

FLOOD HAZARD DEVELOPMENT APPLICATION

Durham, Maine

(All applicants must complete entire application)
[60.3(c&d)]

Application is hereby made for a Flood Hazard Development Permit as required under Article II of the Floodplain Management Ordinance of Durham, Maine, for development as defined in said ordinance. This permit application does not preclude the need for other municipal permit applications.

Owner: Central Maine Power Company
c/o Doug Herling

Address: 83 Edison Drive
Augusta, ME 04336

Phone No.: 207-626-4006

Applicant: Alison Truesdale, TRC

Address: 400 Southborough Drive
South Portland, ME 04106

Phone No.: 207-879-1930 x 135

Contractor: To Be Determined

Address:

Phone No.:

LEGAL DESCRIPTION

Is this part of a subdivision? Yes No If yes, give the name of the subdivision and lot number:

Subdivision: _____ Lot #: _____

Tax Map: _____ Lot #: _____

Address: _____
Street/Road Name

Zip Code: _____
Town/Zip Code

General explanation of proposed development: The Maine Power Reliability Program (MPRP) is a project of Central Maine Power Company (CMP) to upgrade the bulk electrical power system throughout much of its service area. In Durham, the project involves construction of one new 345 kV electrical transmission line within the existing corridor on the western side of the Town: Segment 17. Thirty-six structures on Section 3026 will be constructed within this corridor.

Estimated Value of Proposed Development: \$7.5 million (total project costs in Durham, including development outside flood hazard areas.)

Proposed Lowest Floor elevation [for new or substantially improved structure]: NA

OTHER PERMITS

Are other permits required from State or Federal jurisdictions? Yes No
If yes, are these other permits attached? Yes No Not Applicable

TYPE OF DEVELOPMENT

Check the appropriate box to the left of the type(s) of development requested and complete information for each applicable line:

<input type="checkbox"/> 1. Residential Structure	Dimensions		Cubic Yards
<input type="checkbox"/> 1a. New Structure	<u>NA</u>	<input type="checkbox"/> 7. Filling ¹	<u>NA</u>
<input type="checkbox"/> 1b. Add to Structure	<u>NA</u>	<input type="checkbox"/> 8. Dredging	<u>NA</u>
<input type="checkbox"/> 1c. Renovations/repairs/maintenance		<input type="checkbox"/> 9. Excavation	<u>NA</u>
<input type="checkbox"/> 2. Non-Residential Structure		<input type="checkbox"/> 10. Levee	<u>NA</u>
<input type="checkbox"/> 2a. New Structure	<u>NA</u>		Number of Acres
<input type="checkbox"/> 2b. Add to Structure	<u>NA</u>	<input type="checkbox"/> 12. Mining	<u>NA</u>
<input type="checkbox"/> 2c. Renovations/repairs/maintenance			
<input type="checkbox"/> 2d. Floodproofing		<input type="checkbox"/> 13. Dam: Water surface to be created	<u>NA</u>
<input type="checkbox"/> 3. Accessory Structure	<u>NA</u>	<input type="checkbox"/> 14. Water Course Alteration	<u>NA</u>
<input type="checkbox"/> 4. Functionally Dependent Use:		Note: Detailed description must be attached with copies of all applicable notifications, state and federal permits.	
<input type="checkbox"/> 4a. Dock	<u>NA</u>	<input type="checkbox"/> 15. Storage of equipment or materials	
<input type="checkbox"/> 4b. Pier	<u>NA</u>	<input type="checkbox"/> 16. Sewage Disposal System	
<input type="checkbox"/> 4c. Boat Ramp	<u>NA</u>	<input type="checkbox"/> 17. Water Supply System	
<input type="checkbox"/> 4d. Other	<u>NA</u>	<input checked="" type="checkbox"/> 18. Other: Explain <u>Minor Development: installation of four transmission structures within the floodplain of Runaround Brook and Libby Brook</u>	
<input type="checkbox"/> 5. Paving	<u>NA</u>		
<input type="checkbox"/> 6. Conditional Use (Lobster/Fish Shed seaward of mean high tide)			

Note: Conditional Use requires add'l information due to specific standards, public hearing, and Planning Board review.

Attach a Site Plan – Drawn to scale with north arrow. See Exhibit 2 of the attached application.

- Show property boundaries, floodway, and floodplain lines.
- Show dimensions of the lot.
- Show dimensions and location of existing and/or proposed development on the site.
- Show areas to be cut and filled.

Attach Statement – describing in detail how each applicable development standard in Article VI will be met. See the attached application.

For New Construction or Substantial Improvement also show:

- Existing and proposed grade elevations adjacent to the walls of the structure done by a Professional land Surveyor, Architect, or Engineer.
- Location and elevation of temporary elevation reference marks on the site.

Special Note:

Substantial Improvement is defined as any reconstruction, rehabilitation, addition or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the start of construction of the improvement. Please refer to the floodplain management ordinance, Article XIV, for more complete definitions of New Construction and Substantial Improvement.

¹ Certain prohibitions apply in Velocity Zones

The applicant understands and agrees that:

- The permit applied for, if granted, is issued on the representations made herein;
- Any permit issued may be revoked because of any breach of representation;
- Once a permit is revoked all work shall cease until the permit is reissued or a new permit is issued;
- Any permit issued on this application will not grant any right or privilege to erect any structure or use any premises described for any purposes or in any manner prohibited by the ordinances, codes, or regulations of the municipality;
- The applicant hereby gives consent to the Code Enforcement Officer to enter and inspect activity covered under the provisions of the Floodplain management Ordinance;
- If issued, the permit form will be posted in a conspicuous place on the premises in plain view; and,
- If issued, the permit will expire if no work is commenced within 180 days of issuance.

I hereby certify that all the statements in, and in the attachments to this application are a true description of the existing property and the proposed development project.

Owner: _____ Date: _____

Signature

or

Authorized Agent: _____ Date: _____

Signature

(This section to be completed by Municipal Official)

Date: Submitted _____; Fee Paid _____; Reviewed by CEO _____; Reviewed by Planning Board _____

Permit # _____ Issued by _____ Date _____

FLOOD HAZARD DEVELOPMENT PERMIT
For Minor Development
Durham, Maine

(For Development not considered a Substantial Improvement)

This Flood Hazard Development Permit allows minor development as provided in Article V.F.3. of the Floodplain Management Ordinance of Durham, Maine, for development in a Special Flood Hazard Area as defined in said ordinance. Development authorized by this permit must be adequately anchored to prevent flotation, collapse, or lateral movement resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy, be constructed with materials resistant to flood damage and be constructed by methods and practices that minimize flood damage. This permit is issued based on documentation that the information provided in the Flood Hazard Development Permit Application is in compliance with the Floodplain Management Ordinance.

<u>Tax Map:</u>	<u>Lot #:</u>
12	25
13	12
9	16

See Exhibit 4, Right Title or Interest in Transmission Line Corridor for deed references evidencing CMP's right, title and interest in the utility corridor.

Project Description: The Maine Power Reliability Program (MPRP) is a project by CMP to upgrade Maine's bulk power system. The portion of the project within Durham's floodplains involves installing a new 345 kV transmission line within the existing corridor, including 36 H-frame structures. The project proposes minor development in three A zones, as described in the attached application. This development is defined as Minor Development according to Durham's Floodplain Management Ordinance, Article XIII. See also Exhibit 1 of the application.

The permittee understands and agrees that:

- The permit is issued on the representations made herein and on the application for permit;
- The permit may be revoked because of any breach of representation;
- Once a permit is revoked all work shall cease until the permit is reissued or a new permit is issued;
- The permit will not grant any right or privilege to erect any structure or use any premises described for any purposes or in any manner prohibited by the ordinances, codes, or regulations of the municipality;
- The permittee hereby gives consent to the Code Enforcement Officer to enter and inspect activity covered under the provisions of the Floodplain Management Ordinance;
- The permit form will be posted in a conspicuous place on the premises in plain view; and,
- The permit will expire if no work is commenced within 180 days of issuance.

I hereby certify that all the statements in, and in the attachments to this permit are a true description of the existing property and the proposed development project.

Owner: _____ Date: _____
Signature

or

Authorized Agent: _____ Date: _____
Signature

Issued by: _____ Date: _____

Permit #: _____



MAINE POWER RELIABILITY PROGRAM

A CENTRAL MAINE POWER COMPANY PROGRAM

DURHAM, MAINE FLOODPLAIN MANAGEMENT PERMIT APPLICATION

Prepared for:

Central Maine Power Company
83 Edison Drive
Augusta, Maine 04336

Prepared by:



TRC Engineers, LLC
400 Southborough Drive
South Portland, Maine 04106

October 2010

FLOODPLAIN MANAGEMENT PERMIT APPLICATION

Central Maine Power Company's Maine Power Reliability Program will cross three FEMA-mapped 100-year Flood Zones within Durham, as shown on the FEMA Flood Insurance Rate Maps (FIRMs) (Community Panel No. FM2300020010B and FM2300020015B, May 4, 1988).

The flood hazard areas within corridor Segment 17 is associated with:

1. Runaround Brook in the southwestern part of town (two stems of the stream, both Zone A), and
2. Libby Brook in the central western part of town, where the corridor crosses Stackpole Road (Zone A).

Two permanent structures are proposed within the flood hazard areas near Runaround Brook. Transmission structure 3026-132 will be installed in the floodplain and floodway of Runaround Brook, and structure 3026-130 will be installed in the floodplain and floodway of the northern tributary to Runaround Brook. There are now four transmission structures within the floodplain of Runaround Brook and its tributary, with two of these in each of the floodways (62-103 and 62-100). Both the existing and proposed structures will have two poles per structure, approximately 3 feet wide.

Two permanent structures are proposed within the flood hazard areas near Libby Brook. Structure 3026-119 will be installed just north of Stackpole Road, but south of the brook and just outside of the floodway; structure 3026-118 will be installed on the north side of the brook, within the floodway. Currently, there are thirteen transmission structures within this floodplain, seven of which are within the floodway. All of the existing and proposed structures are double-pole structures.

The table below summarizes the existing and proposed structures within the floodplains and floodways:

Map #	Water Course	+ = new 0 = existing, remains	Section	Pole #	Number of Poles per Structure	Floodway?
1	Runaround Brook	+	3026	132	2	yes
1	Runaround Brook	0	62	103	2	yes
1	Runaround Brook	0	64	218	2	no
1	Tributary to Runaround Brook	+	3026	130	2	yes
1	Tributary to Runaround Brook	0	62	100	2	yes
1	Tributary to Runaround Brook	0	64	215	2	no
2	Libby Brook	0	62	89	2	no
2	Libby Brook	0	62	87	2	no
2	Libby Brook	0	62	86	2	yes
3	Libby Brook	0	64	200	2	no

Map #	Water Course	+ = new 0 = existing, remains	Section	Pole #	Number of Poles per Structure	Floodway?
3	Libby Brook	0	62	85	2	yes
3	Libby Brook	0	64	199	2	yes
3	Libby Brook	0	62	84	2	yes
3	Libby Brook	0	64	198	2	yes
3	Libby Brook	+	3026	119	2	no
3	Libby Brook	0	62	83	2	yes
3	Libby Brook	0	64	197	2	yes
3	Libby Brook	0	62	82	2	no
3	Libby Brook	0	64	196	2	no
3	Libby Brook	0	64	195	2	no
3	Libby Brook	+	3026	118	2	yes

CMP proposes to install temporary accessways to cross the flood zone during construction. A temporary bridge will be installed over the southern branch of Runaround Brook, but not the northern one. Access across Libby Brook will be via the Stackpole Road. The temporary bridge over Runaround Brook and all accessways will be removed after construction, and the ground restored. Measures will be taken to avoid and minimize impacts to the river, streams, and wetlands through the use of crane mats, temporary bridges, geo-textile fabrics, and culverts, if necessary.

Approximately 1.6 acres of clearing of “capable species” are proposed within the Libby Brook floodplain, and 1.0 acres of clearing of “capable species” within the Runaround Brook floodplain. Capable species are species of vegetation capable of growing tall enough to reach into the safety zone under the conductors, thereby causing a safety and reliability risk. Generally, these are tree species and sometimes tall shrubs. All other vegetation will be left intact.

CMP’s proposed construction within the flood zones is not anticipated to have any impact on flood levels.

Article III – Application for Permit

The following section includes the information requested in Article III of the Town of Durham Floodplain Management Ordinance.

A. Title, Name, Address, and Phone Number of Applicant, Owner, and Contractor

See the Flood Hazard Development Permit Application form.

B. An Address and Map Indicating the Location of the Construction Site

For the address, see the Flood Hazard Development Permit Application form. The maps provided in Exhibit 2 show the extent of the MPRP in the Town of Durham.

C. Site Plan of Existing and Proposed Development

The flood zone information from the FEMA FIRM for the Town of Durham has been incorporated into the MPRP mapping. Exhibit 2 includes aerial photo based maps showing detailed project information in Durham including the location of the CMP corridor, existing and proposed pole locations, proposed access ways, and 100-year flood zones.

D. Statement of Intended Use

The proposed development in the floodplain is part of the Maine Power Reliability Program to build one 345 kV transmission line.

E. Statement of Cost

CMP estimates that construction of the proposed project within the entire Town of Durham (and not just within the floodplain) will cost approximately \$7.5 million dollars.

F. Statement of Sewage System Type

Not applicable. No sewage system is proposed as part of this project in the Town of Durham.

G. Specification of Dimensions

The structures installed within the floodplains as part of the MPRP in Durham will each have two poles. Each pole is approximately 3 feet in diameter. Structures 3026-132 and 3026-130 near Runaround Brook will be 106 feet and 92.5 feet above ground, respectively; structures 3026-119 and 3026-118 near Libby Brook will be 92.5 and 97 feet above ground, respectively. The corridor is 400 feet wide throughout Durham, and this dimension is labeled on the maps in Exhibit 2.

H - K. Elevation Information

The standards at Sections H through K apply only to the new construction or substantial improvement of “structures” as defined in the Town of Durham Floodplain Management Ordinance. Since the structures proposed within the floodplains in Durham are considered “minor development”, this standard does not apply.

L. Water Course Alteration

No poles will be placed within any flowing waters and, as such, the project will not alter or relocate any watercourses.

M. Compliance with Article VI

The project’s compliance with the Article VI Development Standards is presented in the following section.

Article VI - Development Standards

A. All Development - All development shall:

1. *be designed or modified and adequately anchored to prevent flotation (excluding piers and docks), collapse or lateral movement of the development resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy;*

The transmission line poles proposed within the floodplain will be adequately anchored to prevent flotation, collapse, or lateral movement during a flood. In general, the poles are buried to a depth measuring ten percent of the total pole length plus two feet. For example, a 90-foot pole would be buried eleven feet below the ground surface. All construction will be conducted in accordance with CMP's transmission standards, general industry standards, and "Good Utility Practice," including all necessary live-line working clearances, strength and loading requirements, and reliability factors as governed by the NESC. In all instances, the line will be designed to meet or exceed the NESC and other standards, as applicable. The effects of buoyancy and any lateral loadings resulting from hydraulic loadings are considered where applicable, and addressed in the design to prevent flotation, collapse or unacceptable lateral movement. See the attached Engineer's Statement, Exhibit 5.

2. *use construction materials that are resistant to flood damage;*

The materials planned for use with the proposed transmission structures, including, but not limited to: wood poles, guy anchors and associated hardware all have been widely used in the industry under varying environmental conditions, including within floodplain areas, with a long history of demonstrated resistance to flood damage.

3. *use construction methods and practices that will minimize flood damage; and,*

All contracts for work performed on Central Maine Power Company (CMP) transmission line rights-of-way will include the *Central Maine Power Company Environmental Guidelines for Construction and Maintenance Activities on Transmission Line and Substation Projects (Guidelines, 2010)* to ensure the project is constructed in an environmentally conscious manner. CMP personnel or their designated representatives will ensure that the *Guidelines* are followed by inspecting all work and prescribing corrective steps to be taken where necessary. The *Guidelines* contain standards and methods used to protect soil and water resources during construction, reconstruction and maintenance of transmission lines and substations. They are based on practical methods developed for construction in utility corridors (Best Management Practices) and their use is enforced by both State of Maine and Federal regulatory agencies.

As part of the Best Management Practices identified, the *Guidelines* require project superintendents, foremen, and inspectors to monitor weather conditions and reports on an on-going basis and to modify schedules and practices when periods of rain or high water flows are expected. Such modifications may include rescheduling work and removing equipment and materials from an "area of special flood hazard" identified on the Durham Flood Insurance Rate Map in anticipation of a flood event. These practices, along with

the other Best Management Practices, will serve to minimize any flood damage that may occur during construction of the project.

3. *use electrical, heating, ventilation, plumbing, and air conditioning equipment, and other service facilities that are designed and/or located so as to prevent water from entering or accumulating within the components during flooding conditions.*

Not applicable. Project within the limits of the Town of Durham does not use electrical, heating, ventilation, plumbing, or air conditioning equipment or other service facilities.

B. Water Supply

Not applicable.

C. Sanitary Sewage Systems

Not applicable.

D. On-site Waste Disposal Systems

Not applicable.

E. Watercourse Carrying Capacity

Not applicable.

F. Residential

Not applicable.

G. Non-residential

Not applicable.

H. Manufactured Homes

Not applicable.

I. Recreational Vehicles

Not applicable.

J. Accessory Structures

K. Floodways

1. This standard does not apply, as there are no AE Zones within in the project area in Durham.
2. See the Flood Impact Study, Exhibit 4. The floodways shown on the maps in Exhibit 2 are based on the standard in K(3).

L. Enclosed Areas Below the Lowest Floor

Not applicable.

M. Bridges

Not applicable.

N. Containment Walls

Not applicable.

O. Wharves, Piers and Docks

Not applicable.

**EXHIBIT 1:
LETTER OF DETERMINATION**



JOHN ELIAS BALDACCI
Governor

MARTHA E. FREEMAN
Director

**Maine Floodplain Management Program
Environmental Review
CMP - Maine Power Reliability Project**

To: Richard Paquette, Jr.
TRC
400 Southborough Drive
South Portland, Maine 04106

1. Dates:

Submitted Date: 3/20/09

Review Date: 4/22/09

2. Community: Statewide

3. Project Name or I. D. Central Maine Power Company
Maine Power Reliability Project

4. Submitted By: Richard Paquette, Senior Environmental Scientist

5. Reviewed By:

Sue Baker, State Floodplain Coordinator

6. Funding Sources: Private – No federal money

7. Type of Project: New/replacement electricity transmission lines

8. Floodplain Map Enclosed? No

9. Reviewer comments:

Based on the material you have submitted, portions of this project will be in a mapped Special Flood Hazard Area as designated on FEMA's Flood Insurance Rate Maps. Portions of the project may also be located in the floodway.

For this type of project, I offer the following guidance:

Local Floodplain Ordinance

It is important to always refer to the local Floodplain Management Ordinance to be sure the community has not adopted any standards that are more restrictive than the state standards, however, the following comments summarize the requirements in most local floodplain ordinances.

The Local FPM Ordinance will require that “all necessary permits have been obtained from those federal, state and local government agencies from which prior approval is required by federal or state law”, prior to the local FPM permit being issued.

All developments in areas of special flood hazard shall meet the following applicable standards (Article VI-1.4):

1. be designed or modified and adequately anchored to prevent flotation (excluding piers and docks), collapse or lateral movement of the development resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy;
2. use construction materials that are resistant to flood damage;
3. use construction methods and practices that will minimize flood damage; and,
4. use electrical, heating, ventilation, plumbing, and air conditioning equipment, and other service facilities that are designed and/or located so as to prevent water from entering or accumulating within the components during flooding conditions.

Floodway Impact

If transmission line poles are being replaced within the floodway, and the new poles are same diameter, then it will not be necessary to obtain a “no rise” certification. If new poles are being proposed within the floodway, then an engineer must certify to one of two standards below, depending on whether there is a mapped floodway:

- For projects located in zone A and AE, with no regulatory floodway designated on the FIRM, an engineer’s certification is needed to demonstrate that the project will not cause any more than a one foot rise in the base flood elevation. In Maine, half the width of the floodplain (on each side of the river, brook, or stream) is considered the default floodway.
- For projects located in a designated floodway, the applicant must demonstrate, with an engineer’s certification, that the project will not cause any rise in the BFE.

Other considerations for work in a floodplain include the use of Best Management Practices for erosion control, timing construction for drier times of year, and storing equipment out of the floodplain or above the flood elevation.

Type of Local Permit

Transmission lines and poles do not meet the definition of a “structure” under the NFIP, however, it is considered “development” so a local “minor” development permit is appropriate.

Thank you for the opportunity to review this project. Please do not hesitate to contact the Maine Floodplain Management Program at 287-3261 if we can provide additional guidance or assistance.

**EXHIBIT 2:
FLOODPLAINS AND FLOODWAYS MAPS**

EXHIBIT 3:
FEMA FIRMettes for DURHAM

**EXHIBIT 4:
FLOOD IMPACT STUDY**

**EXHIBIT 5:
ENGINEER'S STATEMENT**

**EXHIBIT 6:
RIGHT, TITLE OR INTEREST**

Durham Right-of-Way Deeds

Town	County	Grantor	Grantee	Date	Book/Page	Type
Durham	Androscoggin	Stackpole, Hattie D.	Central Securities	31-Aug-1929	395/543	Fee
Durham	Androscoggin	Hall, Clyde L.	Central Securities	14-Jun-1930	386/499	Fee
Durham	Androscoggin	Norris, Richard H.	Central Securities	5-Sep-1929	395/540	Fee
Durham	Androscoggin	Redding, Harold L.	Central Securities	6-Sep-1929	395/493	Fee
Durham	Androscoggin	Clark, Georgie B.	Central Securities	19-Nov-1929	395/539	Fee
Durham	Androscoggin	Perkins, Edward L. and Lizzie D.	Central Securities	10-Sep-1929	395/538	Fee
Durham	Androscoggin	Stowell, Newton S.	Central Securities	10-Sep-1929	395/574	Fee
Durham	Androscoggin	Bowie, Willard D.	Central Securities	12-Sep-1929	395/242	Fee
Durham	Androscoggin	Wilson, Oswald A.	Central Securities	20-Sep-1929	395/573	Fee
Durham	Androscoggin	Bowie, Leon R.	Central Securities	20-Sep-1929	397/604	Fee
Durham	Androscoggin	Larabee, Charles W.	Central Securities	20-Sep-1929	397/599	Fee
Durham	Androscoggin	Bowie, Edward H.	Central Securities	20-Sep-1929	395/571	Fee
Durham	Androscoggin	Allen, Irene S.	Central Securities	27-Sep-1929	395/570	Fee
Durham	Androscoggin	Nelson, George E.	Central Securities	27-Sep-1929	395/568	Fee
Durham	Androscoggin	Burns, John E.	Central Securities	27-Sep-1929	395/569	Fee
Durham	Androscoggin	Fredette, Eugene	Central Securities	27-Sep-1929	395/572	Fee
Durham	Androscoggin	Penley, Cyrus C.	Central Securities	27-Sep-1929	395/567	Fee
Durham	Androscoggin	Perkins, Lizzie D. et al	Central Securities	27-Sep-1929	397/598	Fee
Durham	Androscoggin	Sawyer, Mable G.	Central Securities	16-Oct-1929	395/566	Fee
Durham	Androscoggin	Carleton, Leon R.	Central Securities	1-Oct-1929	397/602	Fee

[insert Central Securities – CMP document]

**EXHIBIT 6:
AGENT AUTHORIZATION**



Central Maine Power

August 15, 2008

Bureau of Land & Water Quality
Division of Land Resource Regulation
Maine Department of Environmental Protection
17 State House Station
Augusta, ME 04333-0017

Municipalities (various)

Federal Agencies (various)

RE: Central Maine Power Company - Maine Power Reliability Program (MPRP)
Agent Authorization

To Whom It May Concern:

Central Maine Power Company hereby authorizes TRC Engineers, Inc. and TRC staff to act as its agent for all activities associated with the acquisition of Federal, state and local permits related to the above referenced project.

Please call me at 626-9557 or email me at gerry.mirabile@comco.com with any questions. Thank you.

Sincerely,

Gerry J. Mirabile
Lead Analyst - Compliance

An equal opportunity employer

83 Edison Drive | Augusta, ME 04336

tel (207) 623-3521

www.cmpco.com

An Energy East Company