



MAINE POWER RELIABILITY PROGRAM

A CENTRAL MAINE POWER COMPANY PROGRAM

TOWN OF BENTON, MAINE LAND USE, CONDITIONAL USE, SHORELAND ZONING APPLICATION

**Sections 3023, 3024, 67, 67A, and 84
Transmission Line Construction**

Albion Road Substation Construction

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Maine Power Reliability General Project Description

The Maine Power Reliability Program (MPRP) is a Central Maine Power Company (“CMP”) program to upgrade Maine’s bulk power system. The vast majority of Maine’s bulk power transmission system was placed into service in the early 1970s and is now reaching the limits of its ability to meet the growing electrical demand of Maine customers. Since the last major transmission infrastructure was completed more than 30 years ago, the patterns of both available generation and customer load have shifted significantly. For example, population has become more concentrated in the southern part of the state, while the generation needed to serve that load is now more distant and dispersed. When these changes are combined with increasing peak demand, the current transmission infrastructure in Maine will, in very few years, become inadequate and unsafe. In addition, the reliability and security standards mandated by law and administered by the North American Electric Reliability Corporation (NERC), the Northeast Power Coordinating Council, Inc. (NPCC), and ISO New England (ISO-NE) have changed significantly in recent years. CMP must upgrade its bulk power system with this proposed project to meet the mandatory standards and to provide reliable electric service to Maine customers into the future. In all, the MPRP will encompass 81 Maine towns and will require approvals from the Maine Public Utilities Commission, the U.S. Army Corps of Engineers, the Maine Department of Environmental Protection, and numerous municipalities.

Project Description in the Town of Benton

CMP’s proposed project in the Town of Benton consists of two main components, (1) construction of a new substation and (2) transmission line upgrades in three different existing transmission line corridors.

Albion Road Substation (see diagrams in Exhibit 4). The MPRP project in Benton includes the construction of a new 345/115kV substation. The new substation will be located on a 60-acre parcel owned by CMP on Albion Road approximately 650 feet north of the Albion Road. A total of 11.4 acres will be permanently developed to include the 10.4 acre substation yard (approximately 650’x700’) and the new gravel access road located on the Albion Road. An additional 0.25 acres of land abutting the northeast corner of the substation lot is also being acquired. The southwest corner of the yard will be approximately 375 feet from the property line; the remainder of the yard will be more than 400 feet from the property line.

The substation yard will include construction of control house, approximately 32 x 80 feet in size, to be located near the center of the yard. The actual size and location may vary slightly. Sanitation facilities will be constructed as part of the control house, to include the installation of a 1,500 gal holding tank (10w x 15L x 10d) located adjacent to the building. A separate permit application for installation of the holding tank (HHE 200) is being submitted.

The purpose of the substation will be to step down voltage from 345 kV to 115 kV and to provide switching capacity, a common process that involves the transfer or discontinuance of electrical load to other substation equipment or overhead lines for maintenance work and during line outages. The new substation will provide a needed supply source and improved voltage regulation to this part of the state. A total of five 115 kV terminations and two 345 kV terminations will interconnect at the substation. System reliability will be greatly improved by

this added infrastructure and the current system risks of extensive area outages will be greatly diminished by the added electrical supply.

Transmission Line. The MPRP project in Benton includes work in three existing transmission line corridors including:

Section 67 and 67/84 north-south corridor (Exhibit 1, Maps 1-6)

- Installation of approximately 4.3 miles of new 345 kV transmission line (Sections 3023 and 3024). The line will be constructed on the west side of the existing corridor next to an existing 115kV line (Section 67) that runs north to south from Clinton to the Winslow town lines. The new line will be constructed on twenty-one 2-pole wooden H-frame structures typically 75 feet above ground and twenty-one single pole steel structures typically 125 feet above ground.
- Acquisition and vegetation clearing of an additional 40-50 feet of property from abutting land owners along portions of the west side of the Section 67 corridor to meet mandated line clearance and safety standards for installation of the new 345kV line
- Rebuilding of approximately 0.2 miles of existing 115kV line (Section 67) where the line enters the new substation from the north. The rebuilt line will be constructed using four single pole and H-frame wooden structures, ranging from approximately 52 feet to 84 feet above ground.
- Rebuilding of approximately 0.4 miles of existing 115kV line (Section 67) from the new substation to the Winslow Town line. The rebuilt line will be constructed using 8 single pole wooden structures typically 75 feet above ground. The newly rebuilt line will be renamed Section 257.
- Rebuilding of approximately 0.7 miles of existing 115kV line (Section 84) that runs from the new substation to the Winslow Town line. The rebuilt line will be constructed using 14 single pole wooden structures typically 75 feet above ground and will be renamed Section 258.

Section 67-A and 84 east-west corridor (Exhibit 1, Maps 7-11)

- Rebuilding of approximately 3.7 miles of existing 115kV line (Section 84) that runs east to west along the southern boundary of Town from the new Albion Road substation to the Winslow Town line. The existing line currently runs on 41 wooden H-frame structures typically forty-five feet above ground. The rebuilt line will be relocated 25' closer to the south side of the east-west portion of the corridor using 47 single pole wooden structures typically 75 feet above ground.

Section 67A north-south corridor (Exhibit 1, Maps 11-15)

- Re-rating approximately 3.3 miles of existing 115kV line (Section 67A) that runs from the Heywood substation northward to where it crosses the Kennebec River into Fairfield. Re-rating involves modifying a transmission line so that it can operate at a higher electrical capacity (although the voltage will remain the same). Some or all of the existing H-frame structures will be replaced with new structures of a similar design as a part of this project.

As described above, clearing of vegetation will be required along the west side of the Section 67 corridor to accommodate the new 345 kV line and ensure that the project meets federal reliability

and safety standards. The amount of clearing will be limited to that which is necessary for development of the project, and is generally limited to removal of species that are capable of growing tall enough to interfere with the transmission lines (so-called “capable species”). Non-capable species are allowed to remain to ensure that the corridor is vegetated, which prevents erosion and provides wildlife habitat. No grubbing (i.e., stump removal) will take place.

There will be no new permanent roads or driveways associated with the project, other than the use of CMP-maintained access points and temporary access ways suitable for use during the construction phase and for routine and urgent maintenance by its own vehicles. Access to the project area will be primarily from public roads.

Agent Authorization Letter

Summary of Applicable Ordinances and Zoning Districts

The proposed project will be located in four zoning districts: the Rural District, the Village District, the Resource Protection District, and the Limited Residential District. These last two districts are within the shoreland zone. As a result, CMP seeks approval of the project under the Town's Land Use Ordinance and Shoreland Zoning Ordinance.

Town of Benton Land Use Ordinance

The proposed transmission line upgrade component of the project, with the exception of the portion of Section 67A on the west side of town to be re-rated and the Albion Road substation project, are located within the Rural District as depicted on the "Official Map, Land Use Ordinances, Town of Benton, Maine." Transmission lines are an "essential service." Essential services are an allowed use within the Rural District "if in compliance with applicable performances standards" (Land Use Ordinance, § VII(E) (Table of Land Uses, pages 39 and 41)). The portion of the proposed transmission line project on the west side of Town (Section 67A north-south corridor) is within the Village District. Similarly, within this district essential services are an allowed use if in compliance with the applicable performance standards. As is described below, the transmission line upgrades proposed by CMP satisfy the General Performance Standards contained in Section VIII of the Land Use Ordinance.

The proposed substation will be located in the Rural District. A substation falls within the "public utility facility" land use category. Public utility facilities are an allowed use within the Rural District, and require a Conditional Use Permit in accordance with Section IV (Land Use Ordinance, § VII(E) (Table of Land Uses, pages 39 and 41)). As is described below, the proposed substation satisfies both the General Performance Standards contained in Section VIII of the Land Use Ordinance and the Standards for Conditional Uses contained in Section V.

Town of Benton Shoreland Zoning Ordinance

Based on the Official Shoreland Zoning Map for the Town of Benton, the proposed transmission line component of the project traverses two shoreland zoning districts – the Resource Protection District and the Limited Residential District – in six different locations (listed below). Just as in the Land Use Ordinance, in the Shoreland Zoning Ordinance transmission lines are considered "essential services" as defined on page 30, Section 17 of the Town's Shoreland Zoning Ordinance. Essential services are an allowed use within the Limited Residential District with Planning Board approval. While essential services are not identified as an allowed use in the Resource Protection District, such uses are permitted upon determination that no reasonable alternative exists. As is described below, the portions of the proposed transmission line upgrades located in the shoreland zone satisfy both the Land Use Standards contained in Section 15 of the Shoreland Zoning Ordinance and the permitting requirements contained in Section 16(D). Included in this discussion is an explanation why there is no reasonable alternative location for the portions of the upgrades in the Resource Protection District.

The Albion Road substation component of the project is not located within the shoreland zone.

Section 67 north-south corridor (Exhibit 1, Maps 2 and 5)

- A Limited Residential district on the north side of the Sebasticook River
- A Resource Protection district on the south side of the Sebasticook River
- A Limited Residential district (associated with an 18-acre wetland) along the west side of the corridor north of the Albion Road

Section 67A/84 east-west corridor (Exhibit 1, Map 10)

- A Resource Protection district along both sides of the Sebasticook River

Section 67A north-south corridor (re-rate) (Exhibit 1, Map 15)

- A Limited Residential district associated with a 25-acre wetland east of the River Road
- A Limited Residential district along the Kennebec River

APPROVAL STANDARDS AND ACCOMPANYING MATERIAL

The remainder of this application discusses the standards of approval that apply to CMP's proposed project. Specifically, the following material is divided into four parts:

Part One: Town of Benton Land Use Ordinance, Section V(H): Standard for Conditional Use (applicable to the substation portion of the project) – Page 9

Part Two: Town of Benton Land Use Ordinance, Section VIII: General Performance Standards (applicable to both the substation and transmission line upgrade portions of the project) – Page 13

Part Three: Town of Benton Shoreland Zoning Ordinance: Discussion of Shoreland Zoning Standards – Page 17

Part Four: Exhibits – Page 26

PART ONE

Town of Benton Land Use Ordinance, Section V(H): Standards for Conditional Use

The construction of the new substation on Albion Road requires conditional use approval. Each of the Standards for Conditional Use – standards a through k – is discussed below.

- a. The use will not have an adverse impact on spawning grounds, fish, aquatic life, bird or other wildlife habitat.**

There are no spawning grounds or fish at the substation site. In addition, neither the Maine Department of Environmental Protection (MDEP) nor Maine Department of Inland Fisheries & Wildlife (MDIF&W) has identified any significant wildlife habitat at the site. There is a wetland with multiple fingers that drain the substation site from the southeast towards the northwest. Construction of the substation will result in the filling of portions of this wetland. However, the overall drainage pattern will not be altered significantly due to the pervious nature of the crushed stone and gravel substation yard surface to be constructed, which will promote infiltration of runoff. As part of the MDEP permitting process, a compensation and restoration plan is required for the filling of these wetlands, and is included as part of the MDEP Natural Resources Protection Act application for the MRPP project. The substation will not have an adverse impact on wildlife habitat.

- b. The use is consistent with the Benton Comprehensive Plan.**

Electrical utility facilities and services are an allowed use in accordance with page 24 of the Town of Benton 1991 Comprehensive Plan according to Arthur Thompson Jr., Code Enforcement Officer for the Town of Benton.

- c. Traffic access to the site meets the standards contained in this ordinance and traffic congestion has been addressed in accordance with the performance standards in this ordinance.**

Construction of the new substation yard will result in a marginal increase in the level of vehicular use on the Albion Road. Access will be limited to maintenance and emergency vehicles only and will average approximately two visits per day; therefore, street access controls will not be necessary.

- d. The site design is in conformance with all municipal flood hazard protection regulations.**

The Albion Road substation will not be located within a 100-year floodplain.

- e. Adequate provision for the disposal of wastewater and solid waste has been made.**

Waste electrical system and construction process components such as scraps of cable, cable spools, and ceramic insulators will be generated. Some wood waste will be generated in the process.

of land clearing for the expansion, which will be shipped offsite to be used as fuel at an appropriate licensed boiler, provided to a licensed chip processing plant, or donated to a facility to be utilized in the production of erosion control mulch. Construction and managerial staff will generate some waste such as paper, bottles, cans, plastics, and food scraps. All of these materials will be recycled or shipped to a licensed landfill, transfer station, or incinerator. Operation of the substation will not generate any solid waste. Once constructed, use of the substation control house will generate small amounts of wastewater with a holding tank installed for this purpose.

f. Adequate provision for the transportation, storage, and disposal of any hazardous materials has been made.

Hazardous materials will be not be generated during construction or operation of the substation.

g. A stormwater drainage system capable of handling a 25-year storm without adverse impact on adjacent properties has been designed.

A stormwater management plan has been designed for the substation yard and access road in accordance with Maine Department of Environmental Protection requirements (Chapter 500) and is being submitted as part of the Site Location for Development application. Key components of this plan are discussed below. The proposed stormwater control system will be capable of handling a 25-year storm without adverse impacts to adjacent properties.

The substation yard will be located approximately 650 feet north of the Albion Road and will occupy approximately 10.42 acres of a CMP-owned 60-acre parcel. The west side of the new substation will be within the existing 115kV transmission line corridor (Section 67). Approximately 17.75 acres of total area will be disturbed during the construction phase, with approximately 6.4 acres allowed to revegetate with the remaining 11.37 acres being permanently developed. Of the developed acres there will be approximately 0.15 acres of new impervious area to include the graveled access road, concrete pads, foundations, and building structures.

The new substation and access road is located within the Fowler Brook watershed, and is not listed under the “Lakes Most at Risk from Development” or as an “Urban Impaired Stream” as defined in Chapter 502 of MDEP’s rules. Fowler Brook flows northward for approximately 1.5 miles before discharging into the Sebasticook River. The topography of the land surface slopes gradually (approximately 3%) from southeast to northwest, with elevations across the area ranging from 212 to 170 feet.

Components of the Stormwater Management Plan

Drainage Plans. Pre-Development and Post-Development Drainage Plans are provided in Exhibit 4 of this application.

Runoff Analysis. Pre- and post-development stormwater calculations (for storm frequencies of 2, 10, and 25 years) are provided as part of the Site Location for Development application reviewed by MDEP, along with Time of Concentration, Travel Time, Peak Discharge, and Reservoir Routing calculations.

Flooding Standards. A variance from the peak flow standard and water quantity controls will not be necessary for this project because there will be a decrease in post-development runoff due to the pervious nature of the substation yard. The proposed water management system will provide several forested/meadow buffers in keeping with the pre-development flow regime. Consequently, runoff at the site will not adversely affect downstream properties.

Sizing of culverts has been included in the Stormwater Calculation package submitted as part of the MDEP application. Detailed drawings include the location of these culverts along with any drainage swales, level spreaders, and buffers. Stabilization and erosion control methods are described in CMP's "Environmental Guidelines for Construction and Maintenance Activities on Transmission Line and Substation Projects" (see Exhibit 6).

Stormwater ponds and basins, and infiltration systems will not be required for this project. A Drainage Easement Declaration will also not be required as the stormwater buffers will be located entirely within property owned by CMP.

Engineering Inspection. CMP will ensure that a qualified design engineer will inspect the construction site periodically to verify that the substation yard, conveyance swales, and level spreaders are constructed in accordance with the plans and specifications shown on the design drawings, and that these structures are functioning properly. Periodic inspections will be conducted after construction to monitor and evaluate the effectiveness of the stormwater management structures, along with any erosion and sediment control structures.

The resulting stormwater management facilities to be maintained will include:

- Drainage swales and level spreaders associated with the access road and substation yard;
- Culverts with inlet and outlet protection;
- Permanent access road to the site;
- Substation yard (crushed stone) and revegetated areas;
- Water quality treatment buffers.

h. Adequate control of erosion and sedimentation has been shown.

(See pages 9 and 10 on Stormwater Management for a discussion of ongoing stormwater controls and best management practices that will be applied at the substation). Based on analysis of the Soil Survey Geographic Database compiled by the United States Department of Agriculture – Natural Resources Conservation Service, soils within the expansion area will accommodate the proposed MPRP construction activities. In addition, the project will conform to CMP's "Environmental Guidelines for Construction and Maintenance Activities on Transmission Line and Substation Projects" (2007). These guidelines are designed to ensure that the appropriate steps are taken to control erosion and sedimentation.

i. There is adequate water supply and quality to meet the demands of the proposed use.

A drilled well will be constructed within the substation yard to provide a potable water supply to the control building for sanitation needs.

j. Buffer strips and on-site landscaping provide adequate protection to neighboring properties from detrimental features of development such as noise, glare, dust, odor, and the like.

The proposed location of the new substation will not be visible from abutting property or from public roads except where the reconstructed transmission line corridor crosses Albion Road. Vegetation buffers will be installed along the north and south side of the Albion Road to screen the appearance of the substation and apertures where the transmission line crosses. A vegetation buffer is proposed for the south side of the East Benton Road looking back towards the substation which may be visible from this location. Any noise generated from the substation will be within standards set by the Maine Department of Environmental Protection (see further discussion on noise on page 14).

k. All the performance standards in this ordinance, applicable to the proposed use, will be met.

Central Maine Power Company will meet the performance standards outlined in this ordinance. (The General Performance Standards contained in Section VIII of the ordinance are discussed in the following part of these application materials.)

PART TWO

Town of Benton Land Use Ordinance, Section VIII: General Performance Standards

A. Access to the Property

Transmission Lines. There will be no new permanent roads or driveways associated with the project, other than CMP-maintained access points and ways suitable for routine and urgent maintenance by its own vehicles. Temporary light duty access paths, which are not considered to be roads or driveways, will not add any impervious surface area, and will be established for use during the construction phase. This will be an ongoing process as access will be established to areas undergoing immediate construction. All access paths are temporary and will be removed once construction is complete. Areas where soils have been disturbed will then be mulched with hay. Vegetation will be allowed to reestablish once the temporary access ways have been removed. Measures will be taken to avoid and minimize impacts to streams and wetlands through the use of crane mats, temporary bridges, geo-textile fabrics, and culverts, when necessary. Appropriate erosion controls will be installed wherever necessary. If necessary, mats will be placed parallel to the upland edge as abutments to further protect bank stability and establish stability. No extensive grubbing (grading to remove root systems) within wetland crossing areas will be done prior to mat placement. However, some minor grading may be required to ensure mat stability and construction access safety. Streams that are too wide to cross with crane mats or temporary bridges will be avoided.

Albion Road Substation. Approximately 1,400 feet of graveled access road will be constructed from the Albion Road to two areas of the substation yard. The road will be utilized by CMP personnel only. The road will be located within a 60-acre parcel owned by CMP and includes approximately 1,670 feet of frontage along the north side of the Albion Road. The east side of the access road will be located approximately 250 feet from the east property line.

B. Buffer Areas

Transmission Lines. Disturbed areas resulting from the construction within transmission line corridors will be allowed to revegetate with only “capable species” removed, or those trees capable of growing into the safety zone around the conductors. Central Maine Power otherwise maintains a policy of encouraging vegetation growth within its rights-of-way wherever possible.

Albion Road Substation. (See discussion on page 12)

C. External Lighting

Transmission Lines. There will be no external lighting associated with the transmission line project.

Albion Road Substation. Substation yard and control house lighting will be installed for security and night maintenance purposes, but should not be visible from the Albion Road or to abutting landowners.

D. Groundwater Protection

Transmission Lines. The transmission line project will not adversely affect any mapped aquifers, the quality or quantity of groundwater, or any public or private water source. To minimize spill potential during construction, no fueling or maintenance of vehicles or equipment will be performed within 100 feet of wetlands, streams or other sensitive natural resources. After construction the electrical transmission line corridors will be maintained to encourage the growth of scrub-shrub vegetation. Trees capable of growing into the conductors (“capable species”) must be removed for safety and reliability reasons. CMP will use a selective herbicide program to treat an area once every four years to maintain an early successional stage of growth. Herbicide is selectively applied (using a backpack applicator) to capable species to prevent growth (or re-growth of a cut plant) of individual plants. No broadcast application is used, and CMP does not use herbicides within 25 feet of any waterbody or wetland with standing water. Crew forepersons are certified by the Maine Pesticide Control Board. All herbicides are EPA registered. The selective use of herbicides does not impose a threat to groundwater quality.

Albion Road Substation. In addition to the above, a holding tank for disposal of wastewater resulting from use of the substation control house will be installed. A separate Subsurface Wastewater Disposal System Application (HHE 200) has been submitted to the Code Enforcement Officer for this purpose.

E. Noise

Transmission Lines. Transmission lines can produce a slight hissing or crackling sound that results from the partial electrical breakdown of the air around the conductors (wires). These lines, however, are designed to be free of “audible noise” (AN) under fair weather conditions but will produce slightly higher levels during rain events or during periods of high humidity (this is when the hissing or crackling may be heard). Based on the modeling of AN developed by Dr. William Bailey of ExPonent[®] for the MPRP, it was determined that, “The transmission line conductors can give rise to AN, and the levels at the edges of ROWs in fair weather are calculated to be below the noise standard of the Maine Department of Environmental Protection (50 dBA or 45 dBA in quiet areas). Higher levels of AN would occur during foul weather but would be masked by the background noise of rain and wind,” but in each case is anticipated to remain within the levels allowed by the MDEP. The results of the modeling done by Dr. Bailey shows that upgrades to the transmission lines associated with the MPRP generally would produce modest increases in the levels of AN at the edges of rights-of-way (ROW) and that this noise will dissipate quickly as distance from the edge of the ROW increases. It is anticipated that the sound produced by the conductors at the edge of the transmission corridor ROW will be about 40 dBA (comparable to a quiet office) as the result of an upgrade from 115 kV to 345 kV, below the maximum noise allowance described on page 44 of the Town of Benton’s Land Use Ordinance.

Albion Road Substation. Substations produce constant noise, resulting mainly from step-down transformers. An ambient noise monitoring survey was conducted in accordance with Maine Department of Environmental Protection (MDEP) protocols at the site of the proposed Albion Road Substation. Data collected at this location were judged to be representative of ambient conditions in the area.

A review of the data reveals that the average daytime noise level was 42.7 dBA. The nighttime average level was 37.0 dBA. Because the average daytime noise level was below 45 dBA, the area is considered a “quiet area” under MDEP’s noise standard. Accordingly, the applicable MDEP noise standard for the Albion Road Substation is 55 dBA during the day and 45 dBA at night at any protected area (residential property line).

Since transformer noise levels remain the same day and night, the substation will be designed to meet the 45 dBA nighttime limit. There are some physical residences 500 feet or more away from the affected property line. For these particular residences, the MDEP daytime limit (55 dBA) applies at the property line regardless of the time of day, while the more restrictive nighttime limit (45 dBA) applies at the physical residence regardless of the time of day. These levels meet the maximum noise allowance described on page 44 of the Town of Benton’s Land Use Ordinance.

F. Off-street Parking and Loading – General Requirements

There will be no off-street automobile parking associated with this project.

G. Off-street Parking and Loading – Design Requirements

Same as above.

H. Solid Waste

Transmission Lines. Waste electrical system and construction process components such as scraps of cable, cable spools, and ceramic insulators will be generated. Most of these materials will be recycled or reused. Construction equipment will generate small amounts of waste plastic containers for oils and lubricants, broken filters and belts, and damaged tires. Construction and managerial staff will generate some waste such as paper, bottles, cans, plastics, and food scraps. All of these materials will be recycled or shipped to a licensed landfill, transfer station, or incinerator. Operation of the transmission line will not generate any solid waste.

Albion Road Substation. (See pages 9 and 10)

I. Signs

There will be no signage associated with this project.

J. Soil Erosion Control

Transmission Lines. Based on analysis of the Soil Survey Geographic Database compiled by the United States Department of Agriculture – Natural Resources Conservation Service, soils within the project area will accommodate the proposed MPRP construction activities. In addition, the project will conform to CMP’s “Environmental Guidelines for Construction and Maintenance Activities on Transmission Line and Substation Projects” (2007). These guidelines are designed to ensure that the appropriate steps are taken to control erosion and sedimentation.

Albion Road Substation. (See page 11)

K. Stormwater Management

Transmission Lines. With the exception of the immediate area occupied by the support structures, there will be no increase in impervious surface area associated with the transmission line. Therefore, there will be no significant storm water run-off generated as a result of the project. All new construction shall be designed to minimize storm water runoff from the site in excess of the natural predevelopment conditions.

Albion Road Substation (See pages 10 and 11)

L. Traffic Impact and Street Access Control

Transmission Lines. There will be no additional vehicular traffic associated with the transmission line project except during construction.

Albion Road Substation. (See page 9)

M. Water Quality

The transmission line and substation projects will not create or cause the discharge of liquid, gaseous, or solid materials.

The project will not adversely affect the quality or quantity of groundwater, or any public or private water source. To minimize spill potential during construction, no fueling or maintenance of vehicles or equipment will be performed within 100 feet of wetlands, streams or other sensitive natural resources. After construction the electrical transmission line corridors will be maintained to encourage the growth of scrub-shrub vegetation. Trees within these corridors capable of growing up into the conductors (“capable species”) must be removed for safety and reliability reasons. CMP will use a selective herbicide program to treat an area once every four years to maintain an early successional stage of growth. Herbicide is selectively applied (using a backpack applicator) to capable species to prevent growth (or re-growth of a cut plant) of individual plants. No broadcast application is used, and CMP does not use herbicides within 25 feet of any waterbody or wetland with standing water. Crew forepersons are certified by the Maine Pesticide Control Board. All herbicides are EPA registered. The selective use of herbicides within the transmission line corridor does not impose a threat to groundwater quality.

PART THREE

Town of Benton Shoreland Zoning Ordinance: Discussion of Shoreland Zoning Standards

Shoreland Zoning Districts

The proposed transmission line project will traverse the Resource Protection and Limited Residential districts, as shown on the Shoreland Zoning Map for the Town of Benton, in a total of six different locations:

- *Section 67 north-south corridor*

A Resource Protection District along the east shoreline of the Sebasticook River, north side of town

The Section 67 transmission line corridor traverses a Resource Protection District on the east shoreline of the Sebasticook River. One new structure will be installed within the district as part of the new 345kV line (see page 20 for information on “Essential Services” located within Shoreland Zoning districts). Approximately 0.1 acres of additional clearing of vegetation (“capable species”) will be needed along the western edge of the corridor. There is also a population of sessilefruit arrowhead along the shoreline, a state-listed “threatened” plant species, which is at least 50 feet from the area to be cleared and 230 feet from the location of the new structure. Herbicides will not be used within 25 feet of any open water. Construction of the transmission line is not expected to affect the ecological functionality of this area or the river as the project area is largely open with emergent and shrub vegetation containing relatively few trees. This condition will continue once the project is completed.

A Limited Residential District along the west shoreline of the Sebasticook River, north side of town

The Section 67 transmission line corridor also traverses a Limited Residential District on the west shoreline of the Sebasticook River. One new structure will be installed within the district as part of the new 345kV line, but not within the floodplain. A small amount of vegetation clearing (“capable species”) will be needed at the vicinity of the new structure.

A Limited Residential District associated with a wetland south of the East Benton Road

The Section 67 transmission line corridor traverses a Limited Residential District along the east side of an 18-acre wetland south of the East Benton Road. Three wooden H-frame structures as part of the new 345kV line will be installed along the edge of or just within the district. Approximately 2.5 acres of additional clearing of vegetation (“capable species”) will also be required along the western edge of the corridor, to include the additional 50’ feet of right of way being acquired along this section.

- **Section 67A/84 east-west corridor**

A Resource Protection District along the east and west shoreline of the Sebasticook River, south side of town.

The Section 67A/84 transmission line corridor traverses a Resource Protection District on the east and west shorelines of the Sebasticook River. One new structure will be installed within the district to replace the existing structure which is approximately 85 feet from the river. The structure is located more than 50 feet from a population of sessilefruit arrowhead, a state-listed “threaten” plant species; and 130 feet from a population of wild garlic, a state-listed endangered species. The shoreline also provides habitat for several important species of freshwater mussels. Construction of the transmission line is not expected to affect these areas or the ecological functionality of the river as the corridor is largely open with emergent and shrub vegetation containing relatively few trees. This condition will continue once the project is completed. No additional clearing of vegetation will be required.

- **Section 67A north-south corridor**

A Limited Residential District associated with a wetland east of the River Road.

The Section 67A transmission line corridor traverses a Limited Residential District along the south side of a 25-acre wetland east of the River Road to where it crosses Interstate 95. Four existing structures within or along side the district and will be replaced with new structures at their current locations. No additional clearing of vegetation will be required.

A Limited Residential District along the Kennebec River.

The Section 67A transmission line corridor traverses a Limited Residential District along the east side of the Kennebec River. One structure is located within the district and will be replaced with a new structure at its current location. No additional clearing of vegetation will be required.

Permitted Land Uses

The transmission lines that will be upgraded in Benton as part of the MPRP are “essential services.” Pursuant to Section 14 and Table 1 (page 9 of the Town of Benton Shoreland Zoning Ordinance), essential services may be allowed by the Planning Board under certain conditions within the Resource Protection and Stream Protection districts; essential services a permitted use within the Limited Residential District with approval from the Planning Board. Essential services are subject to the specific requirements of Section 15(L)(2) of the Ordinance, addressed below.

Land Use Standards: Shoreland Zoning Ordinance Section 15

A. Minimum Lot Standards

Not applicable.

B. Principal and Accessory Structures

Not applicable.

C. Piers, Docks, Wharfs, Bridges, etc.

Not applicable.

D. Campgrounds

Not applicable.

E. Individual Private Campsites

Not applicable.

F. Commercial and Industrial Uses

Not applicable.

G. Parking Areas

There will be no parking areas associated with the project within the Resource Protection District.

H. Roads and Driveways

There will be no new permanent roads or driveways associated with the project, other than CMP-maintained access points and access ways suitable for routine and urgent maintenance by its own vehicles. Temporary light duty access paths, which are not considered to be roads or driveways, will not add any impervious surface area, and will be established for use during the construction phase including construction within the Resource Protection district. This will be an ongoing process as access will be established to areas undergoing immediate construction. All access paths are temporary and will be removed once construction is complete. Areas where soils have been disturbed will then be mulched with hay. Vegetation will be allowed to reestablish once the temporary access ways have been removed.

Measures will be taken to avoid and minimize impacts to streams and wetlands through the use of crane mats, temporary bridges, geo-textile fabrics, and culverts, when necessary. Appropriate erosion controls will be installed wherever necessary. If necessary, mats will be placed parallel to the upland edge as abutments to further protect bank stability and establish stability. No extensive grubbing (grading to remove root

systems) within wetland crossing areas will be done prior to mat placement. However, some minor grading may be required to ensure mat stability and construction access safety. Streams that are too wide to cross with crane mats or temporary bridges will be avoided.

I. Signs

There will be no signage associated with the project.

J. Storm Water Runoff

With the exception of the immediate area occupied by the support structures, there is no increase in impervious surface area associated with the transmission line. Therefore, there will be no significant storm water run-off generated from the project. All new construction shall be designed to minimize storm water runoff from the site in excess of the natural predevelopment conditions.

K. Septic Waste Disposal

Not applicable.

L. Essential Services

A guiding principle in the design of the MPRP transmission line upgrades has been to utilize the existing transmission line corridors to the maximum extent possible. Only where existing corridors cannot accommodate the proposed upgrades while meeting safety and reliability standards is CMP seeking to widen the existing corridors. Creating an entirely new corridor is a last resort. As a result, the vast majority of the transmission line upgrades proposed as part of the MPRP is located within or immediately adjacent to existing corridors. Co-location of the transmission line upgrades, as opposed to the creation of new corridors, has multiple benefits, including the minimization of impacts to communities, individual property owners, and the environment.

1) Within the Town of Benton, the transmission line upgrades will take place within existing corridors, with the exception of the Section 67 corridor where an additional 40-50 feet of land will be acquired along the west side for installation of the new 345kV line.

2) The corridor along which the new and/or rebuilt transmission lines will run crosses the Resource Protection District in two places along the Sebasticook River. Within the corridor, CMP has, to the greatest extent practicable, sited each structure so as to avoid, and where unavoidable to minimize, adverse impacts to surrounding uses and resources. As part of this avoidance and minimization effort, CMP has attempted to site the structures so that none is located within these districts. In the Town of Benton, the two areas along the Sebasticook River where the project is located in the Resource Protection District cannot be entirely spanned.

There is no reasonable alternative to locating these structures within the Resource Protection District. The amount of ground disturbance associated with the planned

structures will be small, i.e., limited to the immediate vicinity of the pole placements (approximately 40 square feet per pole), and because the project is within the existing transmission line corridor (which contains structures of a similar bulk and style), locating structures within these districts causes the least overall impact when compared to the alternatives. Avoiding these districts would require expanding or moving the existing transmission line corridor or erecting much taller and much more substantial structures to achieve the required spans over this district. The overall environmental and visual impacts of either of these alternatives would be much greater than the impacts associated with the project as planned (see the sections related to specific impacts to the Shoreland Zone District on pages 17 and 18).

M. Mineral Exploration and Extraction

Not applicable.

N. Agriculture

Not applicable.

O. Timber harvesting

Not applicable.

P. Clearing of Vegetation for Development

Some clearing of vegetation will be required within the service corridor to accommodate the project and ensure that the project meets federal reliability and safety standards (in accordance with P(1) of this Standard). The amount of clearing will be limited to that which is necessary for development of the project, and is generally limited to removal of species that are capable of growing tall enough to interfere with the transmission lines (so-called "capable species"). Non-capable species are allowed to remain to ensure that the corridor is vegetated, which prevents erosion and provides wildlife habitat. No grubbing (i.e., stump removal) will take place. (See Exhibit 1, Map 3, and the section related to specific impacts to the Shoreland Zone District on page 17).

Q. Erosion and Sedimentation Control

With the exception of the immediate area around the base (poles measure five to six square feet) of the support structures there will be no increase in impervious surface area associated with the transmission line. The amount of ground disturbance associated with this project will be limited to the immediate vicinity of the pole placements and the impacts associated with access roads. CMP has developed a standard manual, "Environmental Guidelines for Construction and Maintenance Activities on Transmission line and Substation Projects" (2007), which it uses as a routine part of all transmission and substation projects (see Exhibit 6). This manual contains erosion and sedimentation control requirements, standards, and methods that will be used to protect soil and water resources during construction of the various MPRP components. The manual was developed in consultation with the Maine Department of Environmental Protection

(MDEP) and is based on MDEP's *Maine Erosion and Sediment Control BMPs*, dated March 2003, and DEP's Chapter 500, and contains specific Best Management Practices appropriate for electric transmission line and substation construction. These guidelines will be followed in the construction of transmission lines.

R. Soils

Based on analysis of the Soil Survey Geographic Database compiled by the United States Department of Agriculture – Natural Resources Conservation Service, soils within the transmission line corridor will accommodate the proposed MPRP construction activities. Soil constraints within the transmission line corridor will be managed and mitigated through implementation of erosion and sediment control measures, proper site and project design, and special construction procedures. If concrete foundations for specific poles should need to be constructed, soil borings will be conducted and the foundations will be designed in accordance with soil characteristics.

S. Water Quality

To minimize spill potential during construction, no fueling or maintenance of vehicles will be performed within 100 feet of wetlands, streams or other sensitive natural resources. After construction, the electrical transmission line corridor is maintained to encourage the growth of scrub-shrub vegetation. Trees within the corridor that are capable of growing up into the conductors ("capable species") must be removed for safety and reliability reasons. CMP uses a selective herbicide program to treat an area once every four years to maintain an early successional stage of growth. Herbicide is selectively applied (using a low-pressure backpack applicator) to capable species to prevent growth (or re-growth of a cut plant) of individual plants. CMP does not use herbicides within 25 feet of any waterbody or wetland with standing water. Crew forepersons are certified by the Maine Pesticide Control Board, and all herbicides are EPA registered. The selective use of herbicides within the transmission line corridor does not impose a threat to groundwater quality and will not impair designated uses or the water classification of the water body.

T. Archaeological and Historic Resources

Following consultation with the Maine Historic Preservation Commission (MHPC) CMP has conducted extensive investigations of potential pre-historic archaeological, historic archaeological and historic architectural surveys along the project corridor. Survey reports have been submitted to the MHPC. TRC Engineers, LLC confirmed, on behalf of CMP, that these surveys documented no archaeological or historic resources within the project area in the Town.

Approval Standards: Shoreland Zoning Ordinance Section 16(D)**The proposed use will:****1. Maintain safe and healthful conditions**

The project will maintain the same safe and healthful conditions already present in the transmission line corridor. The transmission line corridor and the structures within it are maintained to established industry standards so as to ensure the safety of utility workers and the general public. Maintaining sufficient clearances around the conductors is paramount to the safe operation of the line. These clearances are achieved through appropriate siting of the structures themselves and through vegetation maintenance practices as described above. All construction will be in accordance with CMP's transmission standards, general industry standards, and "Good Utility Practice," including all necessary live line working clearances, strength factors, and reliability factors as governed by the National Electrical Safety Code (NESC). In all instances, the line will be designed to meet or exceed the NESC and other standards, as applicable. The transmission line and all facilities will be operated in full compliance with CMP safety standards, which fully comply with Federal Occupational Safety & Health Administration requirements.

2. Not result in water pollution, erosion, or sedimentation to surface waters.

As described above with respect to Shoreland Zoning Ordinance Sections 15(J) and (S) on pages 18 and 21, the MPRP project will not result in water pollution, erosion, or sedimentation to surface waters.

3. Adequately provide for the disposal of all wastewater.

There will be no wastewater disposal required for the transmission line project, and therefore this standard has been met.

4. Not have an adverse impact on spawning grounds, fish, aquatic life, bird, or other wildlife habitat.

Impacts to spawning grounds, fish, aquatic life, bird, or other wildlife habitat will be largely avoided through the use of the existing service corridor, which has been in place for several decades. In general, given the existing landscape characteristics of the site, construction and maintenance of the project is not expected to create conditions that are not already common to the project area. It is fully anticipated that local wildlife populations will adapt and respond to any additional alterations much as they already do to ongoing land uses within the vicinity of the proposed project. Therefore, impacts to wildlife are expected to be minimal to non-existent. Identified significant wildlife habitats and natural areas, such as vernal pools and rare plant locations, will be avoided and minimized to the extent practicable through careful siting and placement of poles. Once installed, the transmission line structures, due to the minimal amount of ground surface area they occupy, will have no significant impact on these natural areas. Significant wildlife habitats and natural areas will be avoided to the greatest extent practicable during construction, including measures that are taken to ensure any impacts will be minimal and temporary. Thus, this standard has been met. See attached

maps (Exhibit 1) and the section related to specific impacts to the Shoreland Zone District on page 17.

5. Conserve shore cover and visual, as well as actual, points of access to inland waters.

Within the shoreland zone, the proposed project will take place primarily within the existing right-of-way, which already contains structures of a similar nature. The proposed project will not block or otherwise significantly affect visual points of access to inland waters, and will have no impact on actual points of access to inland waters. The corridor will continue to be maintained in a vegetated state, thereby preserving a similar degree of shore cover which currently exists.

6. Protect archaeological and historic resources as designated in the comprehensive plan.

As discussed above on page 22 with respect to Shoreland Zoning Ordinance Section (15)T, the project will not impact any archaeological and historic resources designated in the comprehensive plan.

7. Will avoid problems associated with floodplain development and use.

The project area will traverse three 100-year floodplain areas as shown on the Federal Emergency Management Agency's (FEMA's) Flood Insurance Rate Maps (FIRM); all or portions of which are within shoreland zoning districts. Because of the nature of a transmission line and the minimal additional impervious surface associated with the project, construction and maintenance of the proposed transmission line will not cause or increase flooding or cause a flood hazard to any neighboring structures. Furthermore, the program will not affect runoff or infiltration relationships. Thus, the project will avoid problems associated with floodplain development and use.

Sebasticook River - north. The Section 67 corridor traverses approximately 300 feet (one acre) of a floodplain associated with the Sebasticook River near the Gogan Road. The installation of two structures as part of the new 345kV line will take place just outside the floodplain. A small amount of vegetation clearing to remove "capable species" will be required within the floodplain.

Sebasticook River – south. The Section 67A/84 corridor traverses approximately 150 feet (0.7 acres) of a floodplain along the west side of the Sebasticook River near the Winslow Town line. The installation of a new structure to replace the existing structure as part of the Section 84 transmission line rebuild will take place within the floodplain approximately 80 feet from the river. The structure will not be located within the floodway.

Kennebec River. The Section 67A corridor traverses a five to ten-foot wide floodplain area along the east side of the Kennebec River. There are no structures currently located or to be located within the floodplain.

8. Be in conformance with the provisions of Section 15, Land Use Standards.

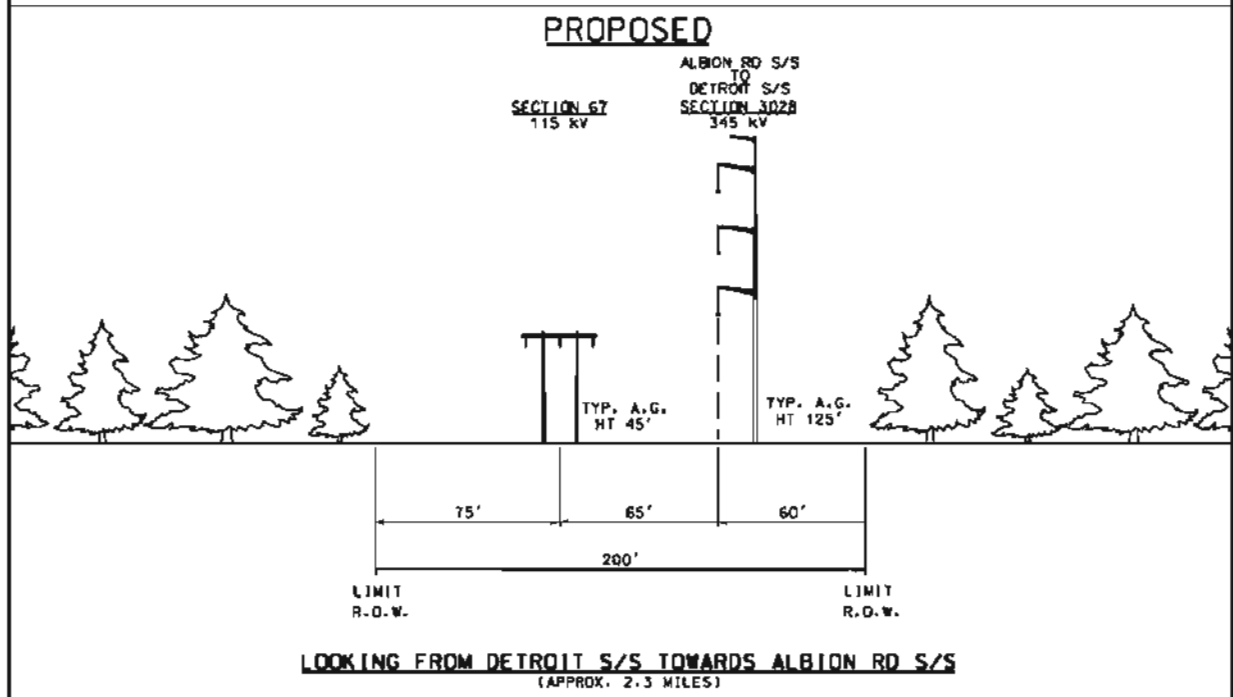
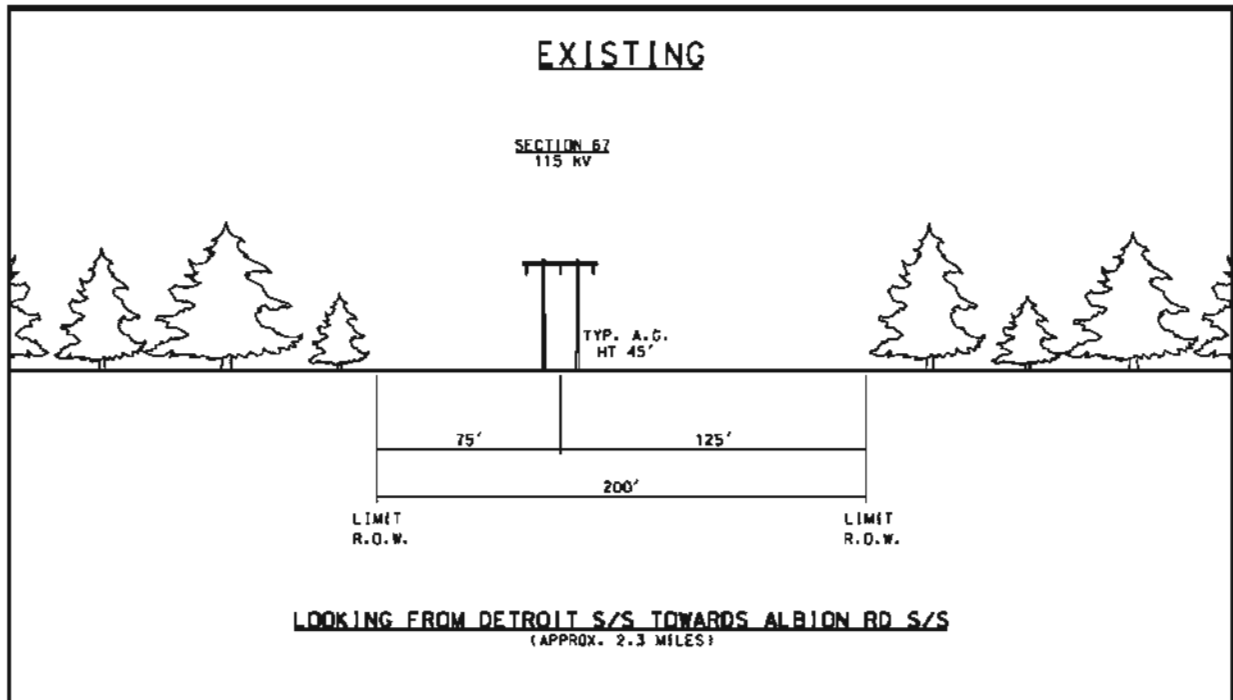
As discussed above with respect to Shoreland Zoning Ordinance Sections 15(A) through (T), above, this project complies with all of the provisions of Section 15 of the Shoreland Zoning Ordinance.

PART FOUR

EXHIBIT 1

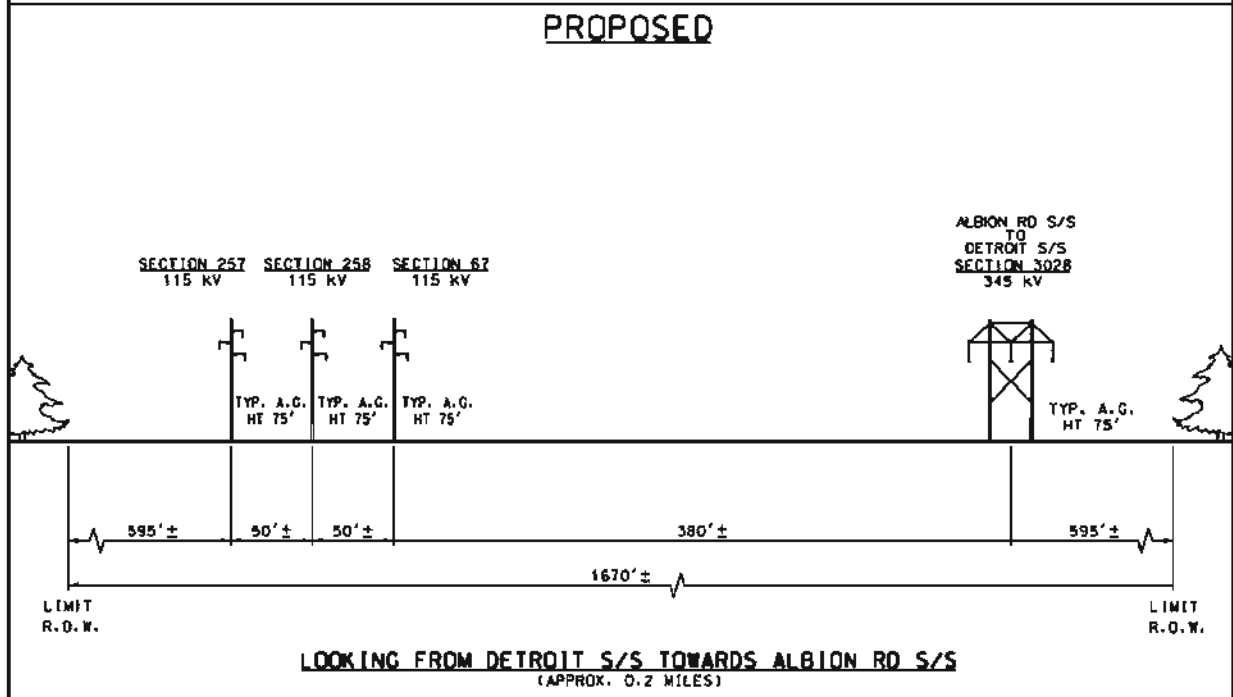
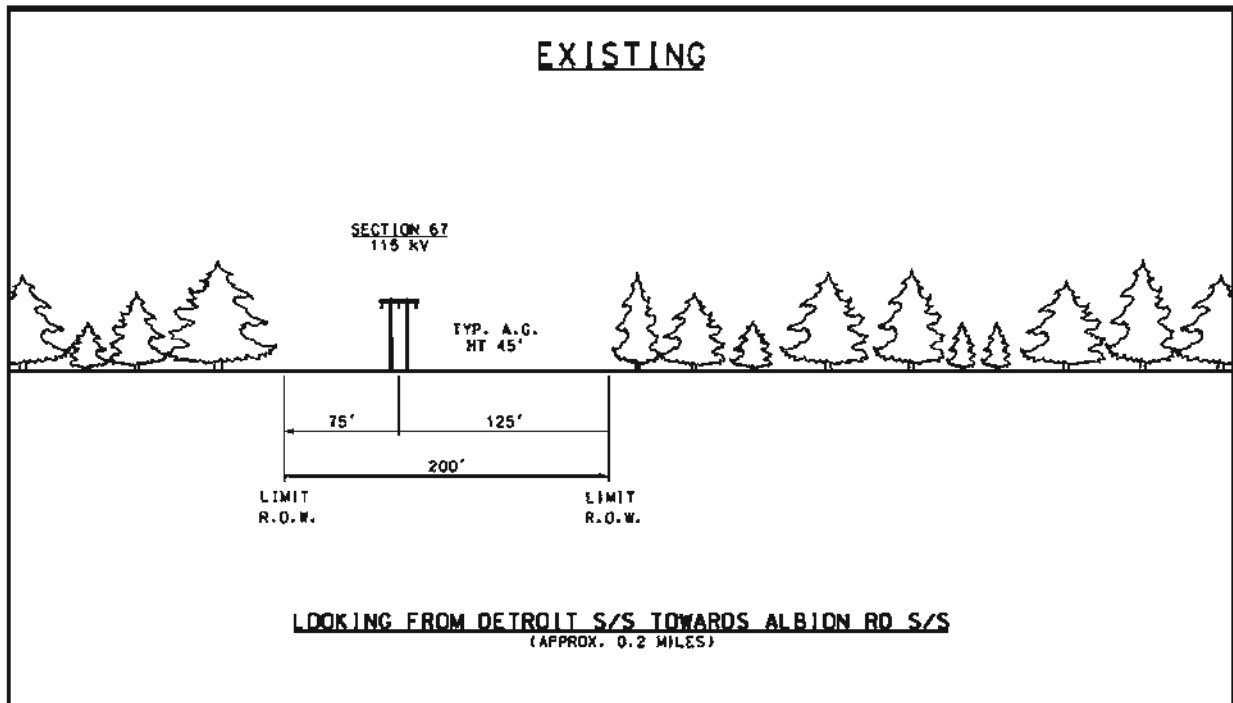
**Transmission Line Corridor with Topo Maps, Sensitive Habitats
and Hydrographic Features**

EXHIBIT 2
Transmission Line Configuration Cross Sections



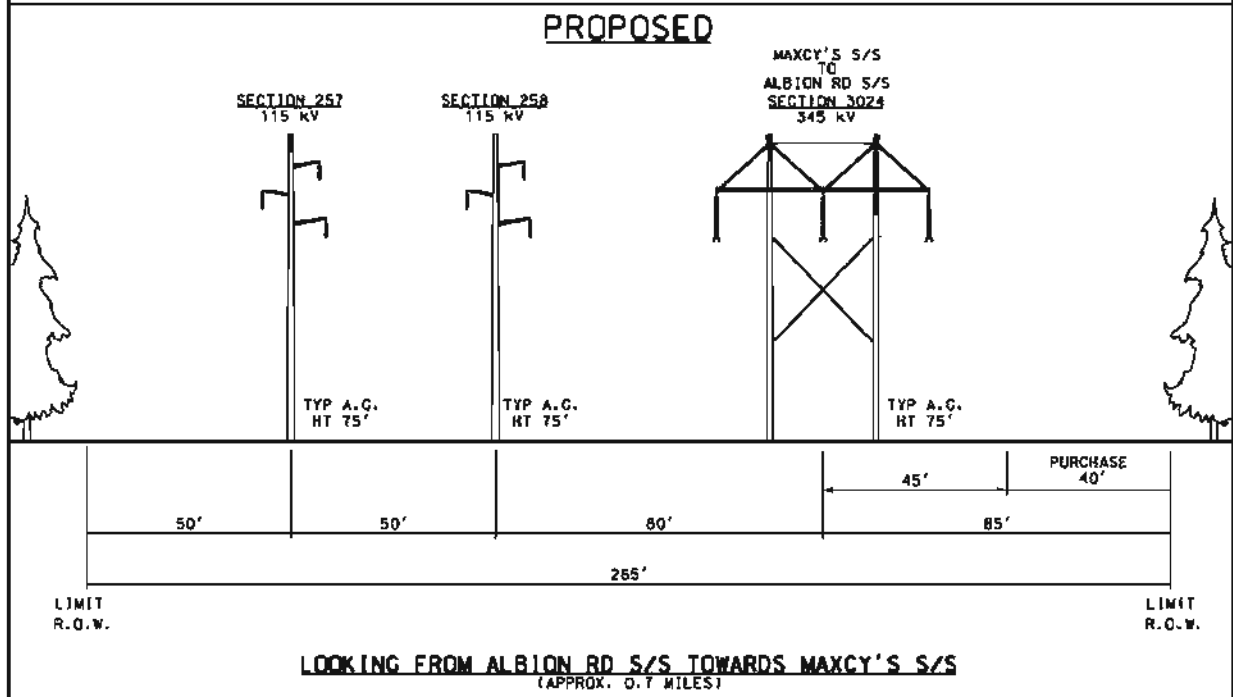
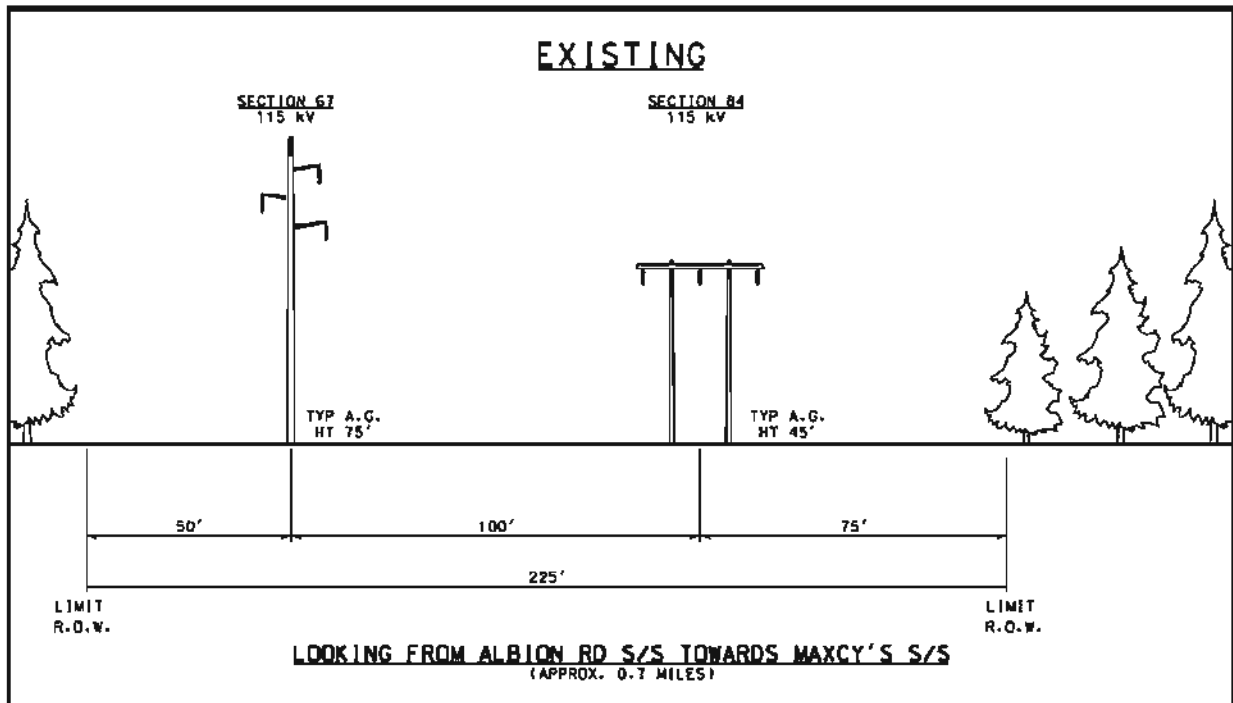
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EXISTING AND PROPOSED R.O.W. ALTERNATIVE N5 FOR N-1-1 ANALYSIS				
ENG. CONTRACTOR		CHECKED	DESIGNED K.J.F.	DATE 12/16/08
		SGW	DRAWN SAT	APPR.
		01/06/09		
A ISSUED FOR REVIEW 01/16/08 PEI		CENTRAL MAINE POWER CO.		
		TRANSMISSION ENGINEERING		
NO.	REVISION	DATE	BY	SCALE NTS
		SEGMENT 9		
				SHEET N5-9-14-ENG-OPT



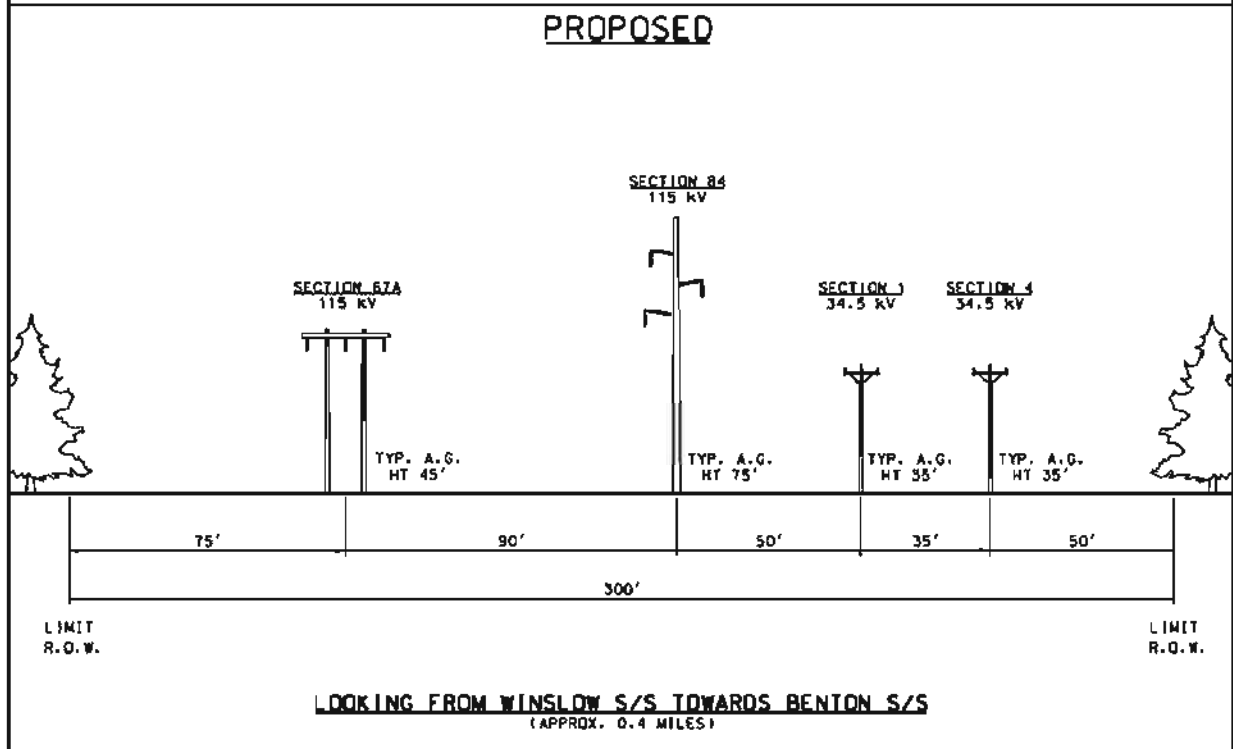
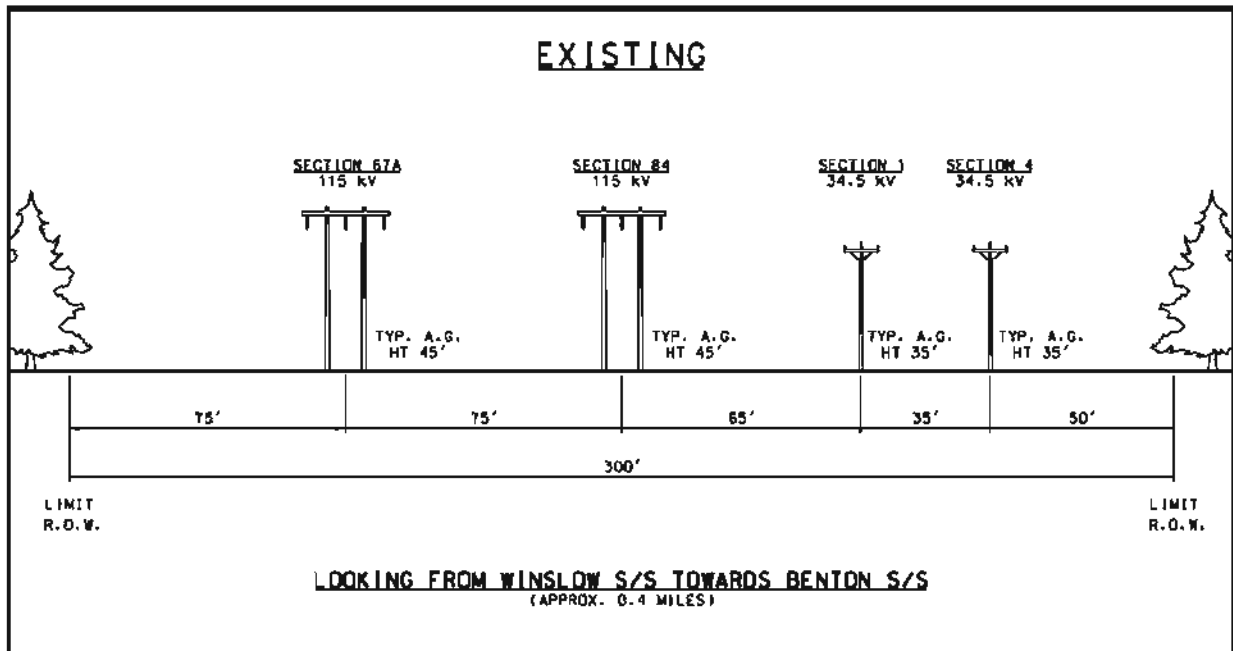
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		CHECKED	DESIGNED	DATE
		SGW	KJF	12/16/08
		01/06/09	SAT	APPR.
ISSUED FOR REVIEW		CENTRAL MAINE POWER CO.		SEGMENT 9
01/16/08		TRANSMISSION ENGINEERING		SHEET N5-9-16-ENG-OPT
NO.	REVISION	DATE	BY	SCALE
				NTS



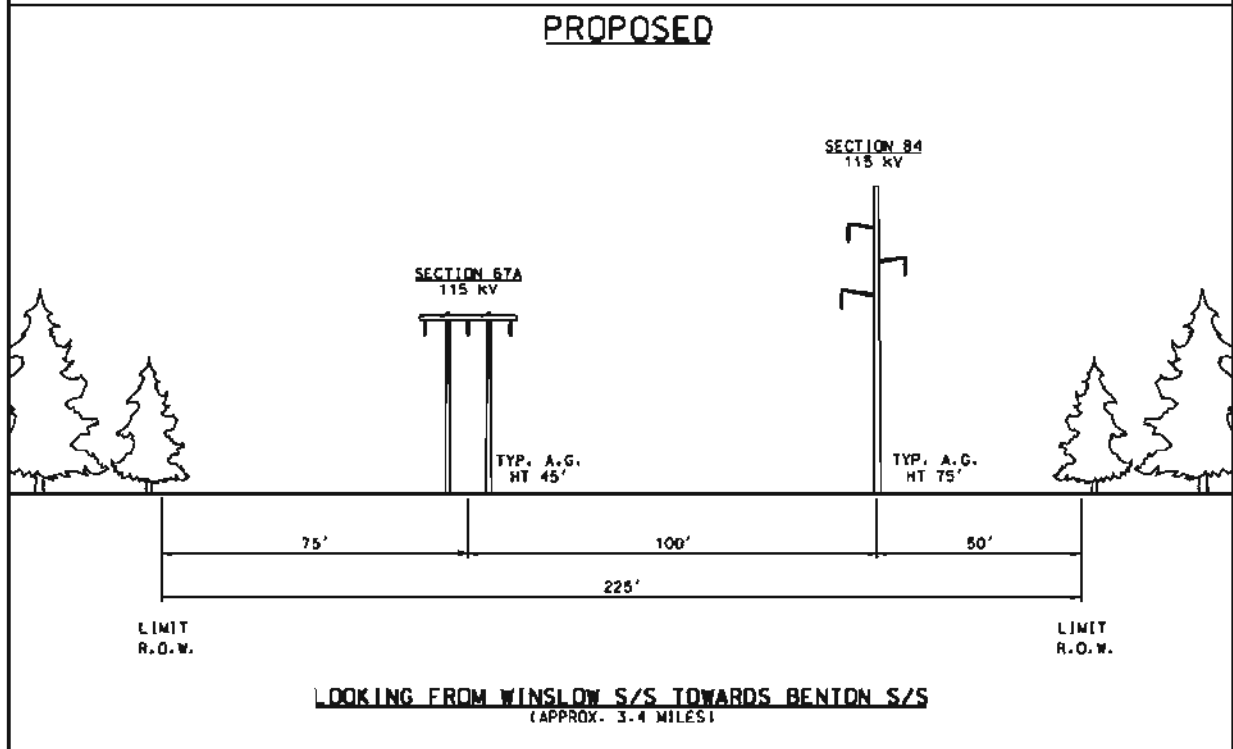
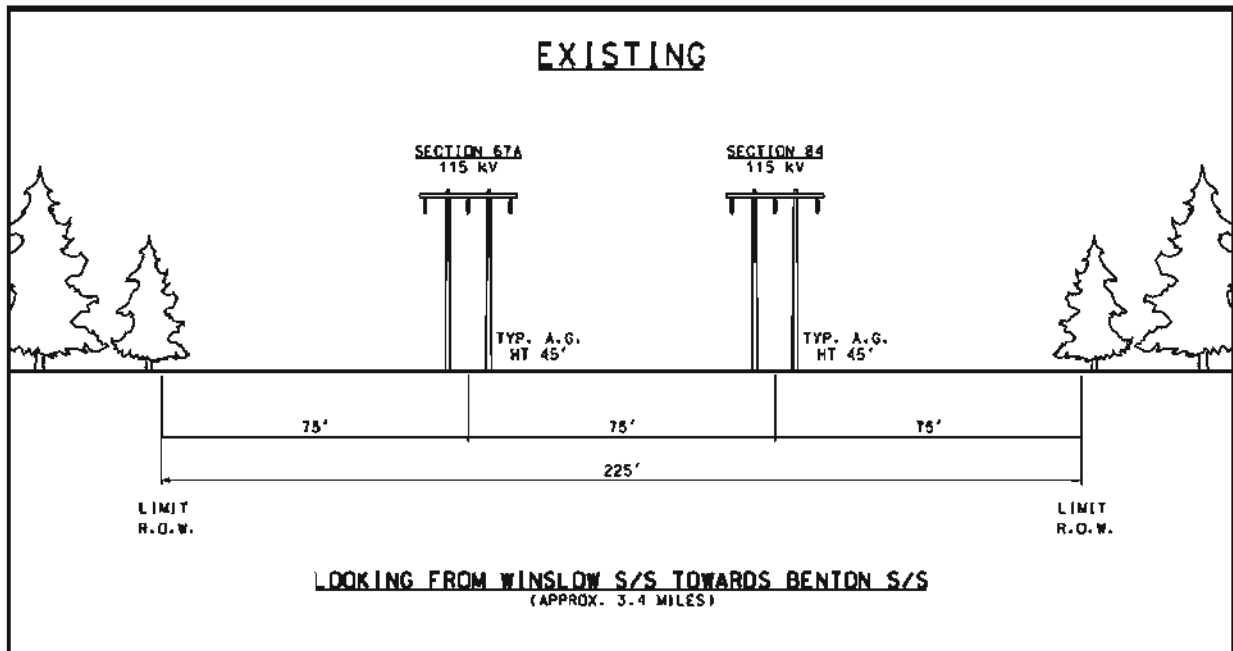
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		CHECKED	DESIGNED	KJF	DATE 12/16/08
		SGW	01/06/09	SAT	APPR.
		CENTRAL MAINE POWER CO.			SEGMENT 10
		TRANSMISSION ENGINEERING			SHEET N5-10-2-ENG-OPT
NO.	REVISION	DATE	BY	SCALE	NTS
A	ISSUED FOR REVIEW	01/20/09	PD		



THIS DRAWING SHALL BE REVISED ON THE CAD SYSTEM ONLY

- DRAFT - FOR REVIEW ONLY				SECTION 84		POLE 12 TO 16		STA. 54+61 TO 73+85	
ENG. CONTRACTOR				MAINE POWER RELIABILITY PROGRAM					
				EXISTING AND PROPOSED R.O.W.					
				ALTERNATIVE N5 FOR N-1-1 ANALYSIS					
		CHECKED		DESIGNED		DATE		SEGMENT 10A	
		SGW		3/04/08		10/11/07			
B		REVISED SCOPE		12/9/08		PEI		SHEET N5-10A-3	
A		ISSUED FOR REVIEW		3/10/08		PEI			
NO.		REVISION		DATE		BY		SCALE	
								NTS	
				CENTRAL MAINE POWER CO. TRANSMISSION ENGINEERING					



THIS DRAWING SHALL BE REVISED ON THE CAD SYSTEM ONLY

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ENG. CONTRACTOR				MAINE POWER RELIABILITY PROGRAM		
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				SGW	KJF	10/11/07
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				CENTRAL MAINE POWER CO.		
				TRANSMISSION ENGINEERING		
NO.	REVISION	DATE	BY	SCALE	SEGMENT 10A	
				NTS	SHEET N5-10A-4	

EXHIBIT 3
Structure Height Table

**Above Ground Height Range
New Transmission Poles – Town of Benton**

Pole Height (in feet)	Number of Poles
51 – 60	2
61 – 70	37
71 – 80	36
81 – 90	19
91 – 100	4
101 - 110	2
111 - 120	2
121 - 130	4
131 - 140	13
141 - 150	2
Total	121

EXHIBIT 4
Albion Road Substation
Grading and General Location Plans

EXHIBIT 5

**Abutting Landowners
and
CMP Deed Reference Table**

EXHIBIT 6

**Central Maine Power Company
Environmental Guidelines for Construction and Maintenance
Activities on Transmission Line
and Substation Project**