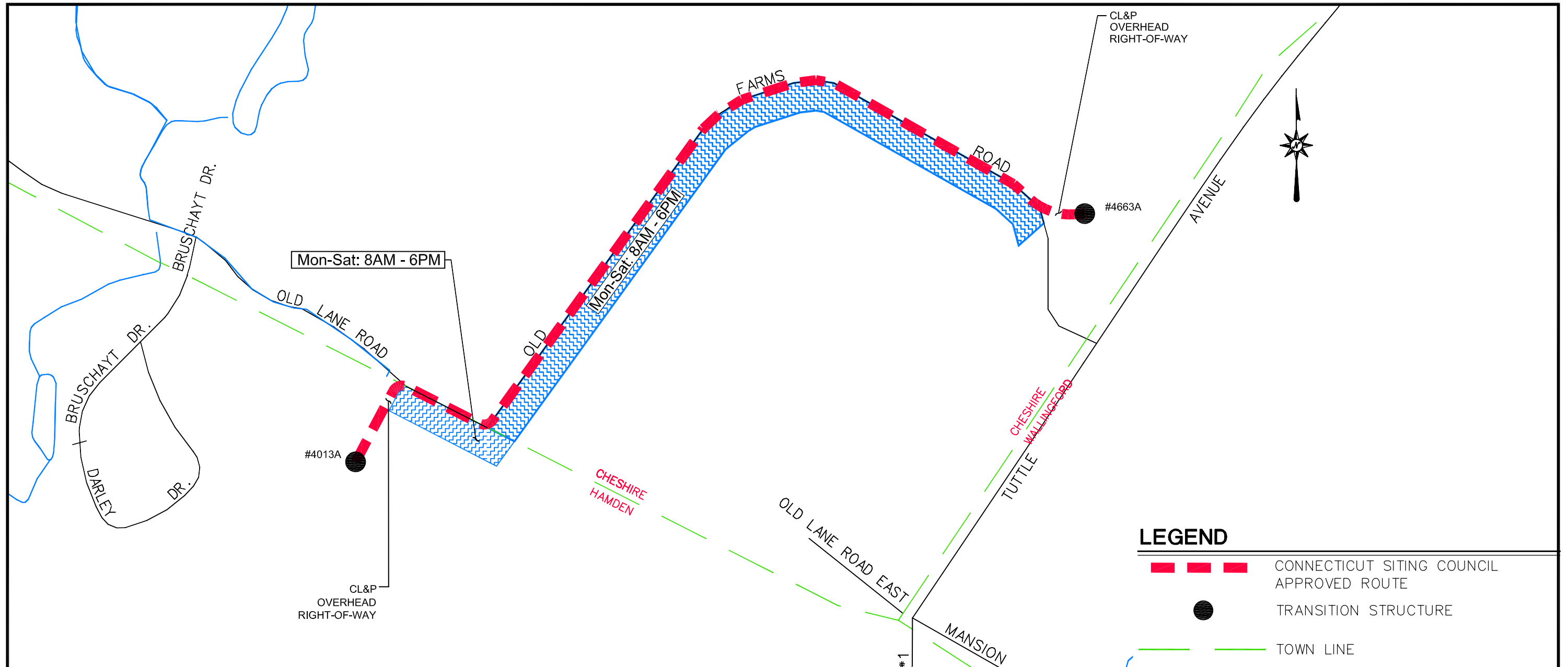
When actively working, during the following periods, the Contractor will be allowed to maintain and protect at least an alternating one-way traffic operation on a paved travel path not less than 12-feet in width, in accordance with standard Traffic Control Plan 13. The length of the alternating one-way traffic operation shall not exceed 300-feet, and shall require traffic persons.

- Monday – Saturday: 8:00 a.m. to 6:00 p.m.




Because of the alignment of these portions of Old Lane Road and Old Farms Road and the lack of available detour routes, it will sometimes be difficult for school busses to travel through the construction area. Although this issue is not entirely avoidable, by starting construction at 8:00 a.m. the potential for conflict is lessened.

The Contractor shall maintain vehicular access to and egress from all residential driveways. If a temporary closure of a residential driveway is necessary, the Contractor shall provide at least 48-hour advance notice of the closure.

See Section C for vault recommendations.



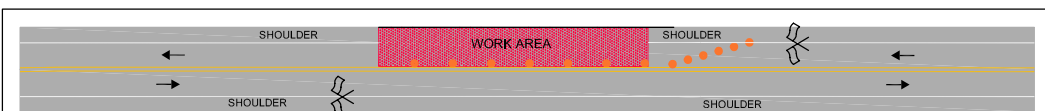
LEGEND

-  CONNECTICUT SITING COUNCIL APPROVED ROUTE
-  TRANSITION STRUCTURE
-  TOWN LINE

RESTRICTIONS:

- 1) THE CONTRACTOR SHALL MAINTAIN ACCESS TO AND EGRESS FROM ALL DRIVEWAYS. IF A TEMPORARY CLOSURE OF A RESIDENTIAL DRIVEWAY IS NECESSARY, THE CONTRACTOR SHALL PROVIDE AT LEAST 48-HOUR ADVANCE NOTICE OF THE CLOSURE.
- 2) WHILE NOT WORKING, THE CONTRACTOR MUST MAINTAIN A MINIMUM 12' WIDE PAVED TRAVEL PATH IN EACH DIRECTION.
- 3) THE LENGTH OF ALTERNATING ONE-WAY TRAFFIC SHALL NOT EXCEED 300 FEET AND SHALL REQUIRE TRAFFIC PERSONS.

ONE LANE - ALTERNATING TRAFFIC



WORK IN TRAVEL LANE AND SHOULDER - TWO LANE HIGHWAY
ALTERNATING ONE-WAY TRAFFIC OPERATIONS
CONSTRUCTION TRAFFIC CONTROL PLAN 13

WORK HOURS:

- OLD LANE ROAD:
Mon-Sat: 8AM-6PM
- OLD FARMS ROAD:
Mon-Sat: 8AM-6PM

ALLOWABLE WORK HOURS MAP

MIDDLETOWN TO NORWALK
345-kV TRANSMISSION PROJECT
HAMDEN – CHESHIRE, CONNECTICUT



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ENGINEERING
PLANNING
LANDSCAPE ARCHITECTURE
LAND SURVEYING
ENVIRONMENTAL SCIENCES

355 Research Parkway
Meriden, CT 06450
(203) 630-1406
(203) 630-2615 Fax

Scale 1"=500'
Project No. 05C1314
Date 4/10/06
CAD File 025_TRPT05C1314 FIG C2

FIGURE C.2

XREF(s): NONE

C. Vault Installation/Construction

The following are recommendations specific to vault installation and construction and are in addition to those listed above. From west to east along the selected route, the following provides specific recommendations for each vault location:

Vault Location 2201 is located on Old Farms Lane (approximate Station 25+75), in the middle of the northbound travel lane. The following are specific recommendations for the vault construction:

The Contractor will not be allowed to perform any work that will interfere with the existing number of lanes of traffic during the following periods:

- Monday – Saturday: 6:00 p.m. to 8:00 a.m.
- Sunday: All Day

When the Contractor is not actively working, the Contractor shall maintain and protect one lane of traffic in each direction on a paved travel path not less than 24' in width, in accordance with standard traffic control plan 13 (See Appendix II).

When actively working, during the following periods, the Contractor will be allowed to maintain and protect at least an alternating one-way traffic operation on a paved travel path not less than 12-feet in width, in accordance with standard Traffic Control Plan 13. The length of the alternating one-way traffic operation shall not exceed 300-feet, and shall require traffic persons.

- Monday – Saturday: 8:00 a.m. to 6:00 p.m.

The Contractor shall maintain vehicular access to and egress from all residential driveways. If a temporary closure of a residential driveway is necessary, the Contractor shall provide at least 48-hour advance notice of the closure.

See Section C for vault recommendations.

Vault Location 2202 is located on Old Farms Lane (Station 40+25), in the northbound/eastbound travel lane. The following are specific recommendations for the vault construction:

The Contractor will not be allowed to perform any work that will interfere with the existing number of lanes of traffic

- Monday – Saturday: 6:00 p.m. to 8:00 a.m.
- Sunday: All Day

When the Contractor is not actively working, the Contractor shall maintain and protect one lane of traffic in each direction on a paved travel path not less than 24' in width, in accordance with standard traffic control plan 13 (See Appendix II).

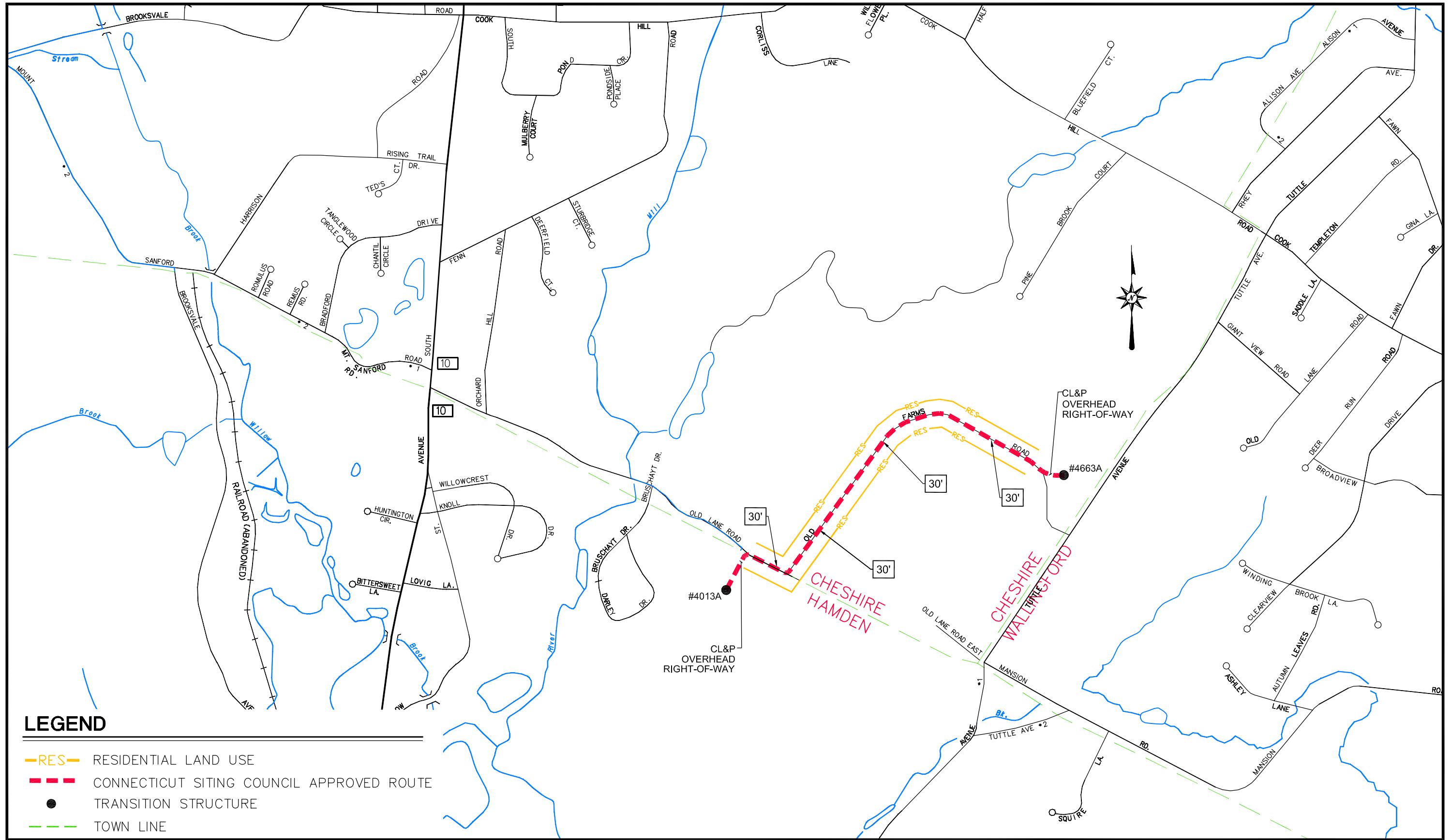
When actively working, during the following periods, the Contractor will be allowed to maintain and protect at least an alternating one-way traffic operation on a paved travel path not less than 12-feet in width, in accordance with standard Traffic Control Plan 13. The length of the alternating one-way traffic operation shall not exceed 300-feet, and shall require traffic persons.

- Monday – Saturday: 8:00 a.m. to 6:00 p.m.

The Contractor shall maintain vehicular access to and egress from all residential driveways. If a temporary closure of a residential driveway is necessary, the Contractor shall provide at least 48-hour advance notice of the closure.

See Section C for vault recommendations.

APPENDIX I
ROUTE INVENTORY



LEGEND

- - - RES RESIDENTIAL LAND USE
- - - CONNECTICUT SITING COUNCIL APPROVED ROUTE
- TRANSITION STRUCTURE
- - - TOWN LINE



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PLANNING
LANDSCAPE ARCHITECTURE
LAND SURVEYING
ENVIRONMENTAL SCIENCES

355 Research Parkway
Meriden, CT 06450
(203) 630-1406
(203) 630-2615 Fax

LAND USE AND ROADWAY WIDTHS

MIDDLETOWN TO NORWALK
345-kV TRANSMISSION PROJECT
HAMDEN – CHESHIRE, CONNECTICUT

Scale 1"=1000'
Project No. 05C1314
Date 4/10/06
CAD File 025_TRPT05C1314 FIG C3

FIGURE C.3

XREF(s): NONE

APPENDIX II

RELEVANT ConnDOT STANDARD CONSTRUCTION TRAFFIC CONTROL PLANS

NOTES FOR TRAFFIC CONTROL PLANS

1. IF A TRAFFIC STOPPAGE OCCURS IN ADVANCE OF SIGN (A), THEN AN ADDITIONAL SIGN (A) SHALL BE INSTALLED IN ADVANCE OF THE STOPPAGE.
2. SIGNS (AA), (A) AND (D) SHOULD BE OMITTED WHEN THESE SIGNS HAVE ALREADY BEEN INSTALLED TO DESIGNATE A LARGER WORK ZONE THAN THE WORK ZONE THAT IS ENCOMPASSED ON THIS PLAN.
3. SEE TABLE #1 FOR ADJUSTMENT OF TAPERS IF NECESSARY.
4. A CHANGEABLE MESSAGE SIGN MAY BE UTILIZED ONE HALF TO ONE MILE IN ADVANCE OF THE LANE CLOSURE TAPER.
5. IF THIS PLAN REMAINS IN CONTINUOUS OPERATION FOR MORE THAN 72 HOURS, THEN TRAFFIC DRUMS SHALL BE USED IN PLACE OF TRAFFIC CONES.
6. ANY LEGAL SPEED LIMIT SIGNS WITHIN THE LIMITS OF A ROADWAY / LANE CLOSURE AREA WILL BE COVERED WITH AN OPAQUE MATERIAL WHILE THE CLOSURE IS IN EFFECT AND UNCOVERED WHEN THE ROADWAY / LANE CLOSURE IS REOPENED TO ALL LANES OF TRAFFIC.
7. IF THIS PLAN REMAINS IN CONTINUOUS OPERATION FOR MORE THAN 36 HOURS, THEN THE EXISTING CONFLICTING PAVEMENT MARKINGS SHALL BE ERADICATED OR COVERED AND TEMPORARY PAVEMENT MARKINGS THAT DEPICT THE PROPER TRAVEL PATHS SHALL BE INSTALLED.
8. DISTANCES BETWEEN SIGNS IN THE ADVANCE WARNING AREA MAY BE REDUCED TO 200' ON LOW SPEED URBAN ROADS (SPEED LIMIT < 40 MPH).
9. FOR LANE CLOSURES ONE (1) MILE OR LONGER, A "REDUCE SPEED TO 45 MPH" SIGN SHALL BE PLACED AT THE ONE MILE POINT AND AT EACH MILE THEREAFTER.
10. IF THIS PLAN IS TO REMAIN IN OPERATION DURING THE HOURS OF DARKNESS, INSTALL BARRICADE WARNING LIGHTS - HIGH INTENSITY ON ALL POST-MOUNTED DIAMOND SIGNS IN THE ADVANCE WARNING AREA.
11. A CHANGEABLE MESSAGE SIGN SHALL BE INSTALLED ONE HALF TO ONE MILE IN ADVANCE OF THE LANE CLOSURE TAPER.



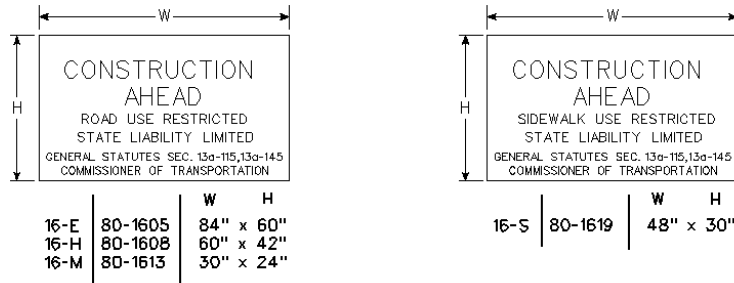
REV'D 1-02

CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING &
HIGHWAY OPERATIONS
DIVISION OF TRAFFIC ENGINEERING

CONSTRUCTION
TRAFFIC CONTROL PLAN
NOTES

NOTES.DGN

SERIES 16 SIGNS



THE 16-S SIGN SHALL BE USED ON ALL PROJECTS THAT REQUIRE SIDEWALK RECONSTRUCTION OR RESTRICT PEDESTRIAN TRAVEL ON AN EXISTING SIDEWALK.

SERIES 16 SIGNS SHALL BE INSTALLED IN ADVANCE OF THE TRAFFIC CONTROL PATTERNS TO ALLOW MOTORISTS THE OPPORTUNITY TO AVOID A WORK ZONE. SERIES 16 SIGNS SHALL BE INSTALLED ON ANY MAJOR INTERSECTING ROADWAYS THAT APPROACH THE WORK ZONE. ON LIMITED- ACCESS HIGHWAYS, THESE SIGNS SHALL BE LOCATED IN ADVANCE OF THE NEAREST UPSTREAM EXIT RAMP AND ON ANY ENTRANCE RAMP PRIOR TO OR WITHIN THE WORK ZONE LIMITS.

THE LOCATION OF SERIES 16 SIGNS CAN BE FOUND ELSEWHERE IN THE PLANS OR INSTALLED AS DIRECTED BY THE ENGINEER.

SIGNS 16-E AND 16-H SHALL BE POST MOUNTED.

SIGN 16-E SHALL BE USED ON ALL EXPRESSWAYS.

SIGN 16-H SHALL BE USED ON ALL RAMPS, OTHER STATE ROADWAYS, AND MAJOR TOWN/CITY ROADWAYS.

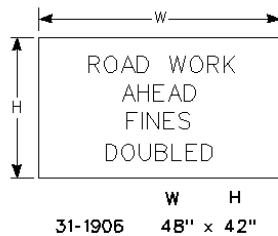
SIGN 16-M SHALL BE USED ON OTHER TOWN ROADWAYS.

REGULATORY SIGN "ROAD WORK AHEAD, FINES DOUBLED"

THE REGULATORY SIGN "ROAD WORK AHEAD, FINES DOUBLED" SHALL BE INSTALLED FOR ALL WORK ZONES THAT OCCUR ON ANY STATE HIGHWAY IN CONNECTICUT WHEN THERE ARE WORKERS ON THE HIGHWAY OR WHEN THERE IS OTHER THAN EXISTING TRAFFIC OPERATIONS.

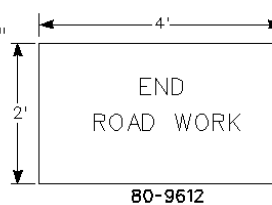
THE "ROAD WORK AHEAD, FINES DOUBLED" REGULATORY SIGNS SHALL NOT BE INSTALLED ON TOWN ROADS.

THE "ROAD WORK AHEAD FINES DOUBLED" REGULATORY SIGN SHALL BE PLACED AFTER THE SERIES 16 SIGN AND IN ADVANCE OF THE "ROAD WORK AHEAD" SIGN.



"END ROAD WORK" SIGN

THE LAST SIGN IN THE PATTERN MUST BE THE "END ROAD WORK" SIGN.



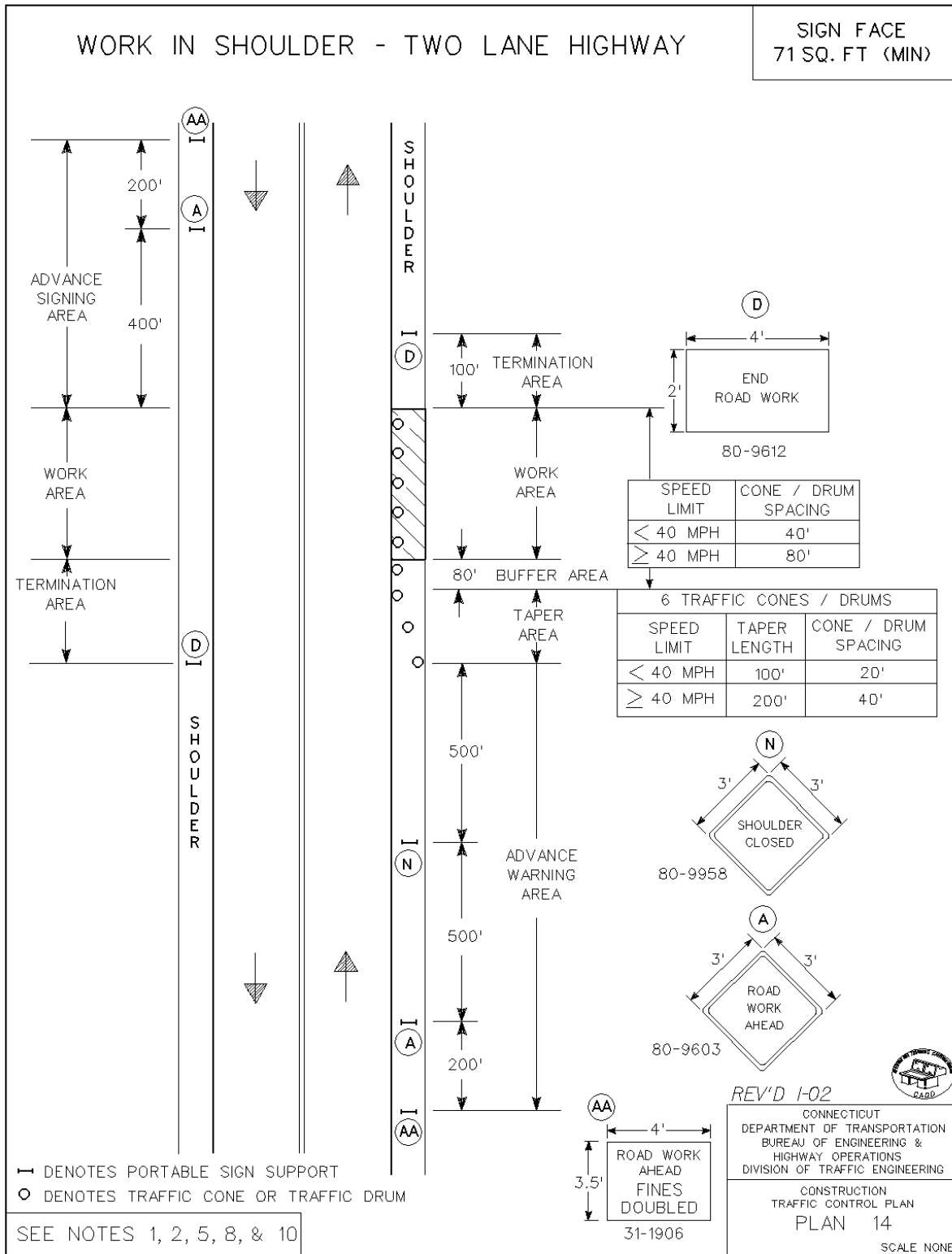
REV'D 1-02

CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING &
HIGHWAY OPERATIONS
DIVISION OF TRAFFIC ENGINEERING

CONSTRUCTION
TRAFFIC CONTROL PLAN
REQUIRED SIGNS



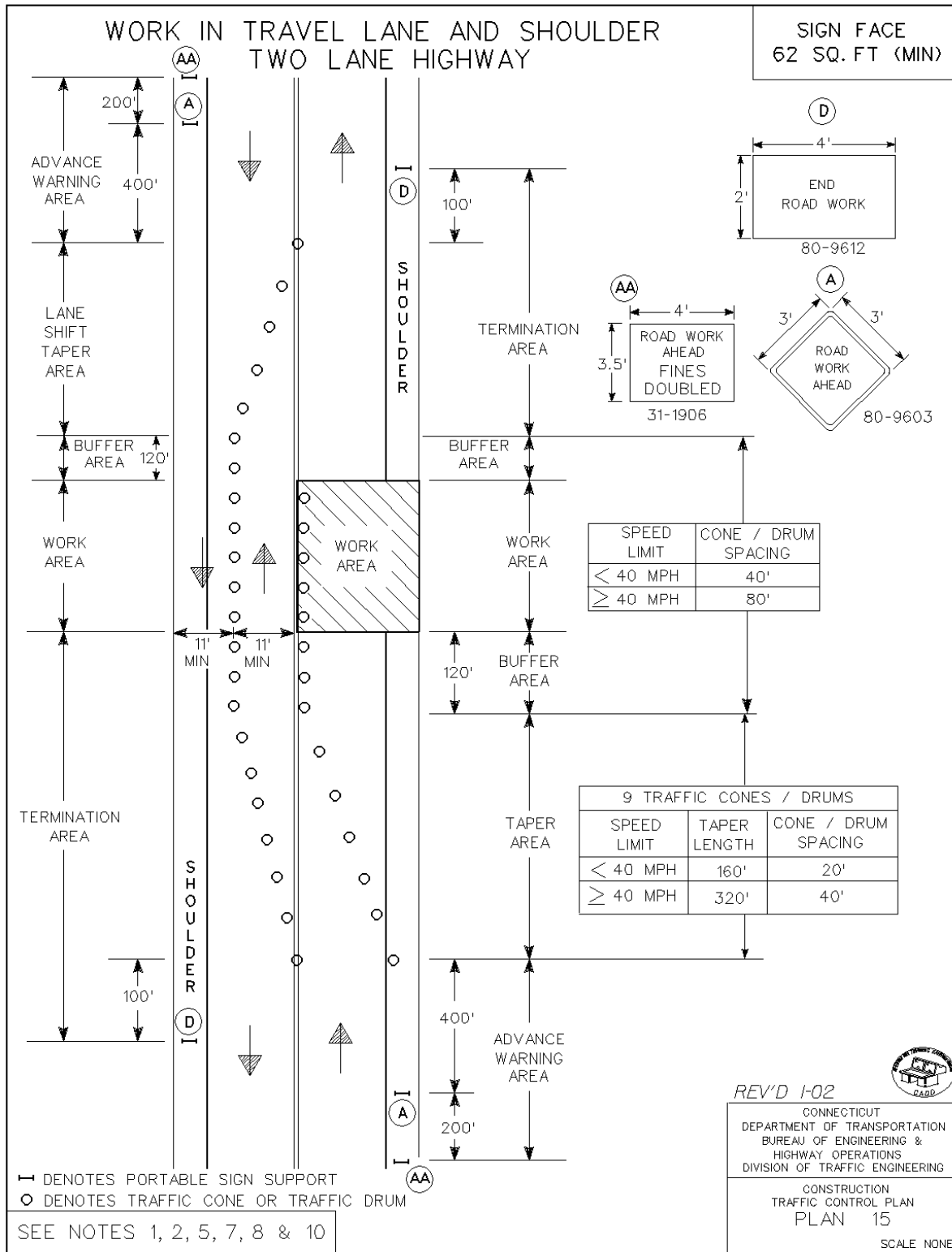
APPROVED J.Carey DATE 1-02
PRINCIPAL ENGINEER



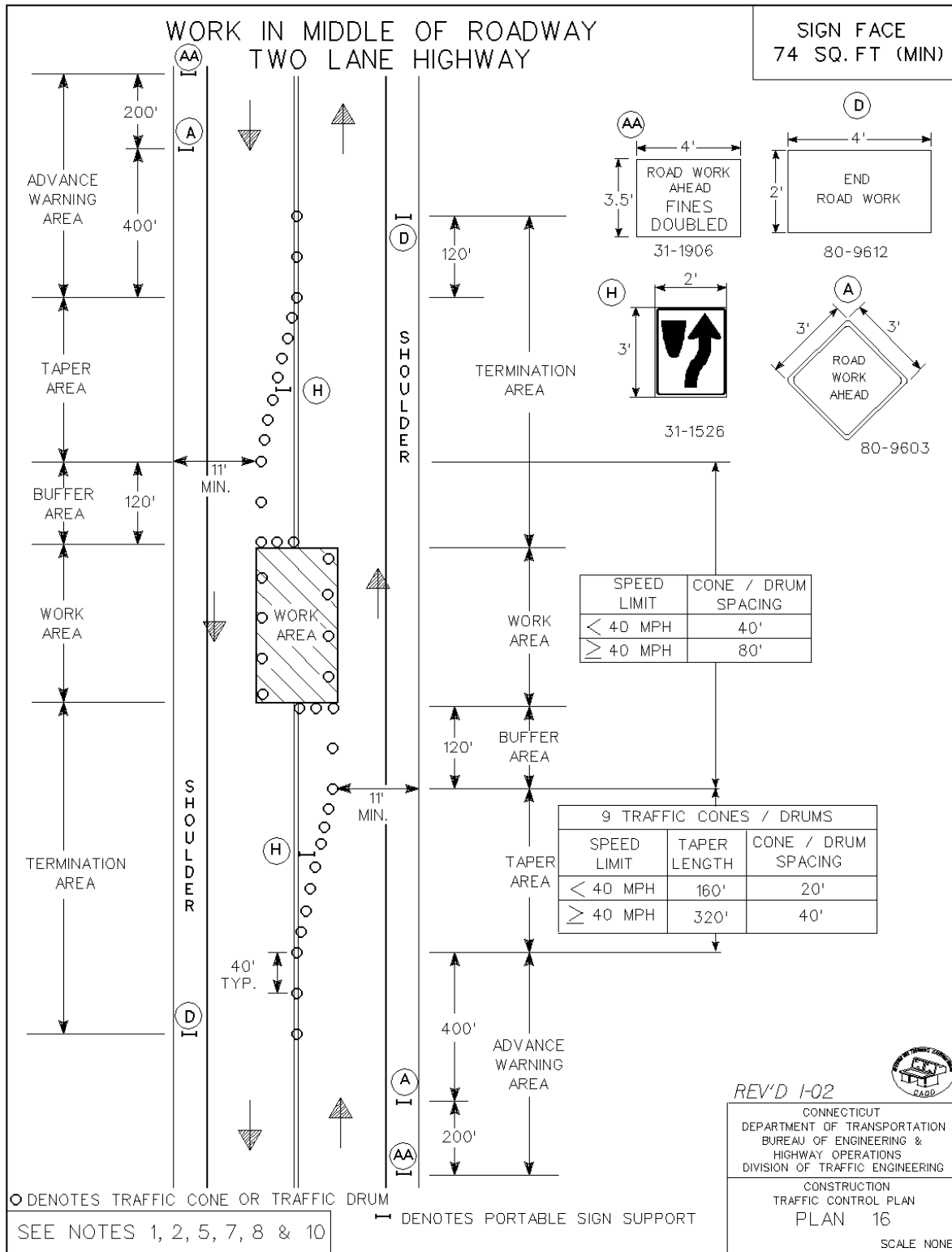
┆ DENOTES PORTABLE SIGN SUPPORT
○ DENOTES TRAFFIC CONE OR TRAFFIC DRUM

SEE NOTES 1, 2, 5, 8, & 10

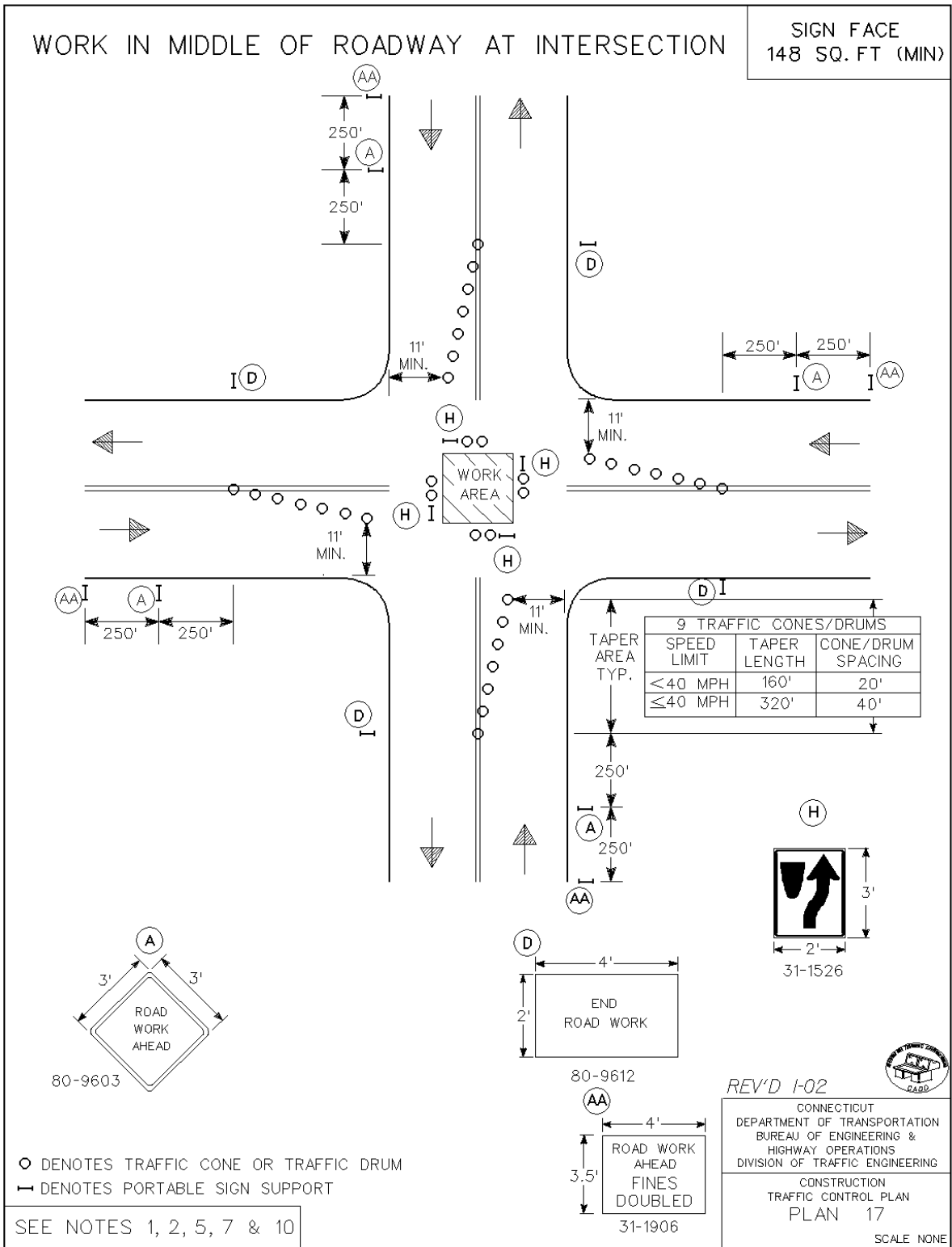
APPROVED J. Carey DATE 1-02
PRINCIPAL ENGINEER



APPROVED J. Carey DATE 1-02
 PRINCIPAL ENGINEER



APPROVED J. Carey DATE I-02
 PRINCIPAL ENGINEER



APPROVED J. Carey DATE 1-02
 PRINCIPAL ENGINEER

APPENDIX III

RELEVANT TOWN ORDINANCES

**TOWN OF HAMDEN
ORDINANCES**

TOWN OF HAMDEN
LEGISLATIVE COUNCIL

**AN ORDINANCE PROVIDING FOR THE REDUCTION OR ELIMINATION OF
EXCESSIVE NOISE AND THE ADMINISTRATION THEREOF**

WHEREAS, excessive sound and vibration are a serious hazard to the health, safety, welfare and the quality of life of the residents of the Town of Hamden; and

WHEREAS, individuals have a right to and should be ensured an environment free from excessive sound and vibration that may jeopardize their health, safety, or welfare, or degrade the quality of life; and

WHEREAS, the Town seeks to protect, preserve and promote the health, safety, welfare and quality of life of its residents; and

WHEREAS, there exists a substantial body of science and technology by which excessive sound and vibration may be substantially abated; and

WHEREAS, Town seeks to protect, preserve and promote the health, safety, welfare and quality of life of its residents by the reduction, control and prevention of noise.

NOW, THEREFORE, BE IT SO ORDAINED

SECTION 1: DEFINITIONS

As used in this chapter, the following terms shall have the meanings indicated in the interpretation and enforcement of this ordinance. Where terms are not defined under the provisions of this chapter and are defined in the noise regulations of the Connecticut Department of Environmental Protection, they shall have the same meanings ascribed to them in those regulations. Otherwise, they shall have ascribed to them their ordinarily accepted meanings or such meaning as the context herein may imply.

ANSI – The American National Standards Institute or its successor body. Any ANSI standard referred to in this ordinance shall be deemed to incorporate further revisions by reference.

CONSTRUCTION: Any site preparation, assembly, erection, substantial repair, alteration or similar action, but excluding demolition, for or of public or private structures, utilities, rights-of-way or similar property.

DAYTIME HOURS: The hours between 7:00 am and 9:00 p.m., weekdays and Saturday, and the hours between 8:00 am and 9:00 p.m. on Sunday.

EMERGENCY: Any occurrence or set of circumstances involving actual or imminent physical trauma or property damage which demands immediate action.

EMERGENCY SOUND SIGNAL: An audible electronic or mechanical siren or signal device attached to an authorized emergency vehicle or within or attached to a building pole or other structure for the purpose of sounding or testing an alarm relating to fire or emergency management.

EMITTER: An individual or entity who is the owner or occupant of the premises from which noise commences.

EXCESSIVE NOISE: Emitter noise zone levels from noise sources exceeding the standards set forth in Section 3 of this ordinance beyond the boundary of the emitter's noise zones.

IMPULSE NOISE: Means noise of short duration (generally less than one second), especially of high intensity, abrupt onset and rapid decay, and often rapidly changing spectral composition.

MAINTENANCE EQUIPMENT: All engine or motor-powered garden or maintenance tools intended for repetitive use, including, but not limited to lawnmowers, riding tractors, blowers, and including equipment intended for infrequent service work including, but not limited to, chain saws, log chippers or paving rollers.

MOBILE SOURCES OF NOISE: Mobile sources of noise shall include, but are not limited to such sources as automobiles, trucks and other vehicles used to transport individuals or items along public rights-of-way.

NIGHTTIME HOURS: The hours between 9:00 p.m. and 7:00 a.m. weekdays and Saturday, and the hours after 9:00 p.m. and before 8:00 a.m. on Sunday.

NOISE ZONE: Means an individual unit of land or a group of contiguous parcels under the same ownership as indicated by public land records and, as relates to noise Emitters, includes contiguous publicly-dedicated streets and highway rights-of-way, railroad rights-of-way, water bodies and waters of the State.

RECEPTOR: An individual or entity who is the owner or occupant of premises affected by or receiving noise.

SITE: Means the area bounded by a property line on or in which a source of noise exists.

SOUND LEVEL METER: Means an instrument, including a microphone, an amplifier, an output meter, and frequency weighting networks for the measurement of sound levels. The sound level meter shall conform to ANSI Specifications for Sound Level Meters S1.4-1984 (1997).

SECTION 2: CLASSIFICATION OF NOISE ZONES AND NOISE DISTRICTS

A. Noise zone classifications shall be based on the designated use of any parcel or tract, based on the zoning district in which a parcel is located as described on the Zoning Map and in the Zoning Regulations of the Town of Hamden, as amended from time to time; provided that any parcel whose use is lawfully nonconforming to its district at the time this ordinance is enacted shall be classified for noise emission purposes according to the district appropriate for the nonconforming use. The current designation shall be the determining factor and any change in the zoning map or zoning regulations will also represent a change in the Noise District.

B. Noise Districts

1. Residential Noise District – Lands or Noise Zones contained within residential districts by the Planning & Zoning Regulations of the Town of Hamden shall be designated as Residential Noise Districts and shall be subject to the noise standards prescribed therefor or defined by this ordinance.
2. Business Noise District – Lands contained within business districts by the Planning & Zoning Regulations of the Town of Hamden shall be designated as Business Noise Districts and shall be subject to the noise standards prescribed therefor or defined by this ordinance.
3. Manufacturing Noise District – Lands contained within manufacturing districts by the Planning & Zoning Regulations of the Town of Hamden shall be designated as Manufacturing Noise Districts and shall be subject to the noise standards prescribed therefor or defined by this ordinance.
4. Mixed Use Noise District (referred to as Controlled Development Districts or CDD) – Lands contained within mixed used districts by the Planning & Zoning Regulations of the Town of Hamden shall be designated as Business Noise Districts for purposes of this ordinance and shall be subject to the noise standards prescribed therefor or defined by this ordinance.

C. Within a noise district, the Emitter's noise zone is defined as his/her individual unit of land or group of contiguous parcels under the same ownership as indicated by the public land records. The emitter's noise zone also includes contiguous street and highway rights-of-way, railroad rights-of-way and water.

SECTION 3: NOISE STANDARDS

a. No person shall cause or allow the emission of excessive noise as defined herein beyond the boundaries of his/her Noise District or Noise Zone as measured at any point on a Receptor's tract or parcel of land, so as to exceed the levels stated herein. The source of noise measured shall be the responsibility of the Emitter.

b. Impulse Noise

1. No person shall cause or allow the emission of impulse noise in excess of 80 dB peak sound pressure level during the nighttime.

2. No person shall cause or allow the emission of impulse noise in excess of 100 dB peak sound pressure at any time to any Noise District or Noise Zone.

c. Noise District and Noise Zone Standards

1. No person in a Manufacturing Noise District shall emit noise exceeding the levels stated herein and applicable to the Receptor's Noise Districts and Noise Zones:

	<u>RECEPTOR</u>			
	<u>Manufacturing</u>	<u>Business</u>	<u>Residential</u>	
Manufacturing Emitter to			<u>Day</u>	<u>Night</u>
	70 dbA	66 dbA	61 dbA	51 dbA

Levels emitted in excess of the values listed above shall be considered excessive and unnecessary noise.

2. No person in a Business Noise District shall emit noise exceeding the levels stated herein and applicable to the Receptor's Noise Districts and Noise Zones:

	<u>RECEPTOR</u>			
	<u>Manufacturing</u>	<u>Business</u>	<u>Residential</u>	
Business Emitter to			<u>Day</u>	<u>Night</u>
	62 dbA	62 dbA	55 dbA	45 dbA

Levels emitted in excess of the values listed above shall be considered excessive and unnecessary noise.

3. No person in a Mixed Use District ("CDD") shall emit noise exceeding the levels stated herein and applicable to the Receptor's Noise Districts and Noise Zones:

	<u>RECEPTOR</u>			
	Manufacturing	Business	Residential Day	Night
Mixed Use Emitter to	62 dbA	62 dBA	55 dBA	45 dBA

Levels emitted in excess of the values listed above shall be considered excessive and unnecessary noise.

4. No person in a Residential Noise District shall emit noise exceeding the levels stated herein and applicable to the Receptor's Noise Districts and Noise Zones:

	<u>RECEPTOR</u>			
	Manufacturing	Business	Residential Day	Night
Residential Emitter to	62 dbA	55 dBA	55 dBA	45 dBA

Levels emitted in excess of the values listed above shall be considered excessive and unnecessary noise.

d. Motor Vehicle Noise

All motor vehicles operated within the limits of the Town of Hamden shall be subject to the noise standards and decibel levels as set forth in the Regulations of the State of Connecticut, Department of Motor Vehicles, Title 14, Sec. 14-80a-1 through 14-8-a-18, as amended from time to time.

No sound amplifying devices on or within motor vehicles shall emit noise in excess of the noise levels as specified in Section 3 of this Ordinance.

SECTION 4: EXCLUSIONS

The provisions of this chapter shall not apply to noise or sound emitted by or related to:

- a. Natural phenomena;
- b. The unamplified sound of the human voice;
- c. The unamplified sound made by any wild or domestic animal;
- d. Bells, carillons, or chimes associated with specific religious observances and/or organizations;
- e. A public emergency sound signal attached to an authorized emergency vehicle in the immediate act of responding to an emergency, or located within or attached to a building, pole or other structure for the purpose of sounding or testing an alarm relating to fire or emergency management;

- f. Snow removal equipment provided the equipment is maintained in good repair so as to minimize noise and that noise discharged from exhausts shall be adequately muffled to prevent loud and/or explosive noises therefrom;
- g. Farming equipment or farming activity; and
- h. Refuse, solid waste or recyclable materials collection.

SECTION 5: EXEMPTIONS

The following shall be exempt from this chapter, subject to the special conditions as specified:

- 1. Noise created by any construction activity which is conducted during daytime hours;
- 2. Noise created by recreational activities that are authorized by the Town, including, but not limited to, parades, sporting events, concerts and fireworks displays;
- 3. Noise created by the operation of public facility maintenance equipment or private property maintenance equipment during daytime hours; and
- 4. Noise created by blasting, other than that conducted in connection with construction activities, provided that the blasting is conducted between 8:00 a.m. and 5:00 p.m., at specified hours previously announced to the public, and provided that a permit for such blasting has been obtained from local authorities.

SECTION 6: EQUIPMENT AND MEASUREMENT

For the purpose of determining noise levels as set forth in this Ordinance, the following guidelines shall be applicable:

- a. A person conducting sound measurements shall have been trained in the techniques and principles of sound measuring equipment and instrumentation.
- b. Instruments used to determine noise levels shall be of standard design, maintained in calibration, and good working order, and instrument manufacturer's instructions for use of the instruments shall be followed.
- c. Measurements taken to determine compliance with this Ordinance, in particular Section 3, shall be taken at any elevation and at any point beyond the boundary of the Emitter's Noise District or Noise Zone and within the Receptor's Noise District or Noise Zone.

SECTION 7: ENFORCEMENT AND PENALTIES

The Hamden Police Department shall be responsible for enforcement of the provisions of this chapter. Any person in violation of any section of any provision of this chapter may be fined in an amount not to exceed one hundred dollars (\$100) per violation. Each day a violation continues after the time for correction of the violation has been given in an order, shall constitute a continuing violation and the amount of the fine shall be doubled for each day said violation continues, said fine not to exceed four hundred (\$400) dollars per day.

All notices and fines required or permitted by this ordinance shall emanate from the Hamden Police Department. Fines shall be paid to the Hamden Department of Police Services.

SECTION 8: APPEAL

- A. Whenever a fine is imposed under this ordinance, the person fined may, within 10 days from the date of the noise ticket, appeal by filing a written notice of appeal to the Town's Hearing Officer. The filing of an appeal shall stay any fine imposed until such time as a decision is rendered on the appeal.
- B. The provisions of this ordinance may be enforced by citation and hearing as permitted by Conn. Gen. Stat. 7-152(c).

SECTION 9: EFFECTIVE DATE

Pursuant to Connecticut General Statutes § 22a-73, this ordinance shall not be effective until it has been approved by the Commissioner of the State Department of Environmental Protection.

Adopted by the Legislative Council at its meeting held on December 4, 2000.

APPROVED AS TO FORM:

SUSAN GRUEN
Town Attorney

Carol L. Noble

CAROL L. NOBLE, President
Legislative Council

APPROVED:

Carl J. Amento

CARL J. AMENTO
Mayor

Evelyn N. Parise

EVELYN N. PARISE, Clerk
Legislative Council

Ordinance No.: 428
Published: 12/7/00
Newspaper: New Haven Register
Effective: 12/28/00

**TOWN OF HAMDEN
LEGISLATIVE COUNCIL**

**AN ORDINANCE AMENDING SECTIONS 97.01 through 97.08 OF THE CODE
OF ORDINANCES TO PROVIDE FOR THE PROPER PERMITTING,
RESTORATION AND PERMANENT PATCHING OF PUBLIC STREETS
AFTER EXCAVATION**

NOW, THEREFORE, BE IT SO ORDAINED THAT SECTIONS 97.01 through 97.08 OF THE HAMDEN CODE OF ORDINANCES are amended as follows:

WHEREAS, excavations, road openings and construction work on or adjacent to streets and roadways in the Town of Hamden can significantly alter the conditions and appearance of the Town's streets and roadways; and

WHEREAS, the restoration of streets and roadways after such excavation, road openings and construction work by contractors often does not return the Town's streets or roadways to their original condition or appearance, thereby creating an uneven and patchy streetscape within the Town; and

WHEREAS, the Town has heretofore borne the financial responsibility for repaving and restoring streets and roadways that have been altered because of excavations, road openings and construction; and

WHEREAS, taxpayers of Hamden should not bear the substantial financial burden of repaving and repairing streets and roadways that have been altered because of such excavations, road openings and construction; and

WHEREAS, permittees and contractors performing excavation, road openings and construction work that alters the appearance of the Town's streets and roadways should bear the financial burden of repaving and restoring the Town's streets and roadways for the benefit and use of the Town.

NOW, THEREFORE, BE IT SO ORDAINED THAT SECTIONS 97.01 THROUGH 97.08 OF THE HAMDEN CODE OF ORDINANCES are amended as follows:

97.01 PERMITS REQUIRED.

No person, firm or corporation shall make any opening, excavation or perform construction work of any kind within or through any street or roadway or adjacent to streets and roadways that significantly alter the conditions and appearances of streets and roadways in the Town of Hamden, except under the control and direction of the Town Engineer and after a receipt of a permit issued by the Town Engineer. The Town Engineer shall have the authority to grant the permits on the terms and conditions for the excavation and backfilling of the excavations in any street or highway and for the

replacement of pavements removed as hereinafter provided. Permits shall be issued in compliance with the terms hereof, and a fee as set by the legislative council will be charged for each permit, according to Section. 97.01B of the Code of Ordinances.

97.01B EXCAVATION PERMIT FEES; CALL BEFORE YOU EXCAVATE

The Town Engineer will collect a permit fee for excavation work based on the following schedule:

- | | |
|---|----------|
| a. For each excavation up to 200 sq. ft. | \$75.00 |
| b. For each excavation in excess of 200 sq. ft. and up to one block in length | \$125.00 |
| c. For each additional block or part of an additional block | \$125.00 |

In addition, at least 24 hours prior to beginning any excavation work, the Permittee shall contact the Town Engineer's office at (203) 287-2553 to inform of the specific date when excavation will begin and its expected duration on any street or roadway in the Town.

97.02 INSURANCE / BOND.

(A) No permit for excavating in any street or highway in the town shall be granted until the applicant files with the Town Engineer evidence of insurance coverage of not less than \$25,000/\$50,000 liability and \$5000 property damage and a performance bond in the minimum amount of \$10,000 and a street excavation bond in the minimum amount of \$1000. The amount of such performance bond may be increased on larger projects as required by the Town Engineer and shall require that the applicant fill all excavations and restore the street or highway to a condition as approved by the Town Engineer as hereinafter specified. The insurance coverage and performance bond shall further require that the applicant save and indemnify the Town from any and all liability, damages and costs that may in any manner be incurred by the Town by reason of or in connection with the applicant's excavation work and the backfilling thereof, as well as the applicant's replacement of paving thereafter. All performance bonds required by this chapter shall be for the period of the calendar year and renewals shall be filed with the Town Engineer before January 1st of each year. All insurance coverages shall be for the expected duration of the excavation, backfilling and replacement paving work, plus for such additional time as required by the Town Engineer, which shall be no less than 90 days after completion of the applicant's work.

(B) Contractors and public service corporations may dispense with the filing of a separate bond for each excavation by filing annually with the Town Engineer the proper evidence of insurance coverage heretofore provided for, conditioned, however, that an application must be made for a permit for each separate excavation. Evidence of insurance coverage and performance bond satisfactory to the Town Engineer shall be

presented, and the performance bond shall be in the amount approved by the Town Engineer.

(C) Any person, firm or corporation providing proof of a performance bond or insurance coverage as provided in this section shall be required to also provide notice to the Town in the event of cancellation of a performance bond or insurance coverage. Notice shall be forwarded to the Town Engineer, in writing, within 24 hours of cancellation.

97.03 EXCAVATIONS

(A) [No change to current text.]

(B) [No change to current text.]

(C) Street Moratorium

No excavations shall be made in a street that has been reconstructed or resurfaced within the last five (5) years. When excavations are deemed unavoidable by the Director of Public Works or his designee, they will be subject to special restoration requirements according to standard detail regulations as established and promulgated by the Director of Public Works, with the advice of the Town Engineer as needed.

97.04 RESTORATION: TEMPORARY PATCHING

(A) All excavations made under permit, within the street lines, provided for in §§ 97.01 to 97.10 inclusive, shall be backfilled with bank-run gravel as approved by the Department of Public Works. All excavations shall be backfilled and compacted or suitably covered to the satisfaction of the Director of Public Works or his designee at the end of each workday, unless suitable alternatives have been previously approved by the Director of Public Works or his designee. The contractor shall be responsible for the cost of repairs due to settlement or use of improper backfill material. Improper backfill shall be re-excavated and temporarily patched in accordance with the provisions of this article. In the event of the failure of a temporary patch, the contractor will be notified and will repair the same within twenty-four (24) hours of notification. Upon failure to comply with this provision or for emergency situations when the public is at risk, the Director of Public Works or his designee may direct the repair to be done and will bill the contractor. The contractor shall be liable for the full expense of such work, with such expense to be paid within forty-five (45) days of billing. Delinquent payments will be charged against the performance bond.

(B) Material removed from the excavations may be used for backfill upon written permission of the Director of Public Works or his designee. In all cases when the material used for backfill is that which was excavated from the trench, the backfilling must be done in properly compacted layers of two (2) feet for the entire depth of the trench. All muck, clay, frozen earth or other deleterious material shall be replaced with bank-run gravel. When bank-run gravel is used for backfilling, all materials removed

from the excavation shall be removed from the site and properly disposed of by the contractor. All ditches within the travelway of any street or highway shall be sealed immediately by the contractor with a suitable patching material approved by the Department of Public Works.

(C) For utility companies or those companies that have a full permanent paving schedule as determined by the Town Engineer, the trench shall be placed in kind as a minimum. The trench shall be properly backfilled and sealed with a temporary patch for a period not to exceed one hundred and eighty (180) days. Pavement shall be restored to conform to Section 4.01 "Bituminous Concrete" of "Form 814A – State of Connecticut, Department of Transportation, Standard Specifications for Roads, Bridges and Incidental Construction", as may be amended from time to time. For those streets or roadways having a concrete base or surface, the trench shall be temporarily backfilled as specified above. The backfill shall be brought to a level to allow for the replacement of the concrete to the thickness of the original contract or as directed by the Director of Public Works or the State of Connecticut, as applicable.

Concrete placed in any trench shall be allowed to cure for not less than 72 hours. During the curing period, all excavations shall be properly protected by barricades and warning lights, furnished and maintained by the contractor. If the concrete is a base material, the top surface shall be of bituminous concrete or other paving material approved by the Department of Public Works with a minimum compacted thickness of three (3) inches, properly joined and sealed to the existing pavement. The sides of all excavations and patches shall be cut in a straight line where joined to the old pavement. If the concrete is the finished paving material, the concrete shall be screened and rubbed to the satisfaction of the Director of Public Works.

In case of any question, Section 4.01 "Concrete Pavement" of Form 814A – State of Connecticut, Department of Transportation, Standard Specifications for Roads, Bridges and Incidental Construction", as may be amended from time to time, may govern.

97.04a RESTORATION: PERMANENT PATCHING

- (A) Only utility companies or those companies that have a permanent paving schedule as determined by the Town Engineer shall be exempt from this section.
- (B) After a proper settling period, beyond the maintenance period established pursuant to section 97.05, all temporary patches shall be made permanent by the Town or its contract designee as directed by the Director of Public Works.
- (C) The Town Engineer shall establish and collect permanent patch restoration fees to cover all costs associated with restoring and maintaining sections of the streets and roadways that were excavated and temporarily patched, consistent with this chapter. The fee shall be collected at the time of the application for a permit issued under this

chapter. The Town shall be exempt from the provisions of this section when it performs its own work.

1. The permanent patch restoration fee for each excavation shall be a minimum cash deposit in the amount of Seven Hundred and Fifty Hundred Dollars (\$750.00) in the form of cash, money order or certified check to cover the cost of all repairs relating to permanent patching made by the Town or a contractor engaged by the Town. This deposit shall also cover the cost of any repairs which might occur because of settlement of the trench after the period in which the contractor is responsible pursuant to section 97.05. The Town Engineer may require an amount in excess of the minimum required if he deems it necessary to cover a larger project or several anticipated excavations.
 2. The Town Engineer may also adjust the restoration fee amount to include a surcharge for administration and inspections.
 3. The monies collected shall be deposited in a special account and utilized to cover expenses incurred by the Town for restoration work caused by the issuance of permits under this chapter and for similar pavement repairs.
- (D) The permittee shall also reimburse the Town for any and all costs the Town may incur in replacement or repair of traffic controls or pavement markings disrupted, damaged or removed by work performed under an excavation permit.
- (E) The permittee and persons liable under section 97.06 may be billed by the Town for all patching items and protection measures not done by the permittee. If billed by the Town there will be an additional percentage charge for administration and handling costs.
- (F) All invoices shall be paid no later than forty-five (45) days from the date of billing. A monthly service charge of twenty-five dollars (\$25.00) will be imposed on accounts forty-five days past due.
- (G) When a permittee under this section excavates fifty percent or more of the width of the existing paved surface of a street, the Director of Public Works or his designee may direct that the entire area of the existing pavement be milled and/or resurfaced.
- (H) The expense of restoration work performed by the Town or its agents shall be drawn from the restoration fee or, if the restoration fee is insufficient, collected from the permittee or its surety by any proper action.

97.05 MAINTENANCE OF TEMPORARY PATCH

The contractor shall guarantee to maintain the repaired excavation for a period of 180 days after its acceptance by the Town and in the event that it is necessary to make any repairs to the excavation or restoration of the pavement during this 180

day period, this guarantee shall be extended to include a period of 30 days from the date of such repair work.

97.06 PROTECTION OF [No change to current text.]

97.07 VIOLATIONS OF REGULATIONS PROHIBITED

- a. If any person, firm or corporation does not abide by all of the provisions of this chapter, the Town by action of the Town Engineer has the authority to refuse the contractor any permits for excavation work for any length of time deemed necessary.
- b. Any person, firm or corporation that violates any provision of this chapter shall be fined not more than one hundred dollars (\$100) for each such offense. Each day that the violation of these regulations continues shall be deemed to be a separate offense for the purpose of the penalty.
- c. The cancellation of the bond or insurance shall automatically void any permit which has been issued.
- d. In the case of an emergency, if the contractor or any of his representatives are not available, the Town has the right to repair any defect to eliminate any hazard or remove any emergency condition which it may deem necessary, and the contractor shall reimburse the Town for any costs incurred in the completion of the same.

97.08 INTERPRETATION

In the event of any question as to the interpretation of any of the provisions of this chapter the decision of the Town Engineer or the Director of Public Works as applicable shall be final.

Approved by the Legislative Council at its meeting held on February 5, 2001.

APPROVED AS TO FORM:

Susan Gruen
Acting Town Attorney

Carol Noble
Carol Noble, President
Legislative Council

APPROVED:

Carl J. Amento
Mayor

Evelyn Parise
Evelyn Parise, Clerk
Legislative Council

DATE: _____
Ordinance Number: 432
Published: 2/8/01
Newspaper: New Haven Register
Effective Date: 3/1/01

APPENDIX IV
VAULT LOCATION MAPS

NOT APPLICABLE TO SEGMENT 2B