STATE OF MAINE
DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY
LAND USE PLANNING COMMISSION
18 ELKINS LANE, 22 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0022

JANET T. MILLS
GOVERNOR

AMANDA E. BEAL
COMMISSIONER

July 1, 2026

Via Email

Loaf Land Development, LLC
c/o: Tyler Doucette
626 Carrying Place Road
Carrying Place Township, ME 04961
Email: tylerhamc@gmail.com

Main-Land Development Consultants, Inc.
c/o Emily Hastings
PO Box Q
Livermore Falls, ME 04254
Email: emily@main-landdci.com

RE: Application for SP4103 - Additional Information Required

Dear Mr. Doucette and Ms. Hastings:

LUPC staff have continued review of the application for Subdivision Permit SP4103 for the Loaf Land Subdivision in Coplin Plantation and determined that additional information is needed for staff to thoroughly evaluate the application. Because the Commissioners voted on June 10, 2026, to hold a public hearing on the application, staff recommend that the information requested below be submitted as soon as possible, but no later than July 29, 2026. The LUPC anticipates that the hearing will be held on September 9, 2026. Public hearings are held after all information requests are addressed and after third-party reviews by other agencies and the LUPC's contracted consultants are completed. Providing a complete, up-to-date application at the time of the hearing ensures that the Commissioners and the public review the final submission, eliminating the need to reopen the record and extend the comment period.

Staff also recommend that you submit a new version of the complete application with the requested information, along with a cover letter. This will facilitate review by the Commissioners and the public during the hearing process. When information for a given exhibit may be provided in another exhibit, staff recommend cross-referencing to facilitate review.

The LUPC has received review comments from Sebago Technics, the LUPC's contracted engineering reviewer. These comments are attached and referenced in the information requests below.

BENJAMIN GODSOE
ACTING EXECUTIVE DIRECTOR
HARLOW BUILDING, 4TH FLOOR

maine DEPARTMENT OF Agriculture Conservation & Forestry

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Information requests by application exhibit

- Financial Capacity (Ex. 5)
    - Clarify whether the estimated project cost includes the following and update the estimate as needed:
        - Culvert installation and materials
        - Vegetation Clearing
        - Filling and grading
    - Clarify whether electricity distribution will be above ground or below ground and update the cost estimate as needed.

- Site Plans (Ex. 10)
    - Provide a grading plan for the drainage swales with existing and proposed grades.
    - Provide the extent of vegetation clearing on the grading plan for the drainage swales and on the filter pond plan and profiles.
    - Provide a phasing plan for the construction of the roads and associated stormwater management infrastructure.
        - For example, when would construction of Pond 2 (Lot 13) and the drainage leading to Pond 2 occur relative to construction of Courtney Lane and Mountain Village Road?
        - Explain how access for the construction of swales and ponds would be managed (see also the request below regarding easements for access to stormwater and phosphorus infrastructure for providing maintenance).
    - Sheet S2.1 – Subdivision Plan
        - Note 7 provides an incorrect minimum road setback for structures; the correct setback is 30 ft [see 10.26,D,2,b,(2)].
        - Lot 5 does not meet the minimum road frontage requirement of 100 ft per dwelling unit (see 10.26,C,2,a; see also comment on Ex. 14, Subdivision Lot Specifications). Frontage is measured "along the traveled portion of the road between the points of intersection of side lot lines with the traveled portion of the road" (10.26,C,1,c).
        - Add building envelope setbacks from roads and property lines to the plan.
        - Add building envelope dimensions to the plan.
        - Staff recommend that stormwater and phosphorus control infrastructure not be included within building envelopes. The intent of a building envelope is to show the area available to a lot owner for structures, a wastewater disposal system and replacement system, and permanent clearing, such as for defensible space for fire safety (see also Exhibit 14, Subdivision Layout and Design). Well heads may be located outside of

building envelopes if the well head area is mowed no more than once per year.

- The name of the subdivision in the deed covenants and on the plan should be consistent. The deed covenants reference a "Plan of Residential Subdivision Mountain Road & Hedgehog Trail Coplin Plt." The name on the plan is "Loaf Land Subdivision" (see also Ex. 16, Subdivision Lot Deed or Lease Covenants).
- How is access gained across lots to pond easements and associated drainage swales for maintenance? Access easements must be shown on the plan and described in the Declaration of Covenants, Easements, and Restrictions" (see also Ex. 16, Subdivision Lot Deed or Lease Covenants).
- Ensure that all the requirements of the LUPC's subdivision plat specifications (a copy of which is attached) are met.

  - Sheet C5.3 – Stream Plan and Profile
    - Address comments IV.9, 10, and 11 in the review by Sebago Technics
  - Sheet 6.2 – Filter Pond 2 Plan and Profiles
    - Address comment IV.5 in the review by Sebago Technics
  - Address comments IV.8, 12, and 14 in the review by Sebago Technics

- Vehicle Access, Circulation, and Parking (Ex. 13)
  - Address safe movement of vehicles within the development by responding to Question 3 of Exhibit 13 in the Subdivision Permit Application.

- Subdivision Layout and Design (Ex. 14)
  - Lot 5 does not meet the minimum road frontage requirement of 100 ft (see also comment on Ex. 10, Site Plans)
  - Provide evidence that building envelopes provide sufficient area for buildings, parking, a septic system, a replacement system, and at least 30 ft of defensible space while meeting dimensional requirements such as septic system setbacks (including from drainage swales and filter ponds). Well heads may be located outside of building envelopes if the well head area is mowed no more than once per year.

- Common Open Space (Ex. 15)
  - Wildlife passage is required for this proposal. The statement that there is no need for wildlife passage misinterprets 10.25,Q,3,d,(3).
  - Explain how the lot designated as common open space meets the wildlife passage requirement.
  - The site plan is referenced as S1.1 rather than S2.1.

- Subdivision Lot Deed or Lease Covenants (Ex. 16)
    - The name of the subdivision in the deed covenants and on the plan should be consistent. The deed covenants reference a "Plan of Residential Subdivision Mountain Road & Hedgehog Trail Coplin Plt." The name on the plan is "Loaf Land Subdivision" (see also comment on Ex. 10, Site Plans).
    - Section 1 should clearly include maintenance of stormwater infrastructure as an Association responsibility (see also comment on Ex. 30, Association By-laws).
    - Sections 2 and 5 indicate that driveways are depicted on the plan. Driveways are not currently depicted on the plan. Staff recommends that only the driveway easement areas be depicted on the plan and that the language in sections 2 and 5 be revised to remove references to driveways depicted on the plan while maintaining the intent of those sections.
    - Clarify if Loaf Land Development considers both SP3001 and the Declaration of Covenants and Restrictions of Hedge Hog Mountain Village II legally binding or only the Declaration of Covenants and Restrictions. Explain how the legal instruments that Loaf Land Development considers binding are incorporated into the proposed "Declaration of Covenants, Easements and Restrictions, Loaf Land Development, Coplin Plantation, Maine."
    - Clarify the following in the covenants:
        - Clearing that exists outside of building envelopes for stormwater and phosphorus control infrastructure. Note also that a minimal amount of clearing for a wellhead outside of building envelopes is allowed if mowed less than twice a year.
        - That building envelopes identify the area in which permanently maintained cleared openings and structures are allowed (with the exceptions of driveways, stormwater control infrastructure, and wellheads; see 10.25,Q,3,c).
    - Under Section 4, Road Maintenance, the Declaration should clarify that road maintenance includes all stormwater and erosion control facilities, such as swales and ponds, accessed via easements across individual lots (see also comment on Ex. 30, Association By-laws).

- Solid Waste Disposal (Ex. 18)
    - LUPC staff recommend contacting the Eustis Selectboard for a letter regarding the availability and capacity of the Eustis Transfer Station to accept routine residential waste from the subdivision.

- Electricity and Telephone Service (Ex. 19)
    - Provide a statement regarding telephone service to the project area, such as a statement that a certain carrier provides cellular telephone service to the area.

- Wastewater Disposal (Ex. 21)
    - Lot 1, test pit TB-1A has a soil condition D with a limiting factor of 12". An additional test pit is needed per 10.25,G,3,a,3. Provide the results of an additional test and revise the Subdivision plan to include this additional pit. (Note that the LUPC has requested review of the application by the Subsurface Wastewater Disposal Program of the Department of Health and Human Services. Their review could potentially recommend requesting additional information regarding soils.)

- Harmonious Fit and Natural Character (Ex. 24)
    - Because the parcel contains areas that meet the LUPC's definition of hillside (an area of two or more contiguous acres having a sustained slope of 15 percent or greater; Chapter 2,106), the stormwater management standard in 10.25,E,2,b must be met. Discuss the proposal's use of best management practices to slow down and spread runoff from developed areas and ensure that increased runoff does not cause downgradient soil erosion, including addressing the following comments in the review by Sebago Technics:
        - IV.1 on the culvert at the proposed entrance
        - IV.6 on drainage swales
        - IV.14 on culvert design for the stream crossing in conformance with the standards in 10.27,D,2.
    - Because the proposal is located on a hill, includes areas proposed for development that meet the LUPC's definition of hillside, and is in proximity to scenic resources (such as a scenic byway, a lake, trails, etc.), a more robust assessment of potential visual impact is needed to assess whether the proposal meets the scenic character criterion in 10.25,E,1,a.

      At the same time, the proposal, or portions of the proposal, may not be visible from scenic resources within 3 miles of the project and may therefore meet the exception to the hillside resources standards related to visual impact [see 10.25,E,2,a,(2)].

      A robust visual impact assessment (VIA) should be conducted to determine if proposed cleared areas, infrastructure, and potential dwellings are likely to be visible from scenic resources within a 3-mile radius. If the proposal, or portions of the proposal, are likely to be visible, provide evidence that visual impacts are not undue or can be mitigated (for example, by following the hillside resources standards in 10.25,E,2 related to vegetation management, construction materials, etc.).

      If any portions of the proposal would not be visible from scenic resources, provide evidence that obstructing features or conditions will not be materially altered in the future by any uses allowed with or without a permit. Alternatively, hillside standards for mitigating visual impact may also be followed for these areas.

LUPC guidance on VIAs is attached to this letter. It is recommended that the applicant consult with LUPC staff on the plans for conducting a VIA.

- Soil Suitability and Mapping (Ex. 27)
    - Provide a discussion of the soil limitations on development in building envelopes, roads, and pond easement areas, and how these could be overcome (building envelopes) or how the proposal overcomes them (roads and ponds). For example, the NRCS low density development potential rating for the soils in the building enveloped is "very limited" (reference Ex. 14, Subdivision Lot Specifications Table).
        - See comment IV.2 in the review by Sebago Technics

- Erosion, Sedimentation, and Drainage Control Measures (Ex. 29)
    - Provide the total amount of soil disturbance for all planned construction activities (roads, swales, filter ponds, etc.). If one acre or more of soil disturbance is proposed, be sure that the application addresses the applicable standards in 10.25,M,3, and 4.

- Association By-Laws (Ex. 30)
    - Include an article delineating Association Responsibilities, including the role of the association in the maintenance of the roads and all the erosion, stormwater, and phosphorus control infrastructure in the subdivision (see related comment on Ex. 16, Subdivision Lot Deed or Lease Covenants).
- Roadway Construction and Upgrades (Ex. 31)
    - Staff recommend that the applicant consult with the Eustis Fire Chief to see if reasonable changes to the proposed roads may be made to alleviate concerns about access by emergency vehicles.
        - See also comment IV.7 in the review by Sebago Technics.
    - Provide evidence that the current condition and maintenance of Mountain Road is sufficient for providing safe access to the subdivision. If Mountain Road requires upgrades or changes in maintenance to ensure safe access, contact Coplin Plantation to discuss making the necessary changes.

- Phosphorus Control (Ex. 33)
    - Respond to Sebago Technics comments in Section III, Assessment and Recommendations for Improvements to Reduce Phosphorus Export.

- Wetland Alteration Supplement (Ex. 35)
    - The Wetland, Streams, and Cursory Vernal Pool Delineation Report references attached Site Plan E1.1, Natural Resources Mapping. This plan was not included in the application.

- The correct level of review for this project is Tier 3. Please provide an alternatives analysis as requested in the S-3 application supplement, Water Body and Wetland Alterations. A functional assessment is not required.

Thank you for your patience and cooperation throughout this process. Additional review comments and questions from staff and other agencies may be forthcoming. The application has been sent to the following agencies for review: DHHS Division of Environmental Health, Subsurface Wastewater Unit; MaineDOT Planning; DIFW Environmental Review; MNAP; MGS; MHPC; USACE; Franklin County; and Coplin Plantation.

If you have any questions regarding this information request, would like to schedule a meeting, or need additional assistance, please do not hesitate to contact Tim Carr at 207-592-4129 or via email at tim.carr@maine.gov.

Sincerely,

Tim Carr
Acting Chief Planner

David Hediger
Senior Planner

Attachments: Review Memorandum, Sebago Technics
LUPC VIA Guidance
LUPC Subdivision Plat Specifications

Review Memorandum

To: **Tim Carr - Acting Chief Planner**
David Hediger - Senior Planner
Land Use Planning Commission
22 State House Station
Augusta, Maine 04333-0022

From: **James R. Seymour, P.E. - Sebago Technics, Inc.**

Date: **June 3, 2026**

Subject: **LUPC Stormwater Review (Application #: SP 4103)**

Project: **Loaf Land Subdivision (STI # 260393)**
Mountain Road and Hedgehog Trail
Coplin Plantation, Tax Map 7 Lots 2 and 12 (D-RS)

Applicant: **Loaf Land Development, LLC**

STATE OF MAINE
JAMES R. SEYMOUR
No 9984
LICENSED PROFESSIONAL ENGINEER
06/04/2026

I. Project Description & Background

On May 1, Sebago Technics, Inc. (Sebago) received application materials for a 24.5-acre subdivision located in Coplin Plantation in Franklin County, Maine by Maine-Land Development Consultants (MLDC), Inc. Being a subdivision project within the LUPC's authority, the project qualifies for review under Chapter 10 – Land Use Districts and Standards. The purpose of this review is to address phosphorus export from the proposed development, evaluate the proposed stormwater management plan, and determine how natural resource areas may be impacted.

It is our understanding that the project will consist of the creation of 13 single family residential lots, a common area lot, and a gravel road. The residential lots are between 1 and 2 acres in size and will be served by on-site wells and private septic systems. Power is proposed to be extended from the existing overhead line in the Mountain Road Right-of-Way. A letter from CMP is included within the application implying that power can be provided to the area. Vehicular access to the subdivision is proposed by an approximately 1,100-foot gravel road having a spur road approximately two thirds down the length and a hammerhead turnaround at the end.

The existing tract of land consists of undeveloped woods. Runoff generally travels north down the hillside through shallow wooded depressions, a stream, and wetland to Stratton Brook and then eventually Flagstaff Lake. Two streams and tributary wetlands were identified on the

parcel. The first stream begins on the steep hillside at the southerly end of the parcel and travels northeast along the easterly side of the property. The second stream bisects the parcel in the northerly corner of the parcel identified as common area on the proposed subdivision plan.

II. Technical Review

We have reviewed the submitted design by MLDC, as well as the application and supporting documentation provided by the applicant through the LUPC. The following section outlines compliance with the Maine Department of Environmental Protection (MDEP) Best Management Practices (BMP) Manual, as they relate to stormwater treatment, removal of phosphorus, and erosion/sedimentation.

Typical design practices to address phosphorus export from single-family subdivision:

With most subdivision applications for single-family residences having an internal public or private road, the focus is typically with the impacts from major road components. For treatment of a roadway typical BMPs used included wet ponds, soil filters, and deeded wood buffers. The Lots themselves generally have imposed restrictions that can include total impervious area coverage, total land clearing, and the requirement of buffers (wooded or meadow). These treatment methods are outlined within the Maine Stormwater Management Design Manual-Phosphorus Control Manual Volume II (March 2016). To meet the phosphorus standard, a project must demonstrate through calculations that the proposed development will not cause the subject property or area to exceed the overall phosphorus export budget as established in Appendix C of the Manual.

For this project, a Per Acre Phosphorus Allocation of 0.047 lbs/acre/year was established by taking an average of the different townships allocated for Flagstaff Lake under the guidance of Jeff Dennis of the Maine DEP. This methodology was determined to be acceptable due to Appendix C not listing a phosphorus export for Coplin Plantation. A project's phosphorus export is determined by considering the area tributary to the subject body of water, the treatment factor of proposed BMP's, and any mitigation credits taken for treating previously untreated developed areas.

Erosion Control and Runoff Conveyance

Temporary and permanent erosion control measures are critical to ensuring a project does not adversely affect downstream natural resources or increase runoff in a way that threatens downstream developments. Erosion control measures should follow the Maine Erosion and Sedimentation Control Practices: Field Guide for Contractors by the MDEP and Chapter 10.25.M "Erosion and Sedimentation Control" of the LUPC rules. When evaluating steep mountainous roads or roads located on steep hillsides, it is important to ensure the design accounts for both the quantity and the velocity of the runoff. This is determined by clearly identifying on the plans the limits of ditching (bottom width, depth, & length) and extent of additional erosion control measures (riprap, slope blankets). Water that discharges from relief culverts should similarly be

evaluated with extra considerations such as increasing the size of the riprap rock and/or the riprap pad.

III. Assessment and Recommendations for Improvements to reduce Phosphorus Export:

The applicant has provided a Phosphorus Treatment Plan that utilizes four (4) grass under drained soil filters located downhill of the proposed roadway and building envelope locations along with supporting calculations using the MDEP Manual Volume II's phosphorus export worksheets.

The submitted phosphorus treatment plan and worksheet calculations make some assumptions that require clarification and appear to be missing information. See the comments below:

1. The treatment factors listed for Filter Pond's 2 and 4 are shown as 0.22 and 0.24 in Table 1 from the submitted phosphorus control narrative. The applicant should review that this conforms with Table 4.1 of the MDEP Manual Volume II as the minimum treatment factor for lined soil filters or filters not in sandy soils is 0.25.

2. Worksheet 2 indicates that the "area with restrictions" coefficients were used for the developed lots. These restrictions should be noted in the Declaration of Covenants, Easements, and Restrictions of the Development document.

3. For Worksheet 3 and the mitigation credit calculation, it is unclear how water will be directed from the existing roadway and proposed Lots 1 and 2 to Filter Pond 4.

4. It appears that the applicant has combined MDEP Worksheets 2 and 4. Worksheet 4 should be included to clearly present the results of the phosphorus calculations. We recognize that the compensation fee section for Worksheet 4 does not apply to LUPC projects.

5. Limits of clearing are not shown on the plan and so it is hard to tell how developed the lots will be in their final condition. Typically, the clearing limits are assumed to be the building envelope, driveways, and roadway Right-of-Way; however, the cross-lot pretreatment swales will need to be accessed and maintained along with the soil filters. The cross-lot swales may also require drainage easements for this reason.

6. Since the applicant is proposing to use structural BMPs to meet the phosphorus standards, the BMPs should also meet the design requirements of the BMP manual in general. We offer the following comments on the underdrained soil filters design:

    a. Test pits should be performed for each proposed BMP to determine the depth to groundwater, ledge, or other limiting factors.

b. The BMP Manual requires that the soil filters drain within a 24–48-hour window as a treatment requirement. The applicant should submit calculations or a Hydrograph showing this will be achieved.

c. The soil filters appear to be sized only for treatment of the developed area. The MDEP BMP Manual requires that soil filters be sized based upon the land area draining to the filter or that untreated areas bypass the filter.

d. Related to the previous comment, the applicant should submit calculations showing how water quantity is being controlled as the proximity of the soil filters to property lines and the proposed roadway and existing roadways/driveways are of concern.

e. Design elevations should be provided for the proposed sediment forebays.

f. The applicant should consider the need for ground water relief drains for the soil filters, particularly Filter Pond 2. Additionally, Filter Pond 2 has its outlet and spillway near the abutting property. The applicant should consider additional energy reducing features such as a level spreader, a more robust riprap section, or relocating the emergency spillway to be further form the outlet and property line.

g. Filter Pond 4's emergency spillway is located on a steep fill section. The MDEP BMP manual recommends that a spillway's flow path not be greater than 20%. Additionally, the underdrain outlet appears to be within 25 feet of the forested wetland.

With these comments addressed, the totals from Worksheet 4 can be used to determine if the project phosphorus budget is being met or exceeded when considering the entire Flagstaff Lake watershed.

IV. General Plan/Engineering comments:

1. The plans show a new 24" culvert at the proposed entrance to the subdivision along with the outlet for Filter Pond 1 discharging directly adjacent to Mountain Road. The design team should evaluate whether this condition has the potential to negatively impact the driveway immediately downstream as shown on the subdivision plan.

2. From the test pits, it appears that ledge will be encountered when performing the hillside cuts for the roadway and filter ponds. Has the applicant indicated any special provisions or permitting requirements for blasting?

3. The area identified as a building envelope for Lot 13 is crossed by a drainage swale for Filter Pond 2 the applicant should verify that this complies with Chapter 10.25, Q 3.c. "Building envelopes".

4. The plans indicate buildable areas directly adjacent to identified forested wetlands. The applicant should verify that the 75-foot minimum setback from LUPC Chapter 10.26, D.2.a does not apply. Additionally, the building envelope for Lot 6 contains a wetland that is not proposed to be impacted.

5. The plan for Filter Pond 2 indicates the need for an uphill retaining wall or a boulder wall. The design team should provide details of the proposed retaining wall.

6. The steep sections of the pretreatment swales for filter ponds 2 and 3 may benefit from check dams or a riprap section to prevent downstream erosion.

7. Lots 1 and 2 are proposed to be accessed by Moose Track Road. Given the width of the road and the existing topography, we have concerns about access for emergency vehicles and access for the maintenance of Filter Pond 4.

8. The submitted plans do not indicate how power will be provided to Lots 1 and 2.

9. Invert elevations should be provided for the stream crossing on the sheet C5.3 “Stream Plan and Profile”. The pipe should be evaluated for cover on the inlet side as the top of the pipe appears to be equal to the proposed road grade on the profile.

10. On Sheet C5.3, the stream crossing plan does not show existing contours, and a boulder headwall is shown on both the outlet and inlet side. A detail showing the headwall end condition should be added to the stream crossing plan.

11. On Sheet C5.3, there appears to be a 1:1 slope uphill of the inlet side of the stream crossing. It is unclear what this slope will consist of and does not match the proposed ground shown in the stream profile.

12. On sheet C5.1 a dark line is shown but not labeled near the stream crossing inlet. From the stream crossing plan, it is indicated that this line is an anticipated ledge or boulder face. This condition should be addressed with a roadway typical section as it is unclear how the roadway and ditch will interact with this cut face. Additionally, the placement of the utility pole above this ledge/boulder face at STA 6+00 should be evaluated.

13. Calculations or a statement should be provided for the stream crossing confirming that it is adequately sized for the 25-year storm frequency event and meets the other requirements of Chapter 10.27, D. Roads and Water Crossings. We recommend that a similar analysis be conducted to confirm the capacity of the other culverts as well.

14. The location of the stabilized construction entrance/exit should be shown on the plans.

IV. Summary:

Our review of the project finds that in general the strategies to address Phosphorus export could be acceptable, however without all the worksheets, developed area assumptions, and correct factors it is difficult to assess if the design information is within the allowed phosphorus budget in the post development condition. We agree with the calculation of the Project Phosphorus Budget (PPB) of 0.929 lbs/year and feel that it is possible for the project to meet this budget with the proposed treatment BMPs provided the comments from this memo are addressed/answered. We note that only the submitted plans and application material have been included in the phosphorus review.

These are recommendations for LUPC use and not meant as final determinations but merely offer guidance. Final decisions, if appropriate, are left with the LUPC at their discretion.

Respectfully Submitted,
SEBAGO TECHNICS, INC.

James R. Seymour, P. E.
Western and Lakes Region/Sr. Manager

Assessing the Visual Impact of Proposed Development

with a Focus on Communication Towers

Department of Agriculture, Conservation and Forestry

MAINE LAND USE PLANNING COMMISSION

22 State House Station, Augusta, Maine 04330. Tel. (207) 287-2631

This document may not be relied upon to create rights, substantive or procedural. The Commission reserves the right to act in a manner that may vary from this document, consistent with its statute and regulations. Nothing in this document shall be construed to supersede or replace the statute, rules, and Comprehensive Land Use Plan administered by the Commission.

3/16/2026

Introduction and Overview

The Land Use Planning Commission (LUPC or the Commission) evaluates Development Permit applications for proposed activities in all townships, most plantations, and a few towns in Maine. Application review includes evaluating the potential visual impact of proposals to ensure that they are located and designed to reasonably minimize visual impact on the surrounding area, and in particular on scenic resources. This document establishes a consistent and predictable application and review process for assessing the visual impact of proposals, including the roles of the LUPC and of the applicant. It begins by describing scenic resources and then provides the steps in developing a Visual Impact Assessment (VIA) and the components of a complete VIA for a permit application. Four appendices are included covering information sources for scenic resources, the Commission's rules and policies related to visual impact and scenic character, and information on minimizing the visual impact of communication towers. While this guidance provides a general approach and tools to assist applicants and Commission staff in assessing visual impacts and reviewing proposals, it does not address every possibility. While this document in places contains information specific to communication towers, the discussions of resources, methodology, and process are applicable to other types of development.

Visual Impact Assessment (VIA)

SCENIC RESOURCES

A Visual Impact Assessment involves analyzing the effect a proposal is likely to have when viewed from scenic resources in the surrounding area. Roadways, recreational trails, water bodies, coastal wetlands, and public property are the scenic resources of most concern.[1] Understanding the type and frequency of use a scenic resource receives is important for assessing visual impact. For example, the type of use, frequency of use, and viewer expectations on a private roadway are likely to be different from those on a scenic byway.

- **Roadways** include public and private roads. Special attention is paid to *scenic byways* which include National Scenic Byways, All-American Roads, and Maine Scenic Byways.

- **Recreational Trails** are used by the public for walking, hiking, backpacking, cross-country skiing, snowmobiling, ATV use, etc. Special attention is paid to *permanent trails*, those that are owned in fee, managed, and maintained by private organizations or public entities for the purpose of allowing public access. Places from which to assess potential visual impacts from any recreational trail include designated (mapped) scenic viewpoints, trailheads, or parking areas.

- **Water Bodies** are lakes, ponds, rivers, streams, and oceans. Special attention is paid to *major water bodies* which includes lakes and ponds greater than 10 acres (great ponds), the

[1] See LUPC Chapter 10, 10.25,E,1 (provided in Appendix B of this document).

Atlantic Ocean, and major flowing waters (a flowing water downstream from the point where the water drains 50 square miles or more).

□ **Coastal Wetlands** consist of all tidal and subtidal lands, including any swamp, marsh, bog, beach, flat or other contiguous lowland which is subject to tidal action. Coastal wetlands may also include portions of coastal sand dunes.

□ **Public Property** refers to property that is publicly owned, leased, or operated and is visited by the general public for any use. Public property includes state or local parks or reserved lands, wildlife management areas, boat launches, scenic pullouts or viewpoints, town parks and offices, etc. Public property that is visited for recreation or education is of particular interest because such use often includes the enjoyment of natural or cultural visual qualities.

In addition, the Maine Historic Preservation Commission (MHPC) may request analysis of the visual impact of proposed development on historic and cultural resources. For example, structures listed in the National Register of Historic Places or otherwise considered significant by the MHPC are included in a VIA. Consultation with the MHPC is often necessary when examining visual impact to historic structures (see Step 2 in "Steps in Developing a VIA" below).

Sources of information for identifying scenic, historic, and cultural resources are provided in Appendix A.

METHODOLOGY FOR VISUAL IMPACT ASSESSMENTS

A VIA generally addresses three questions:

1. "What are the scenic resources in the area?"
2. "Is there likely to be a view of the proposed development from a particular scenic resource?" and if so,
3. "What is the impact of the view from the scenic resource?"

A VIA is used by the Commission to assess potential visual impacts to scenic resources from proposed development. Effective VIAs can take different forms, depending on the proposal, and may use local knowledge, maps, photography, fieldwork, predictive modeling techniques, simulations, and other types of information and methods to investigate and communicate the potential visual impacts from proposed development. VIAs include descriptions of the design, location, and surroundings of the proposal and information on the use of nearby scenic resources. Based on the results of the investigation, the VIA also explains how a proposal would meet the Commission's standards (provided in Appendix B of this document) and may describe strategies to minimize potential visual impacts.

While assessment of visual impacts is required for development of certain projects such as new communication towers, the type of assessment needed to ensure the proposal would meet the Commission's standards depends on the design and location of the proposed project. Involving

Commission staff early in the VIA process can help reduce the time and resources needed for an effective VIA. Relatively unobtrusive designs may require a VIA but would likely not require the same detailed information and level of analysis as proposals for large towers or those near scenic resources.

Steps in Developing a VIA

Developing a VIA includes the following steps (listed here and then described more fully in subsequent sections):

1) Establish an "Area of Potential Effects" (APE) through consultation with LUPC staff. In this step, the applicant provides information such as design, height, lighting status, elevation, and location of the proposal.

2) Inventory scenic resources within, and just outside of, the APE and determine the methodology(ies) for establishing the presence or absence of views from these resources and for analyzing visual impacts when views are likely to be present. This step may include initial analyses, such as viewshed mapping, and initial information gathering about resource use that can help inform subsequent methods.

3) Provide a pre-application submission that includes a map showing the APE and locations of scenic resources, a list of the scenic resources, any initial analyses and information on use of the resources, and the proposed VIA methodology(ies). LUPC staff will provide guidance to the applicant based on evaluation of the scenic resource inventory, proposed methodology, and any initial analyses and resource information obtained.

4) Determine the likelihood and extent of views of the development from scenic resources and the impact of any views using the agreed upon methodology(ies).

5) Prepare and submit the VIA as part of an application for a Development Permit.[2]

1. *Area of Potential Effects (APE)*

The Area of Potential Effects (APE) is determined through consultation with LUPC staff. The APE is an established distance from the proposal, in all directions, within which the applicant will assess potential visual impacts. Generally, the APE determines where the applicant should search for scenic resources that potentially have a view of the proposed development. Larger or smaller APEs may be appropriate depending on the characteristics of a proposed project. The applicant provides information on project design, structure height, lighting, and location which is then used to predict likely visual impacts and establish an APE. For most projects, other than a proposed tower, a 1-3 mile APE is sufficient for a VIA. No matter the size of the APE, its outer limit is not considered a "hard line." If a significant scenic resource exists just outside of the APE, then the applicant's resource inventory (step 2) and analysis of visual impacts (step 4) should include the resource.

[2] LUPC's Nonresidential Development Application

Table A (below) is based on the Commission's experience permitting communication towers and on available information about visual impacts from tower facilities (described in more detail in Appendix D of this document). Table A provides preliminary guidance on the size of APE that may be recommended given a proposed tower's height and lighting status. Generally, the smaller a proposed tower - considering height, mast width, and construction materials - the less visually disruptive it is likely to be. If the proposed design would lead to greater visibility than a typical communication tower, the Commission may require a larger APE. For example, lighted towers are significantly more visible than unlighted towers and therefore require a larger APE as shown in Table A.

Table A: General guidelines for designating an APE for new towers based on tower height and lighting status. Values in the table are tower heights above ground level (AGL). The table has no "200+ ft, unlighted" category because the FAA requires lighting for towers over 200 ft AGL.

3 Mile APE	5 Mile APE	8 Mile APE
0-100 ft, unlighted	100-200 ft, unlighted 0-100 ft, lighted	100+ ft, lighted

2. *A. Inventory of Potentially Affected Resources*

The applicant conducts a desktop inventory of the area within, and just outside of, the APE and identifies all scenic resources (see Scenic Resources above). The applicant also consults with the Maine Historic Preservation Commission on the existence of historic and cultural resources within and just outside of the APE. The applicant provides the LUPC with a list of scenic, historic, and cultural resources in the APE and indicates on a map where the proposed development would be located in relation to the resources. The map should clearly show and identify:

- the location of the proposal
- the locations of the scenic resources within the APE
- the locations of historic and cultural resources within the APE
- topographic information
- land cover information (if available)
- scale, north arrow, and legend
- any other relevant information

2. B. Determining the Methodology for Assessing Visual Impacts

Assessing the visual impact of development on a scenic, historical, or cultural resource involves answering two related questions: are there likely to be views of the development from the resource, and if so, what is the potential visual impact of those views? Understanding the potential visual impact from a resource involves understanding the extent and context of the view and the type and frequency of use that the resource receives.

A variety of methods are available to help answer these questions, and depending on the circumstances, a combination of methods may be appropriate. For shorter structures distant from scenic resources, it may be sufficient to use less technical or less intensive methods of analysis.[3] For larger-scale projects, or those closer to sensitive resources, it may be appropriate to use more technical or intensive methods, such as a balloon test and/or photo simulation, to formally simulate potential impacts. In some cases, conducting initial desktop analyses of the presence or absence of views can help refine subsequent methodology for examining visual impact.

Methods for Assessing Visual Impact

Obtaining Local Knowledge is important for identifying scenic resources and establishing the type and frequency of use of those resources. Staff may ask applicants to obtain information about the presence and use of scenic resources from credible local sources such as:

- Local boards and community-based organizations
- recreational organizations and trail clubs
- small business owners/operators (e.g., recreational lodging facility owners, Maine Guides, etc.)
- game wardens or other knowledgeable resource agency staff who may commonly work in the area
- foresters who work in the area.

Note that local knowledge, in conjunction with consultation with the MHPC, may also be helpful in identifying historic and cultural resources.

Mapping and Photography involve submitting topographic maps showing the proposed location of the project and identifying likely locations where it may be seen based on design characteristics (e.g., height, construction materials, lighting), site elevation, and intervening topography. Photographs of the proposed development site from potentially affected resources may also be submitted to illustrate intervening topography, landscape characteristics, and the appearance of the proposed site from the viewpoint. Photography may also involve submitting photos of existing development such as a tower at the project site from the scenic resources (in the case of a replacement tower). Aerial imagery (for example, from Google Earth) is a useful source of information for showing the position of tree lines, whether rivers and streams are tree-lined, etc., particularly when sites within the Area of Potential Effects are difficult to access.

[3] For example, meteorological towers are temporary structures with fairly low visibility and may not necessarily warrant a full GIS spatial analysis or photographic simulations of potential views, although that would not be the case if the meteorological tower were lighted.

Viewshed Analysis involves using GIS software to identify areas within the APE that may have views of the tower. Viewshed analyses account for topography and, depending on the software and data available, may account for vegetative cover in determining the likelihood of views. An applicant conducting a viewshed analysis would submit a description of the viewshed method used along with a viewshed map indicating the locations of scenic resources. Because viewshed mapping addresses the question of where there are likely to be views of proposed development, it may be helpful as an initial analysis indicating which scenic resources likely have views and should be further investigated for visual impacts.

Trigonometric analysis (also called line-of-sight analysis) generally involves comparing aspect ratios (visual angles) from a scenic resource to proposed development and to potentially intervening features such as topography and vegetation. If the visual angle from a scenic resource to an intervening feature is greater than the visual angle to the proposed tower, the intervening feature should block views of the tower. (Viewshed mapping is essentially trigonometric analysis done across the entire APE rather than from a particular scenic resource). Trigonometric analysis may also be used to support claims that one object or landscape feature will appear less prominent than another from a viewpoint. By taking vegetation into account, trigonometric analysis can complement viewshed analyses based on topography only and may be used to help determine which scenic resources merit further investigation of visual impacts through methods such as balloon tests or photo simulations. Trigonometric analysis can also complement photography and photo simulations by providing the specific explanation for why objects are blocked or appear more or less prominent in photographs or photo simulations. Trigonometric analyses and aerial imagery may be used to refine a viewshed analysis with vegetation by providing a more detailed analysis of views from a particular resource. An applicant conducting trigonometric analysis would submit a description of the methods employed, the data and calculations involved, and elevation profiles (sometimes called 'visual cross-sections') showing lines of sight from a scenic resource to the relevant features and proposed development.[4]

Balloon Tests involve flying one or more weather balloons on a tether from the proposed project site and at the approximate height of the proposed structure and taking high resolution photographs of the balloons and any features blocking views of the balloons from potentially affected scenic resources. The resultant photographs indicate from where the approximate top of the proposed project may be visible. At least two team members are needed for a balloon test, one at the project site to control the tethered balloons and one traveling to potentially affected resources to take the photographs. An applicant conducting a balloon test would submit a description of the methodology (including the photographic options chosen and the wind/weather conditions when the test was carried out) along with the resultant photographs and a map of where photos were taken indicating the presence or absence of views of the balloon.

Photo Simulations illustrate how the view from the scenic resource(s) would look with the proposed project in place. A photo simulation involves adding an image of the proposed project to a photograph taken from a scenic resource. Photos from balloon tests may be used as the basis

[4] See the VIA in DP5036 for an example.

for photo simulations. The keys to accurate photo simulation are ensuring that the scaling and location of the inserted image are correct. An applicant creating photo simulations would submit a description of the methodology (including the photographic options chosen and the methods for scaling and locating the proposed project in the photo simulation) along with the resultant photo simulations.[5]

More formal methods for assessing visual impact, such as balloon tests or photo simulations, may be required if the proposed project is located near sensitive scenic resources and would likely be visible due to design characteristics (such as height or lighting) or to a lack of vegetative screening or intervening topography. For example, a 200-foot AGL lattice type tower is potentially visually obtrusive and may warrant a balloon test or photo simulation if there are significant resources in the APE.

The VIA methods described above have strengths and weaknesses in certain situations, but all need to be used with care to ensure that conclusions are accurate. Bear in mind that the list of methods above is not exhaustive, existing methods are often improved upon, and new methods or useful technology invented. Whether using the methods above or taking a different approach, it is important to discuss the details of proposed methods with LUPC staff. This will help avoid wasting time and resources while completing a VIA.

3. LUPC Review of Pre-application Materials and Concurrence with Inventory and Methodology

The map and inventory of scenic resources in the APE, the proposed methodology for assessing the visual impact of proposed development from those resources, and the results of any preliminary analyses should be compiled and submitted to LUPC staff for feedback. The Commission's review of the pre-application submission will provide guidance to the applicant regarding the proposed methodology and the scenic resources on which to focus more effort during subsequent analysis. This step in the process is an opportunity for applicants and Commission staff to discuss the proposed VIA and to ensure that the applicant will provide sufficient information for staff to make a determination on visual impact.

4. Analysis of Visual Impacts

Once Commission staff have concurred with the inventory and proposed VIA methodology, the applicant uses the methodology to determine the likelihood and extent of views from scenic resources and the potential impact of any views.

5. Preparation and Submission of the VIA as part of a Development Permit Application

In the last step, the applicant submits the completed VIA as part of the application materials for a Development Permit. In addition to conducting its own review, the Commission may request comments on the application from other agencies.

[5] See the VIA for the Monhegan Plantation broadband tower in DP5084 for an example.

As described above, a VIA generally addresses three questions:

4. "What are the scenic resources in the area?"
5. "Is there likely to be a view of the proposed development from a particular scenic resource?" and if so,
6. "What is the impact of the view from the scenic resource?"

There is no single methodology for answering these questions and no single format for the VIA submission. However, the components of a complete VIA submission are described below.

Components of a Complete VIA

1. *Description of project siting and design* including details about the proposed location, tower design, topography, landscape, and land use of the area. This description also includes discussion of how the project design would fit into, and/or contrast with, its surroundings, particularly when considering color, form, line, texture, and dominance in the viewscape. Discuss any *strategies chosen to minimize or mitigate potential visual impacts* such as choices in project design (choosing a smaller tower, neutral color, etc.) or location.

2. *Explanation of why the proposed location was chosen* and, for communication towers, why co-location on another existing tower is not an option.[6] Such explanation may include evidence showing how the proposed tower location would help address existing gaps in coverage.

3. *Inventory of potentially affected resources* within the established APE, consisting of a map and a list of potentially affected resources. Include the basis for the APE and how the inventory of scenic resources within the APE was determined.

4. *A detailed description of the analysis methodology(ies)* including any software used, methods for any measurements taken, settings for photography, weather conditions during field surveys, a description of how/from whom local knowledge was obtained, values of variables used (such as heights of viewers, trees, and intervening objects in a trigonometric analysis), and methods of scaling and locating objects in photo simulations.

5. *Results and discussion of analysis* including the determination of whether there are likely to be views from scenic resources and the determination of the visual impact of likely views. Results obtained from applying the agreed upon methodologies, such as viewshed mapping, trigonometric analyses, photo simulation, etc., must be presented and should be accompanied by an explanatory narrative. Other materials such as maps, tables, drawings, photographs, etc., supporting the VIA may also be included. *Information about potentially affected scenic resources* such as the type and frequency of use of these resources must be included. Discussion of visual impacts may refer back to the landscape, land uses in the area, topography, and project design described earlier. Applicants may create a table of scenic resources that includes information such as a description of the resource, the use of the

[6] See DP5050-B for an example.

resource, the analysis methodologies applied, the conclusions drawn about visual impacts to use of that resource, etc.

6. *Conclusions* describing how the proposal meets the review criteria (see Appendix B).

Including this information will assist the Commission in evaluating whether the proposal meets statutory criteria and applicable standards listed in the Commission's Chapter 10 Rules, Land Use Districts and Standards and included in Appendix B of this document.

Conclusion and Summary

This document provides guidance to Commission staff and the public in understanding how to assess visual impact to scenic resources from proposed development. The scenic resources identified in the Commission's scenic character standards are reviewed. The document also explains the components of a Visual Impact Assessment and describes methods that may be used in assessing visual impacts. A framework for interactions between applicants and the LUPC is presented which establishes a consistent and predictable pre-application, application, and review process for assessing the visual impact of new projects. While the focus of this document in places is communication towers, much of the information presented is applicable to other types of development.

Appendix A provides sources of information on scenic, historic, and cultural resources. The Commission's permitting review criteria on visual impact from Title 12 of the Maine Revised Statutes and Chapter 10 of the Commission's Rules and Standards are provided in Appendix B. Appendix C reviews the policies related to communication towers and visual impacts from the Commission's Comprehensive Land Use Plan, and Appendix D describes how tower design and location can affect visual impact on scenic character.

Please contact Commission staff if you have any questions about this document or a development proposal. Staff contact information may be found by selecting the region applicable to your inquiry on the LUPC's online regional map. General inquiries may be directed to the Commission's Augusta office at (207) 287-2631.

Appendix A – Sources of Information on Scenic, Historic, and Cultural Resources

SCENIC RESOURCES

- ☐ Scenic Byways - a list of scenic byways may be found on the Maine Department of Transportation's 'Explore Maine' website. Maine DOT also maintains a GIS layer and map viewer of national and state scenic byways.

- ☐ Trails for Non-Motorized Use - information on trails used primarily for walking, hiking, backpacking, cross-country skiing, etc. may be found in the DeLorme Maine Atlas and Gazetteer and at Maine Trail Finder, AllTrails, and similar sites. Local sources of information are also important for locating trails and understanding their use.

- ☐ Trails for Motorized Use - information on snowmobile trails, including the Interconnected Trail System (ITS), may be found at the Bureau of Parks and Lands Maine Snowmobile Trails page and the from the Maine Snowmobile Association. Local snowmobile clubs are also important sources of information.

  Information on ATV trails may be found at the Bureau of Parks and Lands Maine ATV Trail page and at the website of ATV Maine. Local ATV clubs are also important sources of information.

- ☐ Water Bodies - the Wildlands Lakes Assessment (see LUPC Chapter 10, Appendix C) and The Maine Rivers Study (State Planning Office, 1982) are helpful resources for determining the scenic and recreational significance of particular lakes, ponds, and rivers and the visual impact that a proposal may have on those resources.

  Public Property

- ☐ Parks and Conservation Lands - the Maine Bureau of Parks and Lands manages state parks and reserved lands and maintains a map of conservation lands. The location of Wildlife Management Areas may be found on the Maine Department of Inland Fisheries and Wildlife's webmap.

- ☐ Boat Launches - the Maine Bureau of Parks and Lands maintains a sortable list of boat launches.

- ☐ Other Public Property - the DeLorme Atlas and Gazetteer may be helpful in identifying public property. Local sources of information are also important for locating public property and understanding its use. Public property includes property that is leased or operated by a public entity.

HISTORIC AND CULTURAL RESOURCES

- ☐ Historic Places – the National Park Service maintains the National Register of Historic Places database. Maine's Municipal Planning Assistance Program maintains the Maine Historic Resource Archive, a webmap providing location information about National Historic Places and Landmarks, National Heritage Areas, Historic Districts, and other historic properties and culturally significant sites in Maine. The Maine Historic Preservation Commission is also a source of information on historic places in Maine, including sites that are historically and culturally significant for Maine's Tribal Nations.

Appendix B – LUPC Review Criteria Related to Potential Visual Impacts

Development projects must be sited to fit harmoniously with their surroundings and to avoid undue, adverse impacts on scenic character, including visual impacts. These impacts are evaluated under 12 M.R.S. §685-B and the Commission's rules, Chapter 10, Land Use Districts and Standards. The Commission's application of the applicable statutes and regulatory provisions may be informed by policies in the Comprehensive Land Use Plan, including those policies described in Appendix C.

1. *CONSISTENCY WITH TITLE 12, CHAPTER 206-A*

Proposals for new development must meet statutory review criteria, which include:

12 M.R.S §685-B(4)

*"**Criteria for Approval.** In approving applications submitted to it pursuant to this section, the commission may impose such reasonable terms and conditions that the commission determines appropriate in order to fulfill the requirements and intent of this chapter, the comprehensive land use plan and the commission's standards, or denying approval of the application as proposed…*

The burden is upon the applicant to demonstrate by substantial evidence that the criteria for approval are satisfied, and that the public's health, safety and general welfare will be adequately protected…"

12 M.R.S §685-B(4)(C)

C. *"Adequate provision has been made for fitting the proposal harmoniously into the existing natural environment in order to ensure there will be no undue adverse effect on existing uses, scenic character, and natural and historic resources in the area likely to be affected by the proposal…"*

2. *CHAPTER 10, LAND USE SUBDISTRICTS AND STANDARDS*

In addition to being an allowed use in the relevant subdistrict, projects must meet development standards for scenic character in addition to any other applicable standards.[7] The development standards related to scenic character are given below.

Section 10.24, A, 1, C

Adequate provision has been made to fit the proposed development harmoniously into the existing natural environment in order to assure there will be no undue adverse effect on existing uses, scenic character, and natural and historic resources in the area likely to be affected by the proposal.

Section 10.25, E, 1

Scenic Character:

a. *The design of proposed development shall take into account the scenic character of the surrounding area. Structures shall be located, designed, and landscaped to reasonably minimize their visual impact on the surrounding area, particularly when viewed from existing roadways, with attention to designated scenic byways; major water bodies; coastal wetlands; permanent trails; or public property.*

b. *To the extent practicable, proposed structures and other visually intrusive development shall be placed in locations least likely to block or interrupt scenic views as seen from travelled ways, water bodies, or public property.*

Appendix C – LUPC Policies Related to Communication Towers

COMPREHENSIVE LAND USE PLAN – GOALS AND POLICIES

The Comprehensive Land Use Plan (CLUP) guides the Commission in developing policies and specific land use standards for development, in applying and interpreting those standards, and in fulfilling the purposes the LUPC's statutory mandate.[8] These purposes include encouraging regional economic viability and outdoor recreation and conserving ecological and natural values.[9] The CLUP describes the role of communication towers in the LUPC service area, noting that as "…people become accustomed to having ready access to…cellular services, there will be increased pressure for the development of this infrastructure within the jurisdiction. Advancements in communication technologies provide new economic opportunities to previously isolated areas. These

[7] As described in LUPC Chapter 10, Land Use Districts and Standards.
[8] 12 M.R.S. §685-C(1)
[9] 12 M.R.S. §681

advancements increase employment opportunities for those who wish to live in relatively remote areas and work out of their homes" (2010 CLUP, pg. 109). Communications towers play important public and private roles within the LUPC's service area and nearby organized towns, including providing service for land managers, recreational users, and emergency responders.

The CLUP contains specific goals for the LUPC and policies for meeting those goals. With regard to communication towers, these include policies for siting new towers, assessing visual impacts, requiring the co-location of services on existing infrastructure where feasible, and providing for the de-commissioning and removal of towers no longer in use for an extended period of time. The following excerpts from the CLUP describe these policies, many of which are also applicable to other types of development:

Site Review (CLUP Chapter 1, Section 1.2,I,C on page 7)

> "Goal: Assure that development fits harmoniously into the existing communities, neighborhoods and the natural environment."
>
> "Policies (1): Require that provision be made for fitting development harmoniously into the existing natural environment, including: a) Requiring the use of buffers, building setbacks, height restrictions, design and materials standards, lighting standards, and landscaping to minimize the impacts of land use activities upon one another and to maintain the scenic quality of shorelines, hillsides, ridgelines, and roadways…"

Infrastructure (CLUP Chapter 1, Section 1.2,I,D on page 8)

> "Goal**:** Ensure that infrastructure improvements are well planned and do not have an adverse impact on the jurisdiction's principal values."
>
> "Policies 5 & 6: 5) Require that highly visible facilities such as communication towers be dismantled and removed from the site when they are unused for an extended period of time; and 6) Require that communication towers be made available for other users where feasible in order to limit the number of such towers."

Scenic Resources (CLUP Chapter 1, Section 1.2,II,J on page 18)

> "Goal: Protect the high-value scenic resources of the jurisdiction by fitting proposed land uses harmoniously into the natural environment."
>
> "Policy: 1) Establish, and refine as needed, scenic evaluation methodologies to aid in reviewing development proposals; and 2) Identify and protect areas that possess scenic features and values of state or national significance."

Co-Location Policy

Co-location (sometimes spelled "collocation") refers to the placement of more than one antenna or transmitter on a single tower. Co-location helps minimize cumulative visual impacts of multiple towers by reducing the number of towers needed to provide sufficient telecommunications coverage. The Commission requires that "communication towers be made available for other users

where feasible in order to limit the number of such towers" (2010 CLUP, pg. 8). This co-location policy intends to minimize the potential cumulative visual impact stemming from duplicative facilities while allowing for development of infrastructure needed to provide network coverage and serve customers in remote locations in the state.

Applications for a development permit to erect a new tower should include both evidence that co-location on another tower is not practicable and a description of how additional services could co-locate on the proposed tower. Permits for new towers include conditions requiring the owner to allow future co-location of services.

PROPOSAL REVIEW AND VISUAL IMPACT ASSESSMENT

Communication towers are "Utility Facilities," which include radar, radio, television, and other communication facilities along with associated infrastructure such as towers and related equipment.[10] Utility Facilities are an allowed use in certain subdistricts[11] either by permit or special exception. Some subdistricts have additional requirements such as compatibility with existing recreational or residential uses.

To receive a Development Permit, new communication towers must meet statutory criteria for approval,[12] be an allowed use in the subdistricts involved, and meet LUPC development standards, including those related to scenic character.[13] These same criteria apply to meteorological and other types of towers.

[10] See definition of "utility facility" in LUPC Chapter 2, Section 2.02, 248
[11] Allowed as use requiring permit or by special exception in: D-CI; D-ES; D-GN; D-GN2; D-GN3; D-RB; D-RF; D-RS; D-RS2; D-RS3; M-GN; P-AR; P-FP; P-FW; P-GP; P-GP2; P-MA; P-RR; P-RT; P-SG; P-SL; P-UA; and P-WL subdistricts.
[12] As described in 12 M.R.S. §685-B(4)
[13] As described in LUPC Chapter 10, Land Use Districts and Standards

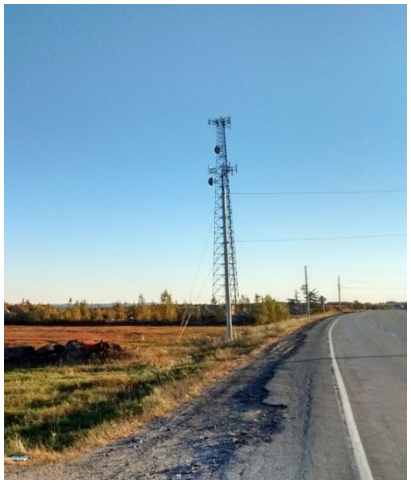
Appendix D – Minimizing Visual Impacts of Communication Towers through Design and Location

Communication towers often need to be taller than their surroundings to provide service coverage. As a consequence, towers may stick out above the tree line or horizon, potentially disrupting or altering views. However, careful consideration of the design and location of a new communication tower can minimize visual impacts. The Commission typically receives proposals for either monopole type or lattice type towers. The two types can create differing levels of visual impact, depending on their design components and location.

1. Tower Design

Monopole type towers are generally up to 100' Above Ground Level (AGL[14]) without guy wires and can be much taller with additional structural support. In order to achieve the height necessary to provide adequate communications coverage, they may need to be fairly tall, requiring either a more robust mast or guy wires to safely support the structure. Guy wires allow construction of taller, skinnier, cost-effective towers that would otherwise be structurally unsound. However, the addition of guy wires can potentially impact birds and mammals, which may collide with, or become entangled by, the additional structural elements. A monopole tower can also have smooth or less textured surfaces than other designs, which may increase its contrast with the landscape, making the structure more reflective and obtrusive, particularly if brightly colored.[15]

Lattice, or self-supporting type, communication towers can be quite tall and support more antennas and other appurtenances[16] at a greater height due to their structural stability, increasing co-location opportunities for future service providers. These towers typically have 3-4 steel "legs" and hold a variety of antennas that can support a range of telecommunications services. Due to their height and variety of appurtenances, these towers may be visually disruptive. However, despite being large and visible, their textured appearance sometimes helps them blend into the background, particularly if unlighted and painted a flat, neutral color (such as forest green if located in front of a forested backdrop, or gray). The lattice structure of the tower is open, consisting of many small pieces, which reduces contrast with the



Lattice Tower, WA County

[14] "Above Ground Level", or "AGL", is a term used by the FCC to describe the elevation of the highest point of a communication tower.

[15] For a more detailed discussion of viewer perceptions of texture and color, please see: *Best Management Practices for Reducing Visual Impacts of Renewable Energy Facilities on BLM-Administered Lands, Bureau of Land Management, 2013, Section 2.2*.

[16] The FCC uses the term "appurtenances" to describe antennae and other hardware mounted on the tower, on or within the base station.

background and allows the viewer to see through the structure, as opposed to viewing one smooth surface. [17]

Factors such as height, lighting, design, and construction materials can make a difference to the visibility of a new facility. Bright colors, smooth surfaces, or other discordant structural features can increase a tower's contrast with its background, making it more visible.

Lighting in particular can greatly increase the visibility of a tower. The Federal Aviation Administration requires towers over 200 feet tall to have strobe lights visible to passing aircraft. A common requirement is to have a high-intensity red strobing light at the top the tower at night, and sometimes additional medium intensity lights at a midpoint lower on the structure (depending on height). Sometimes lighting is required for shorter towers, such as those located near an airport[18]. These lights are intended to contrast starkly with their surroundings and are highly visible during the day and even more so at night when viewed against a darkened sky.

2. Tower Location

The location of a communication tower in part determines who, and how many people, are likely to have regular views of the tower and how noticeable those views might be, given the landscape. The farthest distance at which buildings and other structures are recognizable, depending on topography and other landscape characteristics, is generally 3-5 miles. Beyond 5 miles, definition of sharp lines begins to soften and a structure will likely become less recognizable, blending into the background.[19] The exception to this is a lit structure, which can be recognizable at greater distances both at night and during the day. The context of the viewer is also a factor. Views of a tower from a public road in a developed setting would likely be less noticeable than those from a hiking trail on a mountaintop in a remote setting, primarily because of the expectations of viewers.

Reflection of lighted communication tower on nearby water body (Photo courtesy of Terrence J Dewan and Associates)

When assessing potential visual impacts in both natural and developed settings, it is necessary to know the scenic resources in the area and the kinds of views users of those resources may expect. Views of towers from certain settings can potentially be discordant enough to change a viewer's perception of the landscape type. For example, lit towers, sited in locations where people do not expect to see artificial lights and where viewers expect to have a primitive, remote experience (such as one might encounter while visiting Baxter State Park), can fundamentally change an individual's perceptions about what type of landscape (natural vs. developed) they are in, or moving through, and may adversely impact their

[17] For a more detailed discussion of viewer perceptions of texture and color, please see: *Best Management Practices for Reducing Visual Impacts of Renewable Energy Facilities on BLM-Administered Lands, Bureau of Land Management,* 2013, Section 2.2.

[18] See DP 5050-B for an example of a tower under 200' AGL but required by the FAA to have lighting.

[19] For a more detailed discussion of how distance affects visual acuity, please see: *Best Management Practices for Reducing Visual Impacts of Renewable Energy Facilities on BLM-Administered Lands, Bureau of Land Management,* 2013, Section 2.2.

experience. Potential visual impacts from a new tower are likely to be greater for more primitive landscapes, while the same tower may have less visual impact in already developed landscapes.

Cumulative visual impact is the accumulation of visual impacts from multiple sources resulting in the degradation of important visual resources across the landscape. It is important to note that cumulative visual impacts from development of new communication towers are possible in the LUPC's service area despite policies on co-location and decommissioning.

SPECIFICATIONS FOR FINAL SUBDIVISION PLATS

Once you have been notified by the Commission's staff that your subdivision permit application will be approved, you should then have final subdivision plats prepared by a Licensed Architect, Professional Engineer, or Professional Land Surveyor, in accordance with the requirements listed below, and any changes required by the subdivision permit approval.

REQUIREMENTS FOR SUBDIVISION PLATS

The final plats must be drawn to the same scale as the site plans submitted with your subdivision permit application (generally, a scale of 1 inch = 100 feet (or less)). The plats must be at least 11 x 17 inches in size and no larger than 24 x 36 inches in size. If more than one sheet is required, match lines must be included on each sheet. The plats must be drawn on white paper with a minimum weight of 20 pounds. You will need to prepare one paper copy of each sheet of your final subdivision plats.

Final plats must contain the following information:

- A magnetic north reference pointer and true north reference pointer.
- A scale bar or scale reference text.
- All boundaries of the land to be subdivided, including ownership of any abutting properties.
- Individual lot lines, including designated public or common use areas and any other areas that are to remain undeveloped. Each lot must be labeled with exact length and direction, a unique lot number, and total acreage.
- Individual building envelopes for any lots where structural development may be allowed.
- Existing and final proposed lines and widths of all roads, cul-de-sacs, right of ways, and easements for utilities. Each line must be labeled with exact length and direction.
- The location and identification of all permanent monuments marking lot boundaries, easements, etc., and boundaries of the tract to be subdivided.
- Location and identification (with names if applicable) of any lakes, ponds, rivers, streams, wetlands or other waters.
- If any lots have been sold from the parcel within the past five years, include those property boundary lines as you would other lots within the subdivision and identify present lot owners and dates of sales.
- A title block which identifies the subdivision. The title block must be located in the lower right corner of each page of the final plats and must include the following information:

Subdivision Name
town, township or plantation and county where the subdivision is located
street name or route number where the subdivision is located
name of subdivider (include name of landowner, if different)
name of registry of deeds and book and page reference where title to land is recorded
total number of acres in subdivision
total number of subdivision lots
scale 1 inch = _____ feet (include scale bar)
name and address of person preparing the plat
title and registration number of person preparing the plat
signature of person preparing the plat
date plat was prepared

Seal of licensed architect, professional engineer, or professional land surveyor

- A signature block for signature by the Director of the Maine Land Use Planning Commission. The signature block must be located in the lower left corner of each page of the final plats and must include the following information:

> This plat has been approved with conditions by the Maine Land Use Planning Commission in accordance with 12 M.R.S. Section 685-B(6). Approved lots within this subdivision may be sold or leased only in accordance with terms and conditions of Subdivision Permit SP _____ as recorded in the _____ County Registry of Deeds in Book _____ on Page _____. Except for structures allowed without a permit in compliance with Maine Land Use Planning Commission standards, no structure or other such construction may be undertaken on any lot without first obtaining an approved building permit from the Maine Land Use Planning Commission.
>
> By: _____ Date: _____
> Director, Maine Land Use Planning Commission
>
> This plat has been recorded in the _____ County Registry of Deeds in Book_____ on Page or File _____.
>
> Date:_____ Time: _____
>
> Attested by: _____
> Registrar

- A plat must not include or illustrate information using grayscale.

FILING AND RECORDING YOUR SUBDIVISION PLATS

1. Submit one paper copy of each sheet of the subdivision plat to the Commission for approval and signature by the Director. Mail the copies to the regional office serving your area (see the LUPC website at www.maine.gov/dacf/lupc/about/offices/index.shtml).
2. In a timely manner, often within one week of receipt of receiving the final plat(s), the LUPC staff will record each plat on your behalf with the appropriate registry of deeds. The LUPC staff will then return to you a copy of the recorded documents. In the event that you record the plat(s) and subdivision permit at the registry, you must provide the following information to the LUPC staff within three weeks: i) one paper copy of the recorded plat(s), and ii) the book and page of the recorded permit. ***Important:*** *Maine law (12 M.R.S. §685-B(6)) provides certain legal and financial remedies for anyone who has purchased subdivided real estate that was not recorded or that was not properly recorded.*
3. You should obtain or produce additional copies of the plat(s) and of the subdivision permit approval to show to prospective subdivision lot buyers.
4. Please note that a Certificate of Compliance must be issued prior to the conveyance of any lots, and that the filing and recording requirements described above must be met prior to any issuance of a Certificate of Compliance. See the Commission's website, at www.maine.gov/dacf/lupc/application_forms/index.shtml for the necessary application form for a Certificate of Compliance.

WHERE CAN I GET HELP TO COMPLETE THIS REQUIREMENT?

Call the LUPC office that serves your area and ask to speak to one of our regional representatives (see below for office locations and contact information). Also, go to the LUPC website at www.maine.gov/dacf/lupc/ to find our rules and regulations, recent publications and newsletters, Commission meeting agendas, and other valuable information.

MAILING YOUR FINAL PLATS

Submit the necessary plats to the LUPC staff member assisting you with the review of the subdivision. Otherwise, submit the necessary plats to the LUPC office serving your area (see the LUPC website at www.maine.gov/dacf/lupc/about/offices/index.shtml).