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# Dickey-Lincoln School Lakes Project Transmission Studies Environmental Impact Statement: Appendix I: Visual-Recreation Resources Impact Study

United States Department of Energy

ENVIRONMENTAL IMPACT STATEMENT

# VISUAL-RECREATION RESOURCES IMPACT STUDY

## DICKEY-LINCOLN SCHOOL LAKES PROJECT

## TRANSMISSION STUDIES

U. S. Department of Energy
Federal Building
Bangor, Maine 04401
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APPENDIX
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Transmission EIS Study Team
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# VISUAL-RECREATION RESOURCES IMPACT STUDY

## PREFACE

On October 1, 1977, the responsibility for marketing federally generated power was transferred from the Department of the Interior to the newly formed Department of Energy. The power transmission portions of the Dickey-Lincoln School Lakes Project were included in that transfer.

The U.S. Departments of the Interior and Energy have conducted system planning, location, and environmental studies for the transmission facilities required for the Dickey-Lincoln School Hydroelectric Project. These studies of many alternate routes have resulted in identification of a proposed transmission line route, and an environmental impact statement, as required by the National Environmental Policy Act of 1969. This report, one of several covering various topical areas, is published as an appendix to that statement.

Appendix I, Visual-Recreation Resources Impact Study (two volumes, the second being a map volume), documents a study conducted jointly by the Department and Comitta Frederick Associates (CFA), a consulting firm based in West Chester, Pennsylvania. The study began in April 1977. At that time the Department had completed system planning and regional corridor studies, and identified a system of alternative transmission line routes, substations, and microwave additions (delineated on the map inserted in this report).

The purpose of this study was to assess and report visual impacts and recreational resources affected by the proposed facilities. That portion of northern New England encompassed in our "study area" serves as a recreation area for many people from within the area, and also from the heavily populated areas to the south of it. There is also a deep sense of historical significance to portions of the study area. The DOE team recognizes the importance of this particular study. The information gained in the visual and recreation study played a major role in reaching a decision regarding the "proposed" route, as well as providing input to the environmental impact statement.

Harry D. Hurless
Project Manager

1/79

# DICKEY-LINCOLN SCHOOL LAKES TRANSMISSION

# ENVIRONMENTAL IMPACT STATEMENT PROJECT

## ENVIRONMENTAL ASSESSMENT OF ALTERNATIVE ROUTES

## VISUAL - RECREATION RESOURCES IMPACT STUDY

Prepared By:

U.S. DEPARTMENT OF ENERGY
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1978

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# Introduction

# INTRODUCTION

This study reflects the combined efforts of the U.S. Department of Energy (DOE) and Comitta Frederick Associates (CFA). CFA has been particularly well qualified to assist the DOE with the visual and recreational impact assessments. CFA had been involved in two earlier phases of the Dickey-Lincoln School Lakes Transmission - EIS Project. The first phase involved the inventory and collection of environmental data. This study culminated in the publication of the Environmental Data Reconnaissance Report. The second phase involved the selection of alternative transmission corridors to accommodate three proposed transmission system plans. The results of this study were published in The Assessment of Alternative Power Transmission Corridors (prepared by VTN Consolidated, Inc., in association with Comitta Frederick Associates). CFA was thus well familiar with the resources of the study area and their susceptibility to impact by this project.

The proposed transmission facility studied in detail here consists of the following:

a. A 138-kV a-c wood pole line from Dickey Dam to Fish River Substation.

b. Two 345-kV a-c circuits from the project site to Moore Substation northwest of Littleton, New Hampshire over a route through western Maine and New Hampshire. The two circuits would be suspended from a single row of double-circuit lattice steel towers.

c. A 345-kV a-c wood pole transmission line from Moore Substation to Granite Substation near Barre, Vermont.

d. A 345-kV a-c wood pole line from Granite Substation to Essex Substation near Burlington, Vermont.

There will be new substations built at Dickey Dam, and Lincoln School Dam, and a mid-point switching station will be constructed near the town of Jackman, Maine. There will be additions to the existing Fish River, Moore, Granite, and Essex Substations. Microwave facilities also will be required to monitor and control transmission facilities associated with the project. Plans call for additional facilities at both new and existing microwave sites.

The general area under study extends from Fort Kent, Maine to Burlington, Vermont and includes much of the area of western Maine, northern New Hampshire, and north central Vermont. The study area encompasses a complex of alternative transmission routes (each 0.5 mile wide) referred to as the route network (see Figure 1 at back of report). Individual route alignments within the network are termed links. Each link was given a number to distinguish it from all other alignments. A combination of links which connect two substations form a route.

For purposes of both analysis and discussion, routes are classified as "segments" between substations or terminal facilities. Five segments make up the proposed route. They are: Segment A - Dickey Substation to Fish River Substation via Lincoln School Substation; Segment B - Dickey Substation to Moose River or Jackman Switching Station; Segment C Moose River or Jackman Switching Station to Moore Substation; Segment D Moore Substation to Granite Substation; and Segment E Granite Substation to Essex Substation. Visual and recreational impact assessments have been done for each alternative route. Similar assessments were made by other consultants for other topics including ecological resources, existing and proposed land use, socio-economic resources, historical-archeological resources, geotechnical resources, and site engineering.

This report has been divided into five sections. The middle three describe, respectively, the components of the overall transmission system -- transmission lines, substations, and microwave installations. The first section treats the study methods and procedures for both visual and recreational components of the study. The last section ranks the alternative routes. Recreational and visual resources are treated separately throughout, as are their individual components. The transmission line alternatives, substations, and microwave installations are treated individually, except where microwave installations are integral parts of proposed substations. Within each section the discussion progresses from a description of existing environment to an assessment of impact, to a treatment of mitigating actions. This structure ties the report into a single document, while permitting easy access to its individual parts. The appendices to this report contain detailed narrative and tabular material upon which the evaluation and analysis discussions were based. There is also a map volume containing resource maps of visual and recreational resources.

The visual and recreational study components have been evaluated as "resource topics" for this impact assessment. Evaluations thus respond not only to the present use of these resources but also to their potential use based upon amenity values. Because more than half of the study area is semi-wilderness, this was an important consideration. The visual and recreation resource impact assessments are integral components of the overall interdisciplinary approach and are a key input to developing a proposed route that would have the least environmental impact.

The resource topics were disaggregated into components, based on how either the resources themselves or impacts upon them are perceived. The impact on visual resources has been assessed with respect to three components of the visual environment: visual site attractiveness, visual landscape quality. and viewers. Recreational resources were inventoried on the basis of use, ownership, and activities; however, the impact assessment focused on the manner in which they may be affected. Recreational resources may be either displaced or pre-empted, or intruded upon visually. Because impacts vary greatly throughout the study area, separation of visual and recreation resources into the above components assisted in their comprehensive treatment. The interplay between the

two resource types, however, is significant and provisions to reflect this have been incorporated into this report. For example, sites of visual interest are often recreational in nature and vice-versa. The means for considering these resources together was accomplished through the establishment of a "viewshed" which spatially organizes visual information.

Perhaps the most significant difference between the two resource types lies in the perception of impact. Visual resources, it may be argued, would only be affected negatively by the proposal, whereas recreational resources could experience beneficial impacts in certain areas, such as expanding snowmobile trail systems or increasing access into heretofore inaccessible areas. Beneficial effects are however less frequent, fewer in number, and less reliably predicted.

# I. Study Methodology

# 1. STUDY METHODOLOGY

This section of the report deals with the methodology used to assess impact or visual and recreational resources. It is subdivided under three major headings. Section 1.1-Study Area Definition discusses the areal parameters defining the study. Sections 1.2-Visual Resources, and 1.3-Recreational Resources focus on the procedures used to evaluate the existing environment, assess the impact of the proposed facilities on the environment, and determine suitable mitigating actions. Each of these is discussed separately for each resource.

## 1.1 Study Area Definition

The study area used for the mapping, analysis, and assessment of visual and recreational resources is comprised of the transmission routes themselves and the viewing areas of the assumed centerline. Similar to other assessment studies, the transmission route boundaries (0.25 mile on either side of the proposed lines) served as the immediate area of study. However, due to the nature of these topical assessments, impacts needed to be assessed with respect to the viewshed of the transmission facilities, which in many instances was broader than the 0.5 mile route. In fact, in the data collection phase, information was gathered within six miles on either side of the proposed alignment, a limit based on previous studies which indicate this to be the distance from which the transmission towers could still be observed. Also, since a cleared right-of-way is observable from greater distances when the viewer position is at an acute angle to the right-of-way alignment, in some instances the viewsheds actually extended beyond the six mile area.

Table I.1 lists the minor civil divisions through which proposed route alternatives pass and those which contain parts of viewshed areas. Table I.2 lists, by State, the U.S. Geological Survey (USGS) Quadrangle sheets used as base maps for the entire study area.

## 1.2 Visual Resources

### 1.2.1 Visual Resource Evaluation

This phase of the study is concerned with the existing "visual environment." For this study the "visual environment" has been defined as a 0.5 mile wide area (the route) centered on the proposed transmission alignment; the area surrounding the proposed alignment from which potential views of it are possible (the viewshed); and any area which may be viewed from locations within the viewshed when looking in the direction of the proposed alignment.

Table I.1 - Civil Divisions within the Study Area

| Within Proposed Alternative Routes | Within Six Miles and/or Viewshed |
|---|---|
| MAINE | |
| Adamstown | Appleton |
| Alder Brook | Attean |
| Alder Stream | Bigelow |
| Allagash | Davis |
| Bald Mountain | Dead River |
| Big W | East Middlesex Canal Grant |
| Bradstreet | Flagstaff |
| Brassua | Gorham Gore |
| Chain of Ponds | Johnson Mountain |
| Comstock | Lang |
| Dennistown | Little W |
| Dole Brook | Lobster |
| Elm Stream | Lower Enchanted |
| Eustis | Merrill Strip |
| Forsyth | Misery Gore |
| Fort Kent | Northeast Carry |
| Hammond | Parkertown |
| Hobbstown | Parlin Pond |
| Holeb | Pittston Academy |
| Jackman | Plymouth |
| Jim Pond | Rangeley |
| Kibby | Richardsontown |
| King & Bartlett | Sandy Bay |
| Lincoln | Township C |
| Long Pond | Township D |
| Lowellton | Wallagrass |
| Lower Cupsuptic | Wyman |
| Lynch Town | T4 R17 Wels |
| Magalloway | T5 R7 Bkpwkr |
| Moose River | T5 R17 Wels |
| Oxbox | T5 R19 Wels |
| Parmachenee | T5 R20 Wels |
| Russell Pond | T7 R18 Wels |
| Seboomook | T8 R18 Wels |
| Seven Ponds | T9 R14 Wels |
| Skinner | T9 R17 Wels |
| Soldiertown | T10 R14 Wels |
| St. Francis | T12 R13 Wels |
| Stetson Town | T18 R10 Wels |
| St. John Plantation | |
| St. John Township | |
| Thorndike | |
| Tim Pond | |
| Upper Cupsuptic | |
| Upper Enchanted | |
| West Middlesex Canal Grant | |

Table I.1 - (Cont'd)

| Within Proposed Alternative Routes | Within Six Miles and/or Viewshed |
|---|---|
| T4 R15 Wels | |
| T5 R6 Bkpwkr | |
| T5 R15 Wels | |
| T5 R18 Wels | |
| T6 R15 Wels | |
| T6 R17 Wels | |
| T7 R15 Wels | |
| T7 R15 Wels | |
| T7 R16 Wels | |
| T8 R15 Wels | |
| T8 R16 Wels | |
| T8 R17 Wels | |
| T9 T15 Wels | |
| T9 R16 Wels | |
| T10 R15 Wels | |
| T10 R16 Wels | |
| T11 R14 Wels | |
| T11 R15 Wels | |
| T12 R14 Wels | |
| T13 R13 Wels | |
| T13 R14 Wels | |
| T14 R12 Wels | |
| T14 R13 Wels | |
| T15 R11 Wels | |
| T15 R12 Wels | |
| T16 R9 Wels | |
| NEW HAMPSHIRE | |
| Clarksville | Atkinson & Gilmanton Academy Grant |
| Colebrook | Bethlehem |
| Columbia | Carroll |
| Dalton | Dixs Grant |
| Dummer | Ervings Location |
| Dixville | Jefferson |
| Errol | Kilkenny |
| Littleton | Lyman |
| Lancaster | Milan |
| Monroe | |
| Millsfield | |
| Northumberland | |
| Odell | |
| Pittsburg | |
| Stark | |
| Stratford | |
| Stewartstown | |
| Second College Grant | |
| Whitefield | |
| Wentworths Location | |

Table I.1 - (Cont'd)

| Within Proposed Alternative Routes | Within Six Miles and/or Viewshed |
|---|---|
| VERMONT | |
| Barnet | Cabot |
| Barre | East Montpelier |
| Barre City | Essex |
| Berlin | Granby |
| Bolton | Maidstone |
| Concord | Montpelier City |
| Duxbury | Middlesex |
| Guild Hall | Newbury |
| Groton | |
| Jericho | |
| Lunenburg | |
| Moretown | |
| Marshfield | |
| Orange | |
| Peacham | |
| Plainfield | |
| Ryegate | |
| Richmond | |
| Topsham | |
| Waterford | |
| Washington | |
| Williamstown | |
| Williston | |
| Waterbury | |

Table I.2 - U.S. Geological Survey Quadrangle Index [1/]

| MAINE | NEW HAMPSHIRE | VERMONT |
|---|---|---|
| 4. Allagash | 38. Indian Stream | 45. Dixville |
| 5. St. Francis | 39. Second Connecticut Lake | 52. Guildhall |
| 6. Eagle Lake | 45. Dixville | 55. Burlington |
| 9. Round Pond | 46. Errol | 56. Camel's Hump |
| 10. Allagash Falls | 52. Guildhall | 57. Montpelier |
| 12. Clayton Lake | 53. Percy | 58. Plainfield |
| 13. Umsaskis Lake | 54. Milan | 59. St. Johnsbury |
| 15. Baker Lake | 59. St. Johnsbury | 60. Littleton |
| 16. Allagash Lake | 60. Littleton | 61. Whitefield |
| 19. Norris Brook | 61. Whitefield | 63. Barre |
| 20. Saint John Pond | 62. Mt. Washington | 64. East Barre |
| 21. Caucomgomoc Lake | 65. Woodsville | 65. Woodsville |
| 24. Penobscot Lake | | |
| 25. Seboomook Lake | | |
| 26. North East Carry | | |
| 27 Skinner | | |
| 28. Attean | | |
| 29. Long Pond | | |
| 30. Brassua Lake | | |
| 34. Jim Pond | | |
| 35. Spencer Lake | | |
| 36. Pierce Pond | | |
| 39. Second Connecticut Lake | | |
| 40. Cupsuptic | | |
| 41. Quill Hill | | |
| 42. Stratton | | |
| 46. Errol | | |
| 47 Oquossoc | | |
| 54. Milan | | |

1/ 1:62,500 composites of 1;24,000 quadrangles:

(27) Skinner, Boundary Pond, and Skinner NE;
(34) Jim Pond, Chain of Ponds, Kibby Mountain, and Merrill Mountain;
(41) Quill Hill, Kennebago Lake, Tim Mountain, and Black Mountain;
(57) Montpelier, Middlesex, Mount Worcester, and Stowe;
(60) Littleton, Lower Waterford, Miles Pond, and Concord

The results of the visual resource evaluation of each visual resource category are summarized: for each of five segments (A-E) in section 2.1.1; for each link in Appendix A; and for each link-mile in Appendix C. Summaries for each substation and microwave installation appear in sections 3.1 and 4.1 respectively. Resource maps depicting the characteristics of the visual environment are enclosed in the Map Volume.

#### 1.2.1.1 Definition of Visual Resources

The visual environment was considered to have the following descriptive attributes: visual site attractiveness, pertaining to a near-view or proximal viewing environment within which a viewer, whether real or potential, is situated; a visual landscape quality, which relates to a more distant viewing condition most aptly typified by the word "scenery;" a capacity for visual landscape absorption, which is a measure of the degree to which a given landscape may hide or conceal the proposed transmission facilities; and a viewing audience made up of those viewers, within the viewshed, who would be able to see the proposed transmission facility. These attributes collectively describe the existing visual environment, which may be altered or changed in three principal ways by constructing the proposed facility. These visual impacts are: Impact on Visual Site Attractiveness, Impact on Visual Landscape Quality. and Impact on Viewers. Only the last is concerned exclusively with "real life" impacts related to visual phenomena now being observed. The two former types are resource-based impacts, perhaps most concerned with a future resource impact condition.

#### 1.2.1.2 Determination of Data Needs

Having defined visual resources, the next steps involved a literature search, product identification, and the identification of data needs. The literature search was conducted to help formulate specific criteria, methods, and techniques. Product identification involved formulating the desired manner and form for describing visual resources and impacts upon them. The suitability of study products for other topical study groups was determined and accommodated. Data needs were defined to satisfy the criteria and products determined through the above efforts.

#### 1.2.1.3 Data Inventory

The data inventory required collection of data which are primarily three-dimensional, above-ground landscape phenomena. The initial categories of data identified are listed below. The visual resource subtopics to which they apply are indicated in parentheses.

Topographic Elevation (Visual Landscape Quality, Viewers)
Topographic Orientation (Visual Landscape Quality. Viewers)
Physiography (Visual Landscape Quality)
Urban Land Use (Visual Site Attractiveness, Visual Landscape Quality. Viewers)

Recreation Land Use (Visual Site Attractiveness, Visual Landscape Quality, Viewers)
Existing Utilities and Rights-of-Way (Visual Site Attractiveness, Visual Landscape Quality, Viewers)
Vegetation/Open Land (Visual Landscape Quality, Viewers)
Land Cover Type (Visual Site Attractiveness)
Hydrology (surface water bodies) (Visual Site Attractiveness, Visual Landscape Quality)
Hydrology (wetlands) (Visual Site Attractiveness, Visual Landscape Quality)
Existing Unique Resources (Visual Site Attractiveness)
Existing Scenic Resources (Visual Site Attractiveness, Visual Landscape Quality)
Existing Historic Resources (Visual Site Attractiveness, Viewers)

Data on most of these categories were extracted from USGS Quadrangles, aerial photographs, and private and government documents and maps. Some data were provided by other study teams or generated specifically for use in this assessment. Helicopter reconnaissance supplemented the data collection effort.

Assembling the data often required adjusting the data requirements among categories. Where data voids were discovered, the missing information was derived from other sources, including the products of other study groups. Significantly, this often resulted in reformulating analysis techniques. The resultant inventory categories -- specified as to sources -- are discussed below:

Topographic Elevation - Data available on 15 minute USGS Quadrangles, depicting 20 foot contours intervals (see list in Table I.2).

Topographic Orientation - Data also interpreted from USGS Quadrangles.

Physiography - Data interpreted from both USGS Quadrangles and National Topographic Maps (1:250,000 scale series) according to the following five physiographic zone categories:

- mountains
- hills
- hills adjacent to mountains
- gently rolling terrain
- gently rolling terrain adjacent to mountains

These categories were chosen for their ease of application to the pre-analysis of Visual Landscape Absorption and existing Visual Landscape Quality. Not only does this system provide insight into the nature of the visual environment within each physiographic zone, it also allows the relationships between zones to be understood.

Urban Land Use - Within the route, urban land use data were provided primarily by the land use impact study prepared by the Edward C. Jordon Co. The information was supplemented by the 15 minute quadrangles. The individual data items within this category are shown on Table I.3. Outside of the route, aerial photography. primarily. was used to extract

Table I.3 - Visually Sensitive Urban Land Use Categories

| CATEGORIES | | UNIT OF MEASUREMENT |
|---|---|---|
| RESIDENTIAL | | |
| Single Family | 1-5 | number of |
| | 6-25 | number of |
| | 25+ | number of |
| Multiple Family | | number of |
| Group Quarters | | number of |
| Mobile Homes | | number of |
| TRANSPORTATION | | |
| Roads/Highways | ADT 0-750 | miles in viewshed and number of route crossings |
| | ADT 750-3000 | miles in viewshed and number of route crossings |
| | ADT 3000+ | miles in viewshed and number of route crossings |
| Passenger Railroads | | miles in viewshed and number of route crossings |
| HISTORIC | | |
| Historic Sites | | number of |
| TRANSMISSION LINE PARALLEL | | miles of link |

three categories of residential land use: isolated residences (0-5 homes), clusters of residences (6-25 homes), and villages or town centers (25+ homes). Various state, regional, county, and town maps were also used to collect data on these residential categories and provide additional information about transportation, and other commercial, industrial, and institutional uses. Roads were classified according to three categories of average daily traffic (ADT) volume. They are: light (ADT 0-750); moderate (ADT 750-3000); and high (ADT 3000+).

Data relative to numbers of viewers were prepared for use in the assessment of impact on viewers. They were mapped specifically for the visual resources impact assessment (see Map Volume).

Recreational Land Use - Data collected for the recreation impact assessment were directly applicable to the visual resources impact assessment. Data items in this category are listed in section 1.3.1.2.

Existing Utilities and Rights-of-Way - Within the route, data items for this category were provided by other study teams. Outside the route the data were obtained from the 15-minute quadrangles, various private and governmental agency sources, and aerial photographs. Included in this category are data on the location of passenger rail lines, which were needed to assess impact on viewers.

Vegetation/Open Land - This category of data, a simple two item classification of land cover, was needed to develop actual viewshed conditions from the potential viewshed maps (which were based solely upon topographic conditions) by identifying vegetation blocking conditions and open viewing conditions. It was also needed to rate variety and contrast in the determination of visual landscape quality. Within the route it was possible to extract the information from the land cover type mapping prepared by the ecological resources study team, whereas aerial photography was used to delineate areas of vegetation versus unvegetated areas elsewhere within the viewsheds. Source: USGS Quadrangles and aerial photography.

Land Cover Type - An extensive inventory of land cover types within the route was provided by the ecological study contractor, The Center for Natural Areas. Appendix E to the EIS contains a detailed accounting of the items in this data category. The following section (section 1.2.1.4) discusses their application. This information was important in the study of visual site attractiveness.

Hydrology (surface water bodies) - The locations of all rivers, streams, lakes, and ponds within the route were extracted from the Land Use and Land Cover Type maps. Outside the route, such data were obtained from the 15 minute quadrangles and aerial photographs.

Hydrology (wetlands) - Detailed data on wetlands within the route were derived from the land cover type data. Outside the route, wetlands data were obtained from the 15 minute quadrangles. Because the data were used in the assessment of existing landscape quality, such a general level of detail was acceptable. The data items and their application are discussed in section 1.2.1.4.

Existing Unique Resources - These data, used to identify existing visual site attractiveness, were available from the recreational resources maps.

Existing Scenic Resources - These data, used to check existing visual site attractiveness and landscape quality values, were also available from the recreational resources inventory. Their application to the study is discussed in section 1.2.1.4.

Existing Historic Resources - The locations and nature of historic sites and places were obtained from the Historic/Archaeologic Resources Impact Study, prepared by the Public Archaeology Facility, State University of New York, Binghamton, N.Y

### 1.2.1.4 Pre-analysis

Pre-analysis is the preparation and reformulation of data into forms which are readily usable in the analysis, or in this case, impact assessment. Viewing population data were already compatible. However, almost all other data categories had to be transformed into formats more directly applicable to assessment of impacts on visual resources. Four pre-analyses were performed: the identification of Viewsheds, Visual Landscape Absorption, Visual Site Attractiveness, and Visual Landscape Quality. These pre-analyses are discussed below.

Viewsheds

"Viewshed" is a term for the spatial zone that defines the extent of a particular view or a series of views. For this study. the viewshed is the area in the landscape within which the proposed transmission line and associated facilities are visible. Viewsheds were delineated for all alternative routes and substations. For microwave sites, a standard two-mile radius was used to define the viewshed. The tasks involved considered the following:

a. The process for determining the zones consisted of first assessing the relative viewing distance for both the double circuit steel towers and the wood pole H-frame type of tower The data used for this determination were based in large part on a recent research study entitled, Measuring the Visibility of H.V. Transmission Facilities in the Pacific Northwest (Jones and Jones, 1976). A distance of six miles is the maximum distance that the transmission line would be visible and still have a significant visual impact. The determination of this distance considered both the towers and conductors. Ten miles was chosen as the maximum impact distance for a cleared right-of-way; however, at this distance viewer position must be at an acute angle to the right-of-way alignment. Two miles is the maximum viewing distance for substations and microwave installations.

b. The second step in the process consisted of developing general criteria by which to determine if a route would be visible. These

criteria consisted of the topography of the landscape area within potential viewing distance, the general vegetation pattern of the area, the tower height, the vegetation height, and the positions of viewers in relation to the line.

c. The third step was to apply the above criteria as a set of decision rules in order to delineate the geographic extent of the viewshed. Preliminary viewshed boundaries were adjusted and modified through repeated evaluations prior to their delineation on maps.

d. The final step was to review in the field -- both on the ground and by helicopter -- the accuracy of selected viewsheds. Final adjustments were made based on these sample observations.

## Visual Landscape Absorption

The landscapes along the proposed routes change considerably between the Dickey-Lincoln School dam sites and Essex Substation. In that three different types of transmission facilities are proposed, the degree of visual impact on each landscape will vary according to how much each facility is perceived to be an intrusion on that natural landscape. Visual landscape absorption was defined to express the degree to which a given landscape may modify perception. It does not measure whether the transmission facility may be seen, but rather -- assuming visibility -- how well the facility may be seen. The assumption of this study is that greater clarity of perception causes greater impact.

The visual landscape absorption pre-analysis identified three landscape factors which contribute to absorption: physiography, topographic orientation, and vegetative cover. Maps of these landscape features were overlayed to reveal different physiographic/orientation/vegetative site-types. These site-types were then interpreted relative to the different transmission facility types to assess levels of landscape absorption around each facility type, as indicated below.

a. First, five physiographic zones were identified -- i.e., mountains, hills, hills adjacent to mountains, gently rolling terrain, and gently rolling terrain adjacent to mountains. These categories allowed inferences to be made about both the relative locations of potential viewers, and each transmission facility. Facility location is considered to be the most significant factor affecting absorption. Physiographic zones were defined more precisely under the following categories:

- mountaintop
- hilltop
- ridge and secondary hilltop
- mountainside
- steeply sloping hillside
- gently rolling terrain
- narrow valley floor
- broad valley floor

This refined breakdown allowed the identification of locations where towers would be silhouetted against a sky backdrop and thus dominate the landscape. It also clarified closure and viewer position conditions.

b. Vegetation was then examined to identify how it might act as a blocking factor (particularly if the height of the facility is comparable to the tree heights), in order to identify contrast between structures and their visual backdrops, and to assess contrast between rights-of-way and their surroundings. Vegetation type was examined because it determines to some extent the amount of right-of-way clearing necessary to install and maintain a facility. To express the effect of vegetation (or lack of it) on visual landscape absorption, the land cover type data were reorganized into three categories -- wooded, semiwooded, and open -- in order of decreasing absorption capability. These categories and their constituent land cover types are presented in Table I.4.

c. Finally, topographic orientation was used to adjust the absorption values determined from the other two variables. Since north-facing orientations have decreased illumination conditions, north-facing mountainsides and hillsides are considered to be most absorptive. This factor was incorporated into the physiographic category by expanding the eight subzones to include north-facing hillsides and mountainsides. The physiographic zones and subzones, and vegetation conditions were overlayed on a set of workmaps to assign visual landscape absorption values to areas along the alternative routes.

Through the above procedures, four categories of visual landscape absorption were identified: high absorption, moderate absorption, low absorption, and very low absorption (see Figure I.1). These four categories were used in the assessment of impacts on visual landscape quality and viewers as discussed in sections 1.2.2 and 1.2.3.

## Visual Site Attractiveness

Visual site attractiveness measures the value of visual amenities in an area near to or immediately surrounding any point within the proposed route. It expresses visual qualities in a near-view condition. For example, a woodland location is as visually attractive as the woods, not an area beyond them. By the same token, an agricultural field has a visual attractiveness equal to the visual amenity value of the field. The same is true for urban environments. In essence, visual site attractiveness is an evaluation of the visual resource components of particular sites which compose a landscape, as opposed to visual landscape quality, which evaluates the overall landscape.

To determine visual site attractiveness for points within the route, it was necessary to identify existing, perceivable, three-dimensional landscape phenomena within the route. Maps of land cover types and existing land uses were overlayed to delimit the extent of all unique visual elements within the "near visual environment" of the route. These elements were then mapped and assigned visual site attractiveness

Table I.4 - Vegetation Classification For Visual Landscape Absorption

WOODED

SWM - Spruce-Fir - Mature
PNM - Pine-Hemlock - Mature
CS - Cedar
SHM - Softwood-Hardwood - Mature
HSM - Hardwood-Softwood - Mature
PBM - Poplar-Birch - Mature
HWM - Northern Hardwoods - Mature
AW - Alder Willow
PLT - Forest Plantations
DA - Snag/Insect Damage Areas
SP - Swamp

SEMI-WOODED

SWR - Spruce-Fir - Regenerating
PNR - Pine-Hemlock - Regenerating
MR - Mixed - Regenerating
PBN - Poplar-Birch - Regenerating
HWR - Northern Hardwoods - Regenerating
O - Orchards

OPEN

AF - Abandoned field
RAF - Regenerating abandoned cultivated field
F - Cultivated fields
BG - Bog
M - Marsh
OW - Open Water
B - Rock Outcrops
EWV - Localized emergent wetland vegetation
BD - Beaver Dams
MM - Man-Made features
ERW - Existing right-of-way

values. Table I.5 categorizes all the land cover types and land uses, according to five qualitative categories of site attractiveness. The alpha-numeric nomenclature contained on the source maps is shown in the table except where interpretation was from the other impact studies. The qualitative values assigned to visual site attractiveness (very high, high, moderate, low, and none) were given corresponding quantitative values as follows: very high=5; high=3; moderate=2; low=1; and none=0. The values are directly related to impacts on this visual resource (see section 1.2.2.1). Because of this direct relationship, visual site attractiveness values may be interpreted from the Impact on the Visual Site Attractiveness maps (see Map Volume).

The numerical values have no absolute significance in themselves, but are used to measure the relative attractiveness of the area along each mile of alignment for any given length of line. These statistics do not reflect existing site attractiveness within the route but, rather, measure it only along a centrally located 150 foot right-of-way within the route. All areas of significance, regardless of size, have been described. However, only those areas bordering the proposed alignment for more than 0.5 miles are quantitatively measured.

Other items worthy of mention are as follows: First, point data -- such as individual structures or undelineated spatial phenomena represented by points -- are not cartographically represented as separate items unless such points are qualitatively different from their surroundings. This applies primarily to the visually sensitive land use categories. Second, small streams and non-major roads -- which are small-scale line phenomena -- have not been treated here because they were considered insignificant contributors, overall, to the impact assessment. They are, however, fully treated in the ecological resources and land use technical reports, respectively. Third, a number of potentially very attractive sites identified from the ecological resources impact assessment still await field investigation. Thus, they have not been assessed but are mentioned here (Table I.6) for their possible future attention and consideration. Finally, mention must be made of the uniquely preserved mature woodlands within public land in Maine, for which the state has retained the timber and grass rights. Given their state of relative preservation, the woods have probably not been cut-over recently, nor would they be in the near future. This enhances the site attractiveness of such woodlands, raising their value from moderate to high.

Visual Landscape Quality

Visual landscape quality may be described as the qualitative value of the view -- before location of the transmission facility -- toward the proposed transmission facility location, from any point within the viewshed. This value describes the existing visual landscape quality without the proposal. Impacts on visual landscape quality reflect changes to this condition.

Figure I.1 - Visual Landscape Absorption Matrix [1/]

| PHYSIOGRAPHY | LAND COVER | | | | | |
|---|---|---|---|---|---|---|
| | 345-kV | | | 138-kV | | |
| **Mountains** | | | | | | |
| Mountaintop | 4 | 4 | 4 | 3 | 3 | 4 |
| Hilltop | 3 | 4 | 4 | 3 | 3 | 3 |
| Ridges, Secondary Hilltops | 3 | 3 | 3 | 2 | 2 | 3 |
| Mountainside | 3 | 3 | 3 | 2 | 1 | 1 |
| North-Facing Mountainside | 2 | 2 | 2 | 1 | 1 | 1 |
| Hillside, Steeply Sloping | 3 | 2 | 2 | 2 | 1 | 1 |
| North-Facing Hillside, Steep | 2 | 1 | 1 | 1 | 1 | 1 |
| Gently Rolling Terrain | 3 | 1 | 1 | | | |
| Narrow Valley Floor | 3 | 3 | 3 | 3 | 2 | 2 |
| Broad Valley Floor | 2 | 1 | 1 | 2 | 1 | 1 |
| **Hills Adjacent to Mountains** | | | | | | |
| Mountaintop | 4 | 4 | 4 | 3 | 3 | 4 |
| Hilltop | 4 | 4 | 4 | 4 | 3 | 4 |
| Ridges, Secondary Hilltops | 3 | 4 | 4 | 3 | 2 | 3 |
| Mountainside | 3 | 3 | 3 | 2 | 1 | 1 |
| North-Facing Mountainside | 2 | 2 | 2 | 2 | 1 | 1 |
| Hillside, Steeply Sloping | 3 | 2 | 1 | 2 | 1 | 1 |
| North-Facing Hillside, Steep | 2 | 1 | 1 | 1 | 1 | 1 |
| Gently Rolling Terrain | 3 | 1 | 1 | 2 | 1 | 1 |
| Narrow Valley Floor | 3 | 3 | 3 | 3 | 2 | 2 |
| Broad Valley Floor | 2 | 1 | 1 | 2 | 1 | 1 |
| **Hills** | | | | | | |
| Mountaintop | 4 | 4 | 4 | 3 | 3 | 4 |
| Hilltop | 4 | 4 | 4 | 3 | 3 | 4 |
| Ridges, Secondary Hilltops | 3 | 4 | 4 | 3 | 3 | 3 |
| Mountainside | 3 | 3 | 3 | 2 | 1 | 1 |
| North-Facing Mountainside | 2 | 2 | 2 | 1 | 1 | 1 |
| Hilside, Steeply Sloping | 2 | 2 | 2 | 2 | 1 | 1 |
| North-Facing Hillside, Steep | 1 | 1 | 1 | 1 | 1 | 1 |
| Gently Rolling Terrain | 2 | 1 | 1 | 2 | 1 | 1 |
| Narrow Valley Floor | 3 | 3 | 3 | 3 | 2 | 2 |
| Broad Valley Floor | 2 | 1 | 1 | 2 | 1 | 1 |

1/ Absorption Values: 1=High; 2=Moderate; 3=Low; 4=Very Low

Figure I.1 - (Cont'd)

| PHYSIOGRAPHY | LAND COVER | | | | | |
|---|---|---|---|---|---|---|
| | 345-kV | | | 138-kV | | |
| | WOODED | SEMI-WOODED | OPEN | WOODED | SEMI-WOODED | OPEN |
| Rolling Terrain Adjacent to Mountain | | | | | | |
| Mountaintop | 4 | 4 | 4 | 3 | 3 | 4 |
| Hilltop | 4 | 4 | 4 | 3 | 3 | 4 |
| Ridges, Secondary Hilltops | 3 | 3 | 3 | 3 | 2 | 3 |
| Mountainside | 3 | 3 | 3 | 2 | 1 | 1 |
| North-Facing Mountainside | 2 | 2 | 2 | 1 | 1 | 1 |
| Hillside, Steeply Sloping | 3 | 3 | 2 | 2 | 1 | 1 |
| North-Facing Hillside, Steep | 2 | 2 | 1 | 1 | 1 | 1 |
| Gently Rolling Terrain | 2 | 2 | 1 | 2 | 1 | 1 |
| Narrow Valley Floor | 3 | 3 | 3 | 2 | 2 | 1 |
| Broad Valley Floor | 2 | 1 | 1 | 2 | 1 | 1 |
| Rolling Terrain | | | | | | |
| Mountaintop | 4 | 4 | 4 | 3 | 3 | 4 |
| Hilltop | 4 | 4 | 4 | 3 | 4 | 4 |
| Ridges, Secondary Hilltops | 2 | 3 | 3 | 2 | 3 | 3 |
| Mountainside | 3 | 3 | 3 | 2 | 1 | 1 |
| North-Facing Mountainside | 2 | 2 | 2 | 1 | 1 | 1 |
| Hillside, Steeply Sloping | 2 | 2 | 2 | 1 | 1 | 1 |
| North-Facing Hillside, Steep | 1 | 1 | 1 | 1 | 1 | 1 |
| Gently Rolling Terrain | 1 | 1 | 1 | 1 | 1 | 1 |
| Narrow Valley Floor | 3 | 3 | 3 | 2 | 2 | 2 |
| Broad Valley Floor | 2 | 1 | 1 | 1 | 1 | 1 |

Table I.5 - Visual Site Attractiveness Categories And Components

Very High Attractiveness/Severe Impact

OW - Open water (streams, rivers, lakes, ponds, etc.)
Hilltops, ridges, mountaintops, upper mountainsides (if not forested)
Historic sites and structures
Designated unique natural areas
Designated unique geologic areas

High Attractiveness/High Impact

* SWM - Spruce-Fir - Mature
* PNM - Pine-Hemlock - Mature
* SHM - Softwood-Hardwood - Mature
* HSM - Hardwood-Softwood - Mature
* PBM - Poplar-Birch - Mature
* HWM - Northern-Hardwoods - Mature

BD - Beaver dams (usually associated with SP - Swamp)
EMW - Localized emergent wetland vegetation
M - Marsh
BG - Bog
CS - Cedar swamp
O - Orchard
B - Rock outcrops
F - Cultivated fields
AF - Abandoned fields
RAF - Regenerating abandoned cultivated field
83 - Pasture
34 - Sap extraction

Moderate Attractiveness/Moderate Impact

** SWM - Spruce-Fir - Mature
** PNM - Pine-Hemlock - Mature
** SHM - Softwood-Hardwood - Mature
** HSM - Hardwood-Softwood - Mature
** PBM - Poplar-Birch - Mature
** HWM - Northern Hardwoods - Mature
** PLT - Forest Plantations

SP - Swamp (unless associated with beaver dam)
AN - Alder Willow
10 - Single Family (0-5 units)
16 - Seasonal Homes
61 - Institutional
85 - Dairy Livestock
85A - Potato House Barns
86 - Poultry

* Unharvested timberlands
** Timber harvest lands, except category 34

Table I.5 - (Cont'd)

87 - Greenhouse Horticultural
88 - Nurseries, Plantations
89 - Fishing & Fish Service
95 - Under Construction (probably single-family homes)

Low Attractiveness/Low Impact

DA - Snag Insect damage areas
SWR - Spruce-Fir - Regenerating
PNR - Pine-Hemlock - Regenerating
MR Mixed - Regenerating
PBR - Poplar-Birch - Regenerating
HWR - Northern Hardwoods - Regenerating
11 - Single Family (6-25 units)
12 - Single Family (26+ units)
21 - Light Manufacturing
40 - Railroads - Abandoned
46 - Roads - Unpaved
46A - Roads - Organized logging pattern
90B - Mines - Abandoned
41 - Railroads - Passenger
42 - Railroads - Freight

Existing rights-of-way other than powerline

No Attractiveness/No Impact

13 - Multi-family residential
14 - Mobile Homes
15 - Group Quarters
22 - Heavy Manufacturing
43 - Aircraft transportation facility
44 - Roads Limited Access
45 - Roads - Paved
47 - Communications facilities
48 - Utilities
51 - Commercial
90A - Mines - Active

Existing rights-of-way - Powerlines

Table I.6 - Areas of Potentially Very High Visual Site Attractiveness

| LOCATIONS | |
|---|---|
| Link | Link Miles |
| 6 * | 9.5 - 11.0 |
| 7 * | 4.6 |
| 9 * | 9.6, 36.2 - 36.4 |
| 11 | 33 - 35 |
| 12 * | 19.5 - 20.3, 18.7 - 19.5, 22.3 - 25.5, 28.0 - 31.0, 41.3 |
| 13 * | 2.3 |
| 14 | 2.5 - 3.5, 4.7 - 5.1 |
| 20 * | 0.6 |
| 26 | 7.3 |
| 28 | Entire southeastern corner of Second College Grant; particularly areas NW of mile 5.0 and SE of mile 4.3 |
| 35 | 5.5, 1, 2.3 |
| 36 | 3.5, 7.5 |
| 40 1/ | 2.5 |
| 43 | 13.25 |
| 44 | 20.9 |
| 52 * | 0.25 |

* Potential for Rare Plants
1/ "Littleton Wildflower Area"

Visual landscape quality varies according to the perceivable attributes of a given landscape. Landscape quality was measured by assigning point values to visible landscape components. Thus the total of the component scores equals the cumulative quantitative value of visual landscape quality in a given area. The point system is composed of both positive and negative landscape values, because much of the research conducted to date has demonstrated the significant influence of "misfits" and "dis-values." Eight factors were utilized: six positive -- physiographic regions, water and wetlands interest, variety and contrast (a measure of the relative extents of woods and open/agricultural land), topographic interest, the presence of non-industrial towns, and a factor to identify primary areas of interest (focal points) within the route; and two negative factors -- the presence of industrial towns, and a factor to describe, generally. land use development which is not necessarily situated within a town environment. These factors, their sub-categories, and the point values assigned to their occurrences are shown in Table I.7.

Resource maps showing the above landscape features were overlayed and, using qualitative judgements, cumulative point values were assigned along the routes, to the nearest 0.1 mile. The cumulative values were used to describe the landscape quality not only of the 0.5 mile wide route area but also that of much of the visual environment surrounding the route. For example a portion of the route with rolling terrain (value = 8) and moderate wetlands interest (value = 2) would receive a cumulative landscape quality value of 10. The numeric range of scores thus derived was examined and subdivided into six categories. Both qualitative terms and corresponding numerical rankings were assigned to these categories as shown below:

| Point Spread | Quantitative Rankings | Qualitative Values | |
|---|---|---|---|
| 12 | 1 | Very Low | (VL) |
| 12-17 | 2 | Low | (L) |
| 18-21 | 3 | Moderate | (M) |
| 22-24 | 4 | High | (H) |
| 25-27 | 5 | Very High | (VH) |
| 27 | 6 | Exceptional | (EX) |

Assigning landscape quality values to the route in this manner allowed changes in landscape quality resultant from the proposed facilities to be traced to that portion of route causing the impact. Secondly, different routes were thus able to be compared based on their qualitative and quantitative differences.

The validity of this description of the existing environment and the reliability of the system were verified to some extent. Verification involved reference to scenic resources identified by the recreational resources data inventory, and can be performed quite readily. The Recreational Resource and Visual Landscape Quality maps (Map Volume)

Table I.7 - Existing Visual Landscape Quality: Cumulative Point System

| SITE DESCRIPTION | | POINT VALUES |
|---|---|---|
| A. | Physiographic Regions | |
| | 1. Mountains | 20 |
| | 2. Hills | 12 |
| | 3. Hills Adjacent to Mountains | 16 |
| | 4. Rolling Terrain | 8 |
| | 5. Rolling Terrain Adjacent to Mountains | 14 |
| B. | Water and Wetlands Interest | |
| | 1. Very High | 6 |
| | 2. High | 4 |
| | 3. Moderate | 2 |
| | 4. Low | 1 |
| C. | Variety and Contrast | |
| | 1. High | 4 |
| | 2. Moderate | 2 |
| | 3. Low | 1 |
| D. | Topographic Interest | |
| | 1. Exceptional | 6 |
| | 2. High | 4 |
| | 3. Moderate | 2 |
| | 4. Low | 1 |
| E. | Primary Area of Interest | 4 |
| F. | Non-Industrial Town(s) | 2 |
| G. | Industrial Town(s) | -3 |
| H. | Urban Development | |
| | 1. High | -6 |
| | 2. Moderate | -4 |
| | 3. Low | -2 |

were overlayed and cross-referenced to determine the spatial correlation between known scenic resources and the landscape quality ratings derived for this study. This process was aided by reference to Table I.8, which lists the scenic resources shown on the maps by map number and quadrangle name. Some of the most striking correlations may be found on maps 45, 52, 53, 54, 61, and 62. Although verification was limited to quality ratings at the high end of the scale, these were regarded as indicative of the method's success. The method is most viable, particularly considering that using these known scenic resources was not part of the procedure for rating existing landscape quality.

### 1.2.2 Visual Impact Analysis

The analysis phase of this study is concerned primarily with the assessment of visual impact resulting from the proposed facilities, and secondarily with the determination of a preferred route alignment, as discussed in section V. Three categories of impact have been identified -- Impact on Visual Site Attractiveness, Impact on Visual Landscape Quality. and Impact on Viewers.

Impact assessments were performed on the centerlines of the alternative routes. Information throughout the entire 0.5 mile wide route, however, has been assembled and mapped both to allow flexibility in the delineation of a final centerline and also to illustrate the mitigative effects of realignment. This is discussed further in section 2.3.

The results of the impact analysis of each visual resource category are summarized: for each of five segments (A-E) in section 2.2.1; for each link in Appendix B; and for each link-mile in Appendix C. Summaries for each substation and microwave installation appear in sections 3.2 and 4.2 respectively. Resource impact maps are enclosed in the Map Volume.

#### 1.2.2.1 Impact on Visual Site Attractiveness

The proposed transmission facility is considered to have no visual site attractiveness. This is the condition against which changes in existing visual site attractiveness values were measured. For example, the placement of a transmission facility (which has no site attractiveness) in an area of high existing visual site attractiveness was assessed as a high impact.

This method was used to quantify site attractiveness impacts, except for those transmission line alternatives which share an existing right-of-way. In such instances, consideration was given to the "visual presence" of the existing transmission line. In these cases quantitative values (numbers) were reduced by one unit value to reflect the decreased extent of the resource affected and to account for the spatial effect of the existing line. The same was done qualitatively (terms), except that cases of severe impact retained their "severe" designation. Value transformations to account for right-of-way sharing are as follows:

Table I.8 - Existing Scenic Resources

| MAP | QUADRANGLE NAME | SCENIC RESOURCES |
|---|---|---|
| # 4 | Allagash | proposed scenic turnout; proposed scenic overlook; scenic view, panorama and drive. |
| # 5 | St. Francis | fall foliage route. |
| # 6 | Eagle Lake | sightseeing route; fall foliage. |
| #16 | Allagash Lake | fire tower; outlook. |
| #19 | Norris Brook | Penobscot Wild & Scenic River. |
| #24 | Penobscot Lake | lookout tower (2). |
| #28 | Attean | fall foliage route; fire tower. |
| #29 | Long Pond | sightseeing route; fall foliage rt. |
| #30 | Brassua Lake | fall foliage rt.; sightseeing rt. |
| #34 | Jim Pond | fire towers; fall foliage rt., Maine Designated Scenic Highway. |
| #36 | Pierce Pond | fire tower; sightseeing route. |
| #38 | Indian Stream | fall foliage rt.; sightseeing rt., scenic area with vistas. |
| #39 | Second Conn. Lake | fall foliage rt.; fire towers with extensive views; scenic areas. |
| #40 | Cupsuptic | fire tower; scenic spots of interest; fall foliage routes; sightseeing rt. |
| #41 | Quill Hill | spectacular view; fall foliage rt., scenic spot of interest; fire tower |
| #42 | Stratton | fall foliage route; sightseeing rt. |
| #45 | Dixville | scenic road; fall foliage route; spectacular view and outlook pt.; sightseeing routes; fire tower; excellent views; Scenic River Candidate. |
| #46 | Errol | fine views; fire tower; fall foliage route; sightseeing route; scenic area. |

Table I.8 - (Cont.)

| MAP | QUADRANGLE NAME | SCENIC RESOURCES |
|---|---|---|
| #47 | Oquossoc | fall foliage route; spectacular views; scenic overlook. |
| #52 | Guildhall | scenic spots, areas, roads, and vistas; sightseeing route; fall foliage route; fire tower; proposed scenic overlook. |
| #53 | Percy | scenic areas; fire tower; scenic road; photographic site; scenic overlook; sightseeing route; Scenic River candidate. |
| #54 | Milan | fall foliage route; scenic areas - 13 Mile Woods; proposed scenic overlook; proposed scenic road; scenic road; fire tower; sightseeing route. |
| #55 | Burlington | scenic road; sightseeing route; fall foliage route. |
| #56 | Camel's Hump | scenic road; fall foliage route; extensive views - Camel's Hump Summit. |
| #57 | Montpelier | scenic road; sightseeing route. |
| #58 | Plainfield | scenic roads; fall foliage route; sightseeing route. |
| #59 | St. Johnsbury | proposed scenic overlook; scenic road; fall foliage route/tour; sightseeing - scenic tour; scenic drive. |
| #60 | Littleton | scenic area; scenic drive; fall foliage route; sightseeing route; scenic road; scenic overlook. |
| #61 | Whitefield | proposed scenic overlook; scenic road; sightseeing routes; fire towers; scenic overlook. |
| #62 | Mt. Washington | fall foliage route; scenic mountain drive; sightseeing route; scenic drive excellent views; scenic overlooks, scenic features (falls); Scenic River candidate; fire/lookout tower; fine view. |

Table I.8 - (Cont.)

| MAP | QUADRANGLE NAME | SCENIC RESOURCES |
|---|---|---|
| #63 | Barre | scenic roads; fall foliage route; Heritage Trail; fire towers - fire views. |
| #64 | East Barre | fall foliage route; proposed scenic roads; sightseeing route. |
| #65 | Woodsville | scenic drives; scenic area; scenic roads; proposed scenic overlook; sightseeing route; fall foliage route; scenic gorge. |

| Existing Visual Site Attractiveness | | | Impact on Visual Site Attractiveness | | | Impact on Visual Site Attractiveness ROW Sharing | |
|---|---|---|---|---|---|---|---|
| Qualitative Values | Quantitative Values | | Qualitative Values | Quantitative Values | | Qualitative Values | Quantitative Values |
| None | (0) | = | None | (0) | = | None | (0) |
| Low | (1) | = | Low | (1) | = | None | (0) |
| Moderate | (2) | = | Moderate | (2) | = | Low | (1) |
| High | (3) | = | High | (3) | = | Moderate | (2) |
| Very High | (5) | = | Severe | (5) | = | Severe | (4) |

1.2.2.2 Impact on Visual Landscape Quality

The two factors used to assess impact on visual landscape quality are existing visual landscape quality and landscape absorption. An initial impact value was assigned for alteration of existing landscape quality. The degree of absorption was then used to modify that value, in that the degree of absorption identifies the extent to which the facility would be seen. The scenic quality impacts therefore consider how much of a facility is seen, and act jointly to determine the degree of impact. The matrix solution enclosed as Figure I.2 illustrates the interplay of these variables and the resultant qualitative and quantitative values. The results of this process are depicted on the Impact on Visual Landscape Quality maps, Map Volume.

1.2.2.3 Impact on Viewers

Methods for assessing impacts on viewers were designed to identify both the viewers being impacted and the portion of route being viewed. The assignment of impact values or ratings was qualitative. The Visually Sensitive Land Use and Recreation Resource maps (Map Volume) served as the data sources for these judgements. Viewsheds opposite each of the alternative routes were reviewed for occurrences of sensitive land uses. The interplay of a number factors was accounted for in the assignment of impact ratings. These include: the intervening distance between the viewer and a transmission line located at the center of the route; the nature of the viewing audience; the extent to which the transmission line would be seen or blocked from view by vegetation; the nature of the view (viewer orientation, i.e. looking up at, down at); the existing quality of the view; and the absorption characteristics of the landscape.

Visual impacts were assigned to viewers at four types of viewing sites: recreational, residential, transportation, and historic sites. Impacts on different viewer types were assessed concurrently. Based upon the above conditions one of five impact values--none, low, moderate, high, or severe--was assigned. The impact narratives enclosed as Appendix B describe the viewers effected by each of the alternative links. These values were also assigned to that portion of the route within view of the sites for each viewer type. These values are contained in the viewer impact tables in Appendix C.

Figure I.2 - Visual Landscape Quality Impact Matrix [1/]

| VISUAL LANDSCAPE QUALITY | VISUAL LANDSCAPE ABSORPTION | | | |
|---|---|---|---|---|
| | High (1) | Moderate (2) | Low (3) | Very Low (4) |
| Very Low | L | L | L | H |
| Low | L | L | M | H |
| Moderate | M | M | M | H |
| High | M | M | H | S |
| Very High | H | H | H | S |
| Exceptional | H | H | S | S |

1/ Impact Key:

| | Qualitative Values | Quantitative Values |
|---|---|---|
| L= | Low | 1 |
| M= | Moderate | 2 |
| H= | High | 3 |
| S= | Severe | 5 |

Quantitative values of 0, 1, 2, 3, and 5 were assigned correspondingly to the above qualitative values for purposes of route comparison. The quantitative values along each mile of the alternative routes were consolidated to express the total impact that a portion of the route would have on viewers. The consolidation procedure utilized the sum of individual numeric impact values assigned to recreation, residential, transportation and historic site viewers. For example, where a mile of a route would cause a moderate impact (value=2) to a recreation site and also cause a moderate impact (value=2) to transportation viewers, a cumulative value of 4 was assigned. This cumulative value was normalized to the above 0-5 numeric scale in order to correlate viewer impacts with those for site attractiveness and landscape quality. Cumulative viewer impact values are referred to as "Viewer Route Impacts"

Although cumulative numeric values thus derived could theoretically range from 0-20, actual numeric distributions suggested assigning quantitative (numeric) and qualitative rank values as shown below.

| Cumulative Quantitative Numeric Values | Qualitative Viewer Route Impact Values | Quantitative Viewer Route Impact Values |
|---|---|---|
| 0 | None | 0 |
| 1, 2 | Low | 1 |
| 3, 4, 5 | Moderate | 2 |
| 6, 7, 8, 9 | High | 3 |
| 10 & above | Severe | 5 |

The same process was also conducted for impacts resultant from substations and microwave installations.

### 1.2.3 Mitigation Recommendations

Three categories of mitigating actions were established for application to the more serious impacts. The first involves the design, construction, and operation practices specified in the U.S. Department of the Interior/U.S. Department of Agriculture publication Environment Criteria for Transmission Systems. It contains numerous precautionary actions which are selectively recommended where they would be helpful. The second type of mitigating action is directed at relocation of either the route or the centerline. Necessary route alignment changes within the 0.5 mile wide route may be made, based on reference to the data and impact assessment results contained herein. Relocation of the entire route, however, could involve redefining the "visual environment," which would require additional study. Therefore, this method of mitigation is only suggested where considered absolutely necessary. The last technique involves various minor design alterations or additions to a facility itself, its right-of-way, or the immediate environments of either the facility or its viewing audience (see section 2.3 for a detailed discussion).

## 1.3 Recreational Resources

### 1.3.1 Recreational Resource Evaluation

This phase of the study deals primarily with identifying existing features. However, proposed and/or potential recreational sites and areas are also evaluated. Recreational resources both within the 0.5 mile wide route and within the viewshed for recreational viewers are taken into consideration.

The results of this recreational resource evaluation are summarized: for each of five segments (A-E) in section 2.1.2; for each link in Appendix A; and for each link-mile in Appendix C. Summaries for substations and microwave installations appear in sections 3.1 and 4.1 respectively. Also refer to the Recreational Resource maps of the Map Volume.

#### 1.3.1.1 Definition of Recreational Resources

Resources identified include recreational land use, ownership, and activity areas. These resources were identified for the area surrounding the proposed facilities within Maine, New Hampshire, and Vermont. Mapping and discussions pertain to the areas contained within the viewsheds. The overall recreational resources within the municipalities, counties, or states through which the facilities are proposed are not discussed. The general state, county, or municipal recreation policies are not addressed directly but are expressed spatially, where possible, as proposed or potential resource or activity areas. The relationship between the proposal and the recreational plans in various jurisdictions has not been established.

#### 1.3.1.2 Data Inventory

Recreational resource information was gathered from various agencies, organizations, individuals, and publications, reports, booklets, pamphlets and maps, as listed under Agency Contacts (Appendix D) and Bibliography (Appendix E). This information was supplemented by field reconnaissance, including both helicopter inspection of each proposed route, substation, and microwave tower site, and ground observation along certain route alignments.

The data collection effort involved gathering, organizing, and reviewing pertinent information for use in the mapping of recreational resources. The recreational resource information was then categorized into point, linear, and areal features. More than seventy-five types of active and passive recreational activities were identified (see Table I.9).

Numerous source documents at varying scales were used in the mapping effort. Mapping the features accurately at a standard scale of 1:62,500

Table I.9 - Recreational Resource Types and Activity Areas [1/]

POINT FEATURES

Athletic field
Boat launch
Boating area
Camp (fire warden, forest ranger station)
Campground
Camping area
Camp (girl/boy scout)
Camplot (leased)
Canoe access point
Country club
Covered bridge
Dam
Drive-in theatre
Fairgrounds
Flying service (float plane base, landing field)
Historic site
Hunting access area
Ice skating areas
Information site, plaza
Lodge/inn/recreation resort area
Lookout/fire tower
Marina
Mineral collection site
Multipurpose, mixed-use recreation areas
Museum
Music festival grounds
Picnic area/grounds
Playground
Race track
Scenic feature/spot
Scenic lookout/vista
Seasonal residence
Skiing area
Ski jump
Sporting camp
Swimming site/bathing beach
Tourist court/motel/cottage
Vacation farm
Waterfall
Water skiing area
Wildlife viewing area

LINEAR FEATURES

Bicycle trail/route
Canoe route
Cross-country ski trail
Fall foliage route
Fishing stream/lake/pond
Hiking trail
Hiking trail - historic, interpretive
Passenger railroad line
Recreational stream/river
Scenic road/highway
Sightseeing route
Snowmobile trail - maintained
Snowmobile trail - unmaintained
Wild and Scenic River - National
Wild and Scenic River candidate - National
Wild and Scenic River study candidate - National
Wild and Scenic River candidate - State

AREAL FEATURES

Birdwatching area
Dickey-Lincoln School (dam) pool
Forest - National
Forest - National, proclamation area
Forest - State
Forest - Municipal
Forest - Institutional
Golf course
Great pond
High elevation of local/regional significance
Island
Natural area
Park - State
Park - Municipal
Proposed recreation/conservation areas
Public lands
Recreational lake/pond/reservoir
Seasonal residence complex
Scenic easement
Wildlife/waterfowl management areas

1/ Refer to Recreational Resource Maps, Map Volume for corresponding symbols

depended largely on the scales and accuracy of the source maps. To reduce the level of inaccuracy. the approximate location of the recreational feature was generalized with a dot symbol. Where the specific location of a feature was not known, an open circle or amorphic boundary line was used to represent a generalized location. Linear and areal features were expressed by line and area patterns, respectively. Standard symbols were used to identify particular activities. However, where certain point, linear, or areal recreational features could not be adequately indicated by one of the federal recreation symbols (as shown on the Recreational Resources maps, Map Volume), a numbering system was employed.

Those recreational resources occurring within the viewshed boundaries were mapped. This data base was used to assess recreational viewer impacts. To determine pre-emptive impacts, only those recreational resources either occurring within or passing through the transmission line routes were considered. As a rule, any feature partially within a viewshed was mapped to the limits of the USGS Quandrangle base map on which it is shown, thus taking into account a broader area of influence, particularly for linear features.

#### 1.3.1.3 Pre-analysis

A pre-analysis of the data began with a review of recreation literature at the regional, state, county, municipal, and site levels. Since the study area is quite diversified -- ranging from semi-wilderness to suburban and urban landscapes -- it was necessary to understand the characteristics of both the existing facilities and their potential users. The literature review clarified the relationships between recreational resources and the transmission facilities.

This review also provided criteria for determining the interaction between recreational feature size or extent and the more than seventy-five activity types. The result was a broad classification system of recreational types and activity areas which allowed numerous recreational variations to be addressed in the impact assessment process, as discussed below. This classification system (Table I.9) describes a wide range of existing, proposed, or potential features.

The classification system assisted in defining the nature of impacts on a recreational resource. For example, impacts were more easily defined as being short-term or long-term in nature, and either directly or indirectly resultant from the proposed facilities. This system also aided in determining the relative number of recreational viewers and their enjoyment of scenery, and in understanding the relative compatibility between various recreational resources and the transmission lines, as discussed below.

Pre-analysis of the above three factors -- compatibility. number of viewers, and their enjoyment of scenery -- formed the basis for analyzing the impact relationship between recreational resources and transmission

rights-of-way and towers. Compatibility involves the positive and negative interactions which take place when recreationists experience the transmission facilities. Determining the relative number of viewers identifies both the number of people potentially engaged in an activity at a particular location, and the general visitation characteristics of that location. Enjoyment of scenery pertains to how much a viewer engaged in a recreational activity depends on the viewing and appreciation of the natural landscape to derive satisfaction from the activity. These pre-analyses included defining the relationships between recreational resources and general geographic areas in terms of topographic features, hydrologic features, political units, and proximity to roads, routes, or settlements. The results of these pre-analyses were then checked against the recreational resources classification system to determine if the impact on certain individual activities would vary between remote and populated locations in the study area.

The spatial relationship between recreational resources (as point, line or area features) and the configuration of the transmission facilities was also examined as part of the pre-analysis. The degree to which the proposed transmission facilities cover, cross, bisect, or run parallel to recreational resources influences the overall impact. Indeed, the proximity of transmission facilities to recreational features will also influence impact. The effect of these factors, relative to impacts, is discussed in the following section.

### 1.3.2 Recreational Resource Impact Analysis

This phase of the study is concerned primarily with the assessment of the effects of the transmission lines, substations, and microwave towers on recreational viewers and on recreational sites or areas, and secondarily with the determination of a preferred route alignment, as discussed in section V. Two categories of recreational impact have been defined: Pre-emptive Impacts on Recreational Resources and Impact on Recreational Viewers.

The results of this recreational resource impact analysis are summarized for each of five segments (A-E) in section 2.2.2; for each link in Appendix B; and for each link-mile in Appendix C. Impact summaries for substations and microwave installations appear in section 3.2 and 4.2 respectively. Also refer to the Recreational Resource Impact maps of the Map Volume.

#### 1.3.2.1 Definition of Recreational Impacts

The impact on recreational sites, described as pre-emptive impact, has been defined by evaluating the relationship between the recreational sites located in proximity to the proposed centerlines, and the proposed facilities themselves. Pre-emptive impacts involve the disruption and displacement of both the recreational activities themselves and access to them, and would occur within the cleared route, at the centerline, at the tower sites, and at substation and microwave facility sites.

Impacts on recreational viewers reflect the relationship between recreational viewers (located within the viewsheds) and the proposed facilities. Recreational viewer impacts in this study measure the visual disruption of an existing recreational activity and the degradation of the recreational experience that would be felt. Impacts reflect changes both within the route and within the viewsheds of the transmission facilities.

By distinguishing between pre-emptive and viewer impacts, the total impact of the proposal (including direct and indirect effects as well as constant long-term or short-term effects) was addressed.

Beneficial effects on recreational sites or their users reflect the possibility of providing improved access or orientation. However, no attempt has been made to describe how the proposed facilities might increase or decrease the recreational utilization of given areas.

### 1.3.2.2 Qualitative Impact Assessment

Recreation impact values of severe, high, medium, low, and none were assigned to the transmission facilities. These levels of impact describe the relative effects on a recreation activity and/or user of implementing the proposed transmission project. Long-term vs. short-term and direct vs. indirect effects are approximately correlated within the impact value ranges. For example, direct and long-term impacts tend to be rated severe, whereas direct and short-term impacts tend to be rated high or moderate depending on the nature of the recreational feature. Similarly, indirect and short-term impacts tend to be rated moderate or low, depending on the feature. However, a severe impact has been assigned anywhere the transmission facilities would displace a stationary recreational resource, as would occur for pre-emptive impacts. Where the transmission facility crosses a linear recreational feature, the impact assessment value assigned was based on the number of viewers along the linear feature, and their enjoyment of scenery. Where the transmission facility parallels a linear recreational feature, the impact value was contingent upon the proximity of the two, the degree of tangency, and viewer and scenery enjoyment indices.

### 1.3.2.3 Quantitative Impact Assessment

Numerical values corresponding to the qualitative values listed above were employed to summarize recreational impacts. Severe impacts were given a value of five (5), high impacts three (3), moderate impacts two (2), and low impacts one (1). Although the assessment of impact was performed separately for pre-emptive and recreational viewer impacts, since the magnitude of impacts is often comparable, total impact was considered to be the sum of the values for pre-emptive and recreational viewer impacts. Thus the higher the impact scores for a link or segment, the greater (more significant or more negative) the impact.

Positive recreational impacts were addressed through the assignment of impact scores. For example, if a right-of-way might enhance a recreational activity by creating access or changing orientation, a low negative impact score was assigned. A negative value was assigned because it is not known whether a particular landowner might permit access to the rights-of-way. and it was difficult to determine the specific relationships between the right-of-way and trails or other sites.

### 1.3.3 Mitigation Recommendations

Measures suggested to mitigate potential impacts involve various scales of change. Mitigation can be brought about by relocation of the transmission facilities within the 0.5 mile wide route. Realignment of routes could also mitigate an impact. Since route relocation would create a new viewshed and, consequently. new impacts, only mitigation through minor relocation is identified with any degree of certainty. Mitigation by concealing or screening the transmission facilities and right-of-way is also possible. Opening new recreational activity areas is also suggested as a mitigation technique. For example, by providing alternative access or substitute recreational sites, the impact exerted within the routes would be compensated for. Mitigation of impact on recreation viewers is considered most difficult since the scale of the impact is primarily large and involves moderate- to long-distance viewing conditions. Thus recreational viewer impacts may have a higher net value than pre-emptive impacts. Mitigation measures are specified only for the most significant impacts. Thus, all severe and only certain high impacts have been addressed.

# II. Transmission Lines

# 2. TRANSMISSION LINES

## 2.1 Description of the Existing Environment

This section of the report describes existing visual and recreational resources along the transmission line route network. It is subdivided under two headings: Visual Resources - section 2.1.1, and Recreational Resources - section 2.1.2. Within each of these major headings, discussions focus upon segments of the route network between substations. The discussions are intended to serve as overviews of resources encountered along that portion of the network. Link-by-link descriptions showing average scores and their percentages of occurrence for each resource are found in Appendix A. The mile-by-mile tables (Appendix C) contain additional detailed information. The Map Volume illustrates the location of these resources along the alternative routes.

### 2.1.1 Visual Resources

Existing visual resources are described under three headings: Visual Site Attractiveness, Visual Landscape Quality. and Visually Sensitive Land Uses. Site attractiveness and landscape quality conditions are described within the limits of the 0.5 mile wide route, whereas visually sensitive land use discussions pertain to the entire viewshed.

#### 2.1.1.1 Visual Site Attractiveness

Segment 'A' - This segment contains a diversity of land cover conditions. It originates in mature woodlands at the Dickey Dam site near the confluence of the Allagash and St. John Rivers, and terminates in an agrarian landscape near Fort Kent. The range of visual site attractiveness conditions is large. About one-quarter of the routes in this segment have a regenerating woodlands land cover and more than one-half have a mature woodlands cover Agricultural fields account for about one-fifth of the coverage and are somewhat concentrated in distribution. Mature and regenerating woodlands predominate on link 3 and the western half of link 2. Link 1, situated in the St. John River Valley, has a more agrarian land cover pattern. Link 1 is also the only link that contains an extent of urban or semi-urban conditions, as evidenced by the presence of the Bangor and Aroostook Railway (freight), a shopping area, and a mobile home park. Areas considered to have very high site attractiveness are a few lakes situated in the route (link 2), the Allagash River crossing (link 3), and the Fish River crossing (link 1C).

Segment 'B' - This segment is situated in northwestern Maine in a landscape often described as wilderness. Hence, site attractiveness values reflect natural visual conditions. Regenerating and mature woodlands dominate the area (more than 85%). These areas are judged to have low

and moderate levels of site attractiveness, respectively. High attractiveness ratings reflect the occurrence of swamps (particulary cedar and beaver dam swamps), and marshlands, both of which occur infrequently. Abandoned agricultural fields are scarce; however, the mere presence of grassy open land provides variety and uniqueness. Such fields are thus rated highly attractive. Very high attractiveness ratings occur only where surface water is present. The most significant surface water features are: the North Branch Penobscot River (link 6); Dole Brook (link 7); South Branch Penobscot River (link 8); West Branch Penobscot River (link 9); a small unnamed lake (link 10); Muskrat, Luther, and other small ponds (link 10A); and the Moose River (crossed within the first mile of link 12).

Segment 'C' - Visual site attractiveness along this segment, as a whole, is the lowest encountered. The segment--the longest of the five--may be divided into two parts.

The first part is situated in western Maine and northern New Hampshire in very mountainous, rugged terrain. It comprises approximately the northern two thirds of the segment and contains links 11-17 and 25-31. Land cover is almost exclusively mature and regenerating woodlands. Areas classified as highly attractive are primarily wetlands; these are few in number Areas of very high site attractiveness occur in southwestern Maine, in proximity to surface water bodies. Examples are: the North Branch of Dead River (link 12); the Magalloway River (links 15 and 16); the Cupsuptic River (link 25); the Magalloway, Dead, and Swift Diamond Rivers (link 28); Greenough and Little Greenough Ponds (link 29); and several other small unnamed lakes and ponds.

The second part (composed of the remaining links) is situated almost entirely in northern New Hampshire except for parts of link 35 and all of links 36, 37, and 39 which are in eastern Vermont. This portion of the segment crosses a more "settled" landscape containing highly attractive agrarian sites. The area also, however, exhibits more urban characteristics which are rated low for site attractiveness. Associated with the more developed landscape are attractive historic sites, structures, and places which are rated very high. However, they are few in number An unwooded prominent ridge--traversed by link 37--is a unique area and is rated very high for site attractiveness. Also notable are crossings of the Connecticut River in links 35 and 38. Perhaps the most attractive area in the segment is affected by links 35 and 38. These links pass along the foothills of Cape Horn, a relatively unique geological formation which is designated as a unique natural area.

An existing transmission line right-of-way is paralleled in part of link 31 and all of links 32, 33, 34, 38, 39, and 40. Such facilities are not attractive and their presence influences the perceived attractiveness of areas surrounding them.

Segment 'D' - This short segment, between the Moore Dam and Granite Substation, traverses a mixed agrarian and woodland landscape. Agricultural fields (active and abandoned) are classified as highly attractive.

However, existing transmission facilities are paralleled by all links except 43, thus on these links the levels of site attractiveness are decreased. Regenerating woodlands (low site attractiveness) are not significant in extent. More than half of the segment is rated moderate for site attractiveness, in response to the visual qualities of the large extent of mature woodlands. Two areas located within Groton State Forest (links 43 and 44), are rated highly attractive. Very high attractiveness ratings generally involve surface water bodies, such as the Connecticut River (link 42). A relatively large number of historic sites and structures, particularly on links 42, 43, and 44 are also rated very high. Urban conditions are prevalent, but generally they had little influence on the site attractiveness values assigned.

Segment 'E': - This segment passes through the most thickly settled landscape. Originating at Granite Substation south of Barre, VT, the segment passes through the Winooski River Valley and terminates at Essex Junction, east of the City of Burlington. The segment encounters a diverse set of attractiveness conditions. Site attractiveness values were reduced significantly on most links, due to the paralleling of an existing transmission line by many links and also due to the influence of nonattractive elements such as: Route I-89, the Central Vermont rail line, industrial and commercial facilities, mobile home parks, and mining areas. The Winooski River Valley has long been attractive to settlers and a large number of sites and structures are present. These are most concentrated in the western part of the segment. Agricultural fields in the segment are rated highly attractive. The abundance of mature woodlands serves to lower the overall site attractiveness ratings. Regenerating woodlands (low attractiveness) are almost non-existent. Most significant among areas of high attractiveness are the Winooski River, the crossings of the Mad and Dog Rivers (links 48 and 50), unforested peaks (links 46 and 47), a unique geological area (end of link 46 and beginning of link 47), and Bolton Falls (link 49).

### 2.1.1.2 Visual Landscape Quality

Segment 'A' - Existing landscape quality along this segment is rated somewhat above moderate. Links 1A, 1B, and parts of links 1, 2, and 3 near Lincoln School Substation are rated high. This is because these links are located in hills adjacent to mountains along the St. John River. In this area there is little of the urban intrusion more prevalent east of St. Francis, Me. 1.8 miles of link 1 are rated low for landscape quality due to the influence of a semi-industrial area around Fort Kent Mills and the Fish River Valley. The rest of this segment is rated moderate.

Segment 'B' - Visual landscape quality in this segment is the lowest of all the segments. Many areas are rated moderate or low. South of Dickey Dam, link 4 and major portions of links 6, 7 and 9, are rated predominantly low for visual landscape quality. In this area the route traverses gently rolling uplands between the St. John and Allagash Rivers. South of mile eight of links 6 and 7 (in the vicinity of Green

Mountain). topographic interest becomes higher and thus landscape quality ratings are high. Very high ratings are assigned to link 8 from mile 4 (in the vicinity of Canada Falls Lake, Boundary Bald and Ironbound Mountains, and Trickey Bluffs) to the end. Similarly, high ratings are assigned to link 9 in the vicinity of Caucomgomoc Mountain and in the area around the isthmus between Seboomook Lake and the Northwest Cove of Moosehead Lake. For the rest of the link, very high levels of visual quality predominate. Boundary Bald Mountain in the Moose River valley affects the quality ratings for links 10, the western edge of 10A, 11A, the first 5.9 miles of 11, and the first mile of link 12. The presence of Boundary Bald and other mountains which define the Moose River Valley, and numerous ponds (Long Pond being the most important). combine to allow a predominantly very high rating to be assigned to these links.

Segment 'C' This segment is located in an area which may well exhibit the highest visual landscape quality in the northeastern United States. It begins just south of Jackman (known as the Switzerland of Maine), and terminates just west of the White Mountains, which includes the Presidential Range. Southeast of Jackman on link 12, the segment traverses a landscape of exceptional quality, the highest rating yet assigned. Key constituents are the mountains--Catheart, Bean Brook, Sally, and Burnt Jacket--which define the southern walls of the Moose River Valley. and Owls Head, Wood, and Attean Ponds. Similar ratings are assigned around Eustis (the Flagstaff Lake and Bigelow Mountains areas) in link 12, and in links 15, 16, and 17 where the segment enters the Connecticut Lakes region. Links 17B, 18. 18A, and 19 in the Dixville Notch area are similarly rated, as is a portion of link 21 (near Bag Hill) which faces the Pilot Range of the White Mountains. Parts of link 25 near Kennebago and Cupsuptic Lakes and the surrounding mountains are also rated exceptional Links 26 and 27 are located in the Rangeley Lakes region and the former traverses Observatory Mountain between Aziscohos and Upper Richardson Lakes. This region may have the most beautiful landscape within the viewsheds of the entire proposed system. For the remainder of the segment, only areas in view of the White Mountains and the Connecticut River Valley (in the vicinity of Cape Horn) are rated exceptional Most of the remainder of the segment is located in landscapes rated predominately very high for existing landscape quality, although some areas are rated high. Between Groveton, N.H. and Moore Substation, many of the links are right-of-way sharing alternatives, although paralleling usually only moderately affects the rating of landscape quality.

Segment 'D' - Landscape quality for this segment is rated predomiantly high. Moderate and very high ratings--the only other values assigned within the segment--are few in number. Moderate ratings are assigned at the ends of links 43 and 44, and to all of link 45, which is influenced by the existing Granite Substation south of the City of Barre. Moderate ratings are also assigned between miles 13-19 on link 44. Some very high quality areas may be found on links 43 and 44. Around Peacham, Vt., on link 43, the landscape quality is rated very high for an 8.7 mile stretch of the route between Anderson Hill (north of Barnet, Vermont) and the Moore Mountain and Devil's Hill area. On link 44, very high ratings were assigned near Groton, Vt., where the proposed alignment

cuts through a mountainous area which includes Blue and Witcher Mountains. Links 42, 44, and 45 all are located adjacent to existing transmission lines.

Segment 'E' - Many links in this segment parallel existing rights-of-way in the Winooski Valley, which is somewhat industrialized and heavily settled. Thus, landscape quality ratings are not very high. Only 2.3% of the total link mileage is rated very high, and 41.1% is rated high. The remainder (56.6%) of the segment length is rated moderate or low. An area between miles 1-3 of links 48 and 54 is rated very high. These alignments are situated high along the Worcester Mountain Range and do not have extensive views of the valley below. Very low ratings are assigned to link 46 near Barre City, and to the rest of the segment from the 11.1 mile mark on link 49 (including links 55 and 56).

### 2.1.1.3 Visually Sensitive Land Uses

Segment 'A' - Visually sensitive land uses within segment 'A' viewsheds are largely residential or transportation-related. Town centers, communities, and residences are located principally along State Highway 161 which parallels the St. John River Thus, the visually sensitive land uses assume a linear pattern and generally parallel the routes from the Dickey to the Fish River Substations. The greatest viewer concentrations occur within the viewshed of link 1. The link itself is fairly close to the developed areas. Town centers and communities in the segment include Fort Kent Village, Pierre, Ledges, Wheelock, St. John, Bradbury, and St. Francis, Maine. There are fewer residential land use viewers in link 3. The viewsheds of link 2 do not extend north to Route 161, thus much of the developed area along this route would not be within view of the route. Route 161 and a short stretch of Route 11 (both ADT 750-3000) are crossed by links 1C and 2. An historic site in St. Francis, Me. is in the link 1 viewshed.

Segment 'B' - The semi-wilderness nature of most of the segment 'B' landscape precludes a high occurrence of visually sensitive land uses. The only residential clusters within the viewsheds are located near the segment terminus in link 9A. Almost all the roads are private tote roads, with minimal average daily traffic (ADT 0-750). Route 15 (0.2 miles) in link 12 and U.S. 201 (2 miles) in link 11 cross the segment 'B' viewsheds near its southern terminus.

Segment 'C' - The visually sensitive land uses in this segment reflect landscape variations across the segment. The upper portion of the segment (links 11-17 and 25-31)--located in the mountainous, rugged, terrain of western Maine and northern New Hampshire--contain few residences, few roads, and no historic sites. Within the viewsheds are Kennebago and Grants, Maine (link 25), Wilson's Mill, Maine (link 28), and Errol, Stark, and Percy, New Hampshire (link 31). A few scattered camps and/or resorts are found along the shores of Parmachenee Lake (link 16), First Connecticut Lake (link 17), and Kennebago and Little Kennebago Lakes (link 25). A few miles of low average daily traffic roads (including Routes 16, 26, and 110) cross the viewsheds of the segment. A 0.5 mile

stretch of the Canadian Pacific rail line (passenger) crosses the route in link 11

In contrast, the lower portion of segment 'C' (links 17A-24 and 32-41) crosses a more settled agrarian landscape in which visually sensitive land use viewers are more frequently encountered. There are small towns, villages, scattered individual residences, and historic sites within the viewsheds. Town centers include Kidderville, Upper Kidderville, Groveton, Northumberland, Jefferson, Whitefield, Hazens, Cushman Union, and most of Lancaster, New Hampshire; and Stevens, Guildhall Station, Mill Village, Lunenburg, Gillman, and Lower Waterford, Vermont. Where the landscape is primarily agrarian, the roads form a network pattern, and viewers along highways (including Routes 18, 110, 26, 135, 116, and U.S. 2) could see the facilities. Average daily traffic volume on roads in the southern portion of the segment is generally higher than that in northern areas.

Segment 'D' - The distribution of visually sensitive land uses in segment 'D' is similar to that for the viewsheds of the lower portion of segment 'C' Urban-related conditions are dispersed throughout what is a mixed agrarian and woodland landscape. Residential communities and small town centers dot the viewsheds of links 42, 43, and 44. and include part of Lower Waterford, Barnet, East Barnet, Barnet Center, Peacham, South Peacham, Green Bay, Lanesboro, East Barre, McIndoe Falls, Groton, and Washington, Vermont; and Moore, New Hampshire. Rural residences are interspersed along a network of secondary roads. There are a relatively large number of historic sites, located principally within the town centers mentioned above. Significant portions of Routes 110 and 135, and U.S. 5, 91, and 302 traverse the viewsheds. The average daily traffic volume on these roads is moderate (ADT 750-3000).

Segment 'E' - The viewsheds of this segment include some of the most settled landscape of all the segments. All categories of visually sensitive land uses are heavily represented within the segment'E' viewsheds, particularly along the Winooski River Concentrations of sensitive land uses are higher in the western portion of the segment, toward Burlington, Vermont. Within the viewsheds are the towns of Barre, South Barre, Waterbury, Duxbury, Middlesex, Richmond, Jonesville, Bolton, North Duxbury. Berlin, and North Williston, Vermont. Single residences and small residential clusters are frequently interspersed along highways and secondary roads throughout the segment's viewsheds. There are three large mobile home parks, two in the link 49 viewshed (one of which is also in the link 47 viewshed) and one in the link 50 viewshed. Numerous historic sites occur along links 46, 47A, 48, 49, 55, and 56. Interstate I-89, with a high average daily traffic volume (ADT 3000+) traverses the entire segment except for links 46, 50, 51, 52, and 54 and is crossed by the alternative routes at four locations. Portions of highways with moderate average daily traffic volumes (ADT 750-3000; including Routes 34, 110, 12, 100, 117. and 2), traverse the segment. Also, many miles of road with a low average daily traffic volume (ADT 0-750), including city streets within some of the larger towns, traverse the viewsheds of the segment. There is rail passenger

service between Montpelier and Burlington, VT., along the Central Vermont line through the Winooski River Valley, which traverses the viewsheds of links 47, 47A, 48, 49, 51, 53, 55, and 56.

### 2.1.2 Recreational Resources

The description of recreational resources in this section deals primarily with the existing features. However, proposed and/or potential recreational sites and areas are also described. No distinction is made here between recreational resources located entirely within the proposed route and those located outside the route but within the viewsheds. These are somewhat distinguished on the Pre-emptive Impacts on Recreational Resources maps, Map Volume, which illustrate features solely within the routes.

Segment 'A' - The segment 'A' viewsheds contain linear recreational features primarily. These include snowmobile trails, canoe routes, and sightseeing and fall foliage routes. In addition, the general area contains a variety of developed and undeveloped recreational opportunity areas. Active recreation areas occur within the St. John River Valley from the Allagash to the Fish Rivers in the vicinities of Fort Kent and other settlements, such as St. John, St. Francis, and Allagash.

There are numerous maintained and unmaintained snowmobile trails which are used by clubs from the area. These trails meander through the hills, primarily south of the St. John River, and are accessible from the lowlands and from Routes 161 and 11. Canoeing is a popular activity on the Allagash, St. John, and Fish Rivers. Routes 161 and 11, where they traverse the viewsheds, are fall foliage routes; Route 11 is also a sightseeing route and designated scenic highway. The recreation sites and areas in this segment include such features as high elevations of local significance (Bossy Mountain in Fort Kent), two public lots, campgrounds and camping areas, seasonal residences, and a ski area.

Segment 'B' - This segment traverses the most remote section of the study area. There is little direct access to the region except around the town of Jackman. The viewsheds of segment 'B' contain a part of the Allagash wilderness waterway. In addition, the links within this segment cross the St. John River and the North, South, and West Branches of the Penobscot River which are candidates for the National Wild and Scenic River system. The semi-wilderness character of the segment also manifests itself in such recreational features as great ponds, remote trout ponds, a moose observation area, several very attractive canoe routes, and numerous undeveloped campsites.

In the vicinity of Jackman, numerous snowmobile trails wind their way north to the foothills of Boundary Bald Mountain. Other linear features of importance around Jackman include sightseeing and fall foliage routes such as Routes 201 and 6, and 15. In the area between Boundary Bald Mountain, Moosehead Lake, and Green Mountain (northwest of Seboomook Lake) there are several public lots and high elevations which represent

undeveloped and potential recreational opportunity areas. This area also contains hiking trails and observation towers where viewing activities are popular

Segment 'C' - The greatest diversity of undeveloped and developed recreational resources over the entire proposed transmission route network is found within the viewsheds of segment 'C' Segment C's diversity is due in part to the fact that it ranges from a generally remote and undeveloped recreational base to one which is very developed and highly accessible.

In general, the segment has three basic identities: The first comprises the area between the Jackman/Moose River Substation sites and the Rangeley area; the second involves the area from Rangeley to Groveton, New Hampshire; and the third extends from Groveton to the end of the segment.

For the first identity -- the area from the midpoint alternatives at the Jackman and Moose River Substation sites to the Rangeley area--there are a number of recreational opportunity areas associated with great ponds, major rivers, and notable mountains. Located south of Jackman, Wood, Holeb, and Attean Ponds, and the Moose River serve as water resource attractions. There are also smaller great ponds and remote trout ponds, various public lands, and high elevations of local and regional significance. Between Jackman and Eustis there is a dramatic combination of topographic and water resource features. Kibby Mountain (3638 feet), Tumbledown Mountain (3542 feet), and No. 5 Mountain (3095 feet) combine with Kibby Stream, Spencer Stream, and Spencer Lake to form an attractive natural recreation base. In the vicinity of Eustis, the notable topographic features include Eustis Ridge (2040 feet) and Snow Mountain (3948 feet), which serve as points of interest and exploration.

The segment crosses a variety of significant recreational features north of Eustis, including Route 27 (a designated scenic highway), the North Branch of the Dead River (an attractive canoe route), and the Arnold Trail. Before reaching the Rangeley area, the proposed lines pass through the Kennebago River basin which features Kennebago Lake, situated between West Kennebago Mountain (3705 feet) and East Kennebago Mountain (3825 feet). This area contains a number of hiking trails and seasonal residences.

In the Rangeley area, the Cupsuptic River, Cupsuptic Lake, Mooselookmeguntic Lake, and Richardson Lakes are the major attractions. These lakes may be viewed from places such as Observatory Mountain (2515 feet), Deer Mountain (3455 feet), Aziscohos Mountain (3215 feet), and from features such as Route 16 (a fall foliage route), numerous seasonal residences, camping areas, and campground and hiking trails.

The second identity--extending from the Rangeley area in Maine to Groveton, New Hampshire--is characterized by a moderately-developed recreation base. West of the Rangeley area, the recreational resource base includes Aziscohos Lake, Parmachenee Lake, and the Magalloway River Where the segment enters New Hampshire, it traverses two areas known for their water resources amenities. In the Connecticut Lakes

region, the viewsheds contain First Connecticut Lake and lands adjacent to Lake Francis, including the Lake Francis Wildlife area. In this area, Magalloway Mountain (3360 feet) provides a valuable vantage point for various hiking trails and boating and camping activities.

The southern route alternative (links 12-13A and 25-34) crosses very close to the confluence of the Dead and Swift Diamond Rivers, at Second College Grant near the New Hampshire border Two designated natural areas are located here, including the "Fork of the Diamonds" and "Diamond Peaks" The two rivers have been designated as Wild and Scenic River candidates by the State of New Hampshire. Beyond this area, the southern alternative traverses relatively remote areas characterized by various fishing streams (including Phillips Brook), state designated Wild and Scenic River candidates, and moderate sized ponds, north of the Upper Ammonoosuc River Valley above Groveton. Here it passes through the Proclamation area of the White Mountains National Forest, which is currently under private ownership.

Between the Connecticut Lakes Region and Groveton, the proposed lines of the northern alternative (links 11 and 14A-24) traverse the North Country of Coos County. a moderately utilized recreational resource area. Located north of Kidderville, Coleman State Park and the Diamond Ponds are accessible from several fall foliage routes. A recreation resort complex, the Balsams, is located east of Kidderville near Dixville Notch. The Balsams is accessible from Route 26, a fall foliage and sightseeing route. It features numerous recreational activities including a championship golf course, know as the Panorama. Between Kidderville and Groveton, the proposed alignment runs along Nash Bog Pond and Nash Stream, a state designated Wild and Scenic River candidate.

The third identity--from Groveton, N.H. to Moore Substation--is associated with an intensive-use area connected by populated places with good access such as Groveton, Lancaster, and Whitefield, New Hampshire. In this area, the segment crosses a number of linear features including scenic, sightseeing, fall foliage, and bicycle routes, and the Connecticut River. The route is also visible from the White Mountain National Forest, and traverses a variety of recreational areas proposed in municipal plans.

The viewsheds here contain the most intensively used recreational resources of segment 'C' However, much of the route through this portion of the segment is parallel to existing transmission lines. Routes 2, 3, 102, and 135 in New Hampshire and Vermont are the major access routes in this populated area. These roads are fall foliage and sightseeing routes and serve the major viewing areas of the White Mountains National Forest. Other significant recreational features include the Connecticut River (a valuable canoeing route), Weeks State Park, Forest Lake State Park, and numerous campgrounds, picnic areas, bicycle routes, tourist accommodations, and recreational resorts. In contrast, the route alternative through Vermont to the Moore Substation site crosses a much more undeveloped landscape which features only hiking trails, and boating and other activities associated with the Connecticut River and the Moore Reservoir.

Segment 'D' - The recreational identity of this segment is associated primarily with public recreational lands in eastern Vermont. The routes bisect public lands in Vermont such as the Groton State Forest, Barre City Forest, and the Pine Mountain Wildlife Management area. Another identity of the segment involves the resources of the Connecticut River Valley and the area in Vermont known as the Northeast Kingdom. The town of Monroe, New Hampshire, the towns of Barnet and Peacham, Vermont, contain a number of existing and proposed scenic roads, sightseeing routes, historic sites, and recreational surface water resources.

The viewsheds of the first portion of the segment contain a number of linear resources which wind through the Connecticut Valley between Gardiner Mountain (2330 feet), in New Hampshire, and Anderson Hill above Barnet, Vermont. These resources include: the Connecticut River ( a major canoe route); Route 135 in New Hampshire (a scenic road, fall foliage route and bicycle route); and Route 5 in Vermont (a scenic road and bicycle route).

The northern alternative between Moore and Granite Substations (links 41, 42, 43, and 45) extends up the Stevens River Valley toward Peacham. The proposed lines through this area run generally parallel to a Northeast Kingdom scenic tour route and two cold water fishing streams. They also cross the Bailey-Hazen Military road, pass by Martins Pond, and wind through the northern portion of Groton State Forest, south of Peacham Pond (a valuable boating and canoeing resource). South toward the Granite Substation site, the northern alternative passes through the Barre City Forest near the Upper and Lower Orange Reservoirs, and the East Barre Dam area. It also crosses Route 110, a fall foliage route.

The southern alternative of the segment (links 41, 42, 44, and 45) also crosses the Bailey-Hazen Military Road and passes through Groton State Forest. This parallel alignment also crosses several recreational streams such as the Wells and Waits Rivers, Route 302 (a sightseeing route), and other bicycle and fall foliage routes. The state lands it bisects include the northwest portion of the Pine Mountain Wildlife Management area and the southeast tip of Groton State Forest. Near Groton State Forest, the alignment can be viewed from several locally and regionally significant high elevations, including Signal Mountain (3348 feet), Burnt Mountain (3116 feet), Butterfield Mountain (3168 feet), and the Knox Mountains (3062 and 2997 feet). Near Granite, the proposed route crosses Jail Branch (noted as a fish habitat), Route 110 (a fall foliage route), and a proposed scenic road just east of the existing Granite Substation.

Segment 'E' - The recreational environment of segment 'E' viewsheds is primarily associated with the Winooski River Valley. The Winooski River, its major tributaries (the Dog and Huntington Rivers), and the Green Mountains combine to form a dramatic landscape for recreational opportunities. Through the valley, the proposed alignment generally parallels both the Winooski River and the major highway network which integrates a number of recreational resource areas. These resources are found in populated places such as Barre, Montpelier, Middlesex, Duxbury, Waterbury. Bolton, Jonesville, and Richmond, Vermont.

The major recreational features within the segment include Mt. Mansfield State Forest, Camels Hump State Park, the Long Trail, and a variety of scenic roads, sightseeing, fall foliage, and bicycle routes, and canoeing and fishing streams. The route alternatives cross a number of linear recreational features near the Winooski River These include Stevens Brook and the Dog River (cold water fishing streams), Route 14 (a scenic road and bicycle route), Route I-89 (a scenic road), Route 12 (a bicycle route), and several snowmobile trails. Barre City Forest, Berlin Municipal Forest, and a natural area valued for its geological significance are also crossed. Along the Winooski River, the road networks function as recreational activity areas. Routes 100, 89, 2, and 12 serve variously as scenic roads, sightseeing and fall foliage routes, and bicycle routes. The river itself serves as a canoe route, and its tributaries provide cold water fishing opportunities. Mt. Mansfield State Forest and Camels Hump State Park are two important recreational reatures in the Winooski Valley portion of the viewshed. Within the park, Camel Hump (4083 feet) is a natural area and is the highest feature in the study area. The Long Trail winds through the state park, crossing the Winooski River near Jonesville. This trail, maintained by the Green Mountain Club, extends some 263 miles from the Massachusetts line to the Canadian Border. It is crossed by Link 49 in the town of Bolton. Other features along the proposed routes include: Bolton Falls (a natural area), a small ski area with a memorial ski jump, streams designated as having high recreation potential, several historic sites, bicycle routes, and proposed recreation and conservation land in Waterbury, Vermont, south of Mt. Mansfield State Forest.

## 2.2 Impact Assessments

The following discussions are organized under two headings: Visual Impacts and Recreation Impacts. Impacts identified in each of the five route segments (A-E) are presented in summary form. The link-specific impact narratives enclosed as Appendix B and the mile-by-mile impact tables in Appendix C contain additional impact information. The Map Volume graphically displays impact assessments along the routes, and thus also supplements the following impact summaries.

### 2.2.1 Visual Resources

As described in the methodology discussion, visual resources were analyzed relative to three different characteristics: visual site attractiveness; visual landscape quality; and viewers. Impacts on each of these visual components are summarized for segments A-E herein.

#### 2.2.1.1 Impact on Visual Site Attractiveness

Segment 'A' - Average site attractiveness impact within this segment is moderate. The only severe impact ratings assigned occur at the Fish

River and Allagash River crossings on links 1C and 3 respectively. High impacts were assigned where links 2 and 3 cross two parcels of state owned lands for which the timber and grass rights have been retained. In the remainder of the segment, impacts reflect the relative site attractiveness of land cover types which are crossed. The western portion of the segment exhibits a greater concentration of mature woodlands (moderate attractiveness) whereas the eastern half of the segment passes through a more agrarian landscape composed of active and abandoned agricultural fields (high attractiveness). Regenerating woodlands (low attractiveness) are somewhat evenly distributed throughout the segment. The result is a concentration of moderate impacts in the western portion of the segment and one of high impacts at it's eastern end. Low impacts occur throughout.

Segment 'B' - Mature woodlands (moderate attractiveness) are by far the most extensive form of land cover encountered. Thus, moderate impacts are predominant in this segment. Severe impacts occur only at water body crossings (links 5, 6, 7, 8, 9, 10, 10A, and 12). High impacts (3% of the segment miles) were assigned where the routes encroach upon attractive wetlands such as swamps, marshes, and beaver dam impoundments. Forestry constitutes the primary land use of the area, and low impacts were assigned in areas of forest regeneration (31.2% of the segment).

Segment 'C' - Although situated in the most scenic landscape of the entire proposed transmission system, near-view site attractiveness in this area is rather unspectacular Thus, impact ratings are generally low or moderate. The southern portion of the segment (in New Hampshire) generally has much higher existing site attractiveness, but impact values are typically low as most link alternatives parallel an existing right-of-way. In Maine, impact values are similar to those described for segment 'B' Severe impacts occur at water body crossings, except for the crossing of Arnold Trail along the North Branch Dead River (link 12).

High impacts were assigned where wetlands occur in a route. Moderate impacts were assigned where mature woodland is the dominant land cover, and low impacts, where regenerating woodlands dominate. In the Colebrook area of northern New Hampshire, agricultural land use increases. This cover type was evaluated to have high site attractiveness and thus would receive high impacts. Areas of particularly high attractiveness are several unforested peaks in links 19, 36, and 37, and crossings of the Connecticut River, where severe impacts are assigned. A most important severe impact area occurs on links 35 and possibly 38 which are in close proximity to Cape Horn, a designated unique natural area. Impacts on this area are sufficiently high to be considered unique.

Segment 'D' - Impact values for this segment are affected by right-of-way sharing proposed in all links except link 43. Severe impact ratings were assigned only at river crossings on links 42 and 44. High impacts were assigned to the portions of links 43 and 44 which pass through mature woodlands of exceptionally high site attractiveness located within the Groton State Forest. Agrarian landscapes -- particularly in

the vicinity of Peacham and Barre City (link 43) -- received high impact ratings. The remaining impacts range from moderate to low.

Segment 'E' - As most of this segment contains routes which parallel existing right-of-way. impacts average between low and moderate. Areas of no impact occur in this segment but are a very small percentage of the impact mileage. Moderate impacts were assigned where routes would pass through mature woodlands or abandoned agriculatural fields adjacent to an existing right-of-way. A severe impact occurs where the alignment infringes upon a designated unique geological area at the end of link 46 and at the beginning of link 47. Another severe impact occurs where the alignment crosses unvegetated ridges (rock outcrops) and hilltops in links 47 and 50. High impacts were assigned to river crossings in links 48, 49, 50, 54. 55, and 56.

2.2.1.2 Impact on Visual Landscape Quality

Segment 'A' - The impact on visual landscape quality for this segment is, on the average, moderate. The only area where high impacts are assigned is where the route crosses part of Stevens Hill and adjacent smaller peaks at the end of link 1 and at the beginnning of link 1C. Owing primarily to relatively low existing landscape quality and to the relatively large number of areas having high and moderately high absorption, almost 96% of the proposed alignment will result in only moderate impacts.

Segment 'B' - Impacts on visual landscape quality for this segment, on the average, are the lowest encountered. This is to be expected in an area of gently rolling upland terrain. Links 4 and 5 possess predominantly high and moderate absorbability which, when combined with relatively low existing landscape quality. resulted in assignments of low impact values. High impacts occur in most instances where the route crosses ridges or hilltops. In links 6 and 7 absorption is lower as more rugged topography is encountered. Consequently, high impacts were assigned to several mountainside locations. Generally due to decreased visual absorption in these links, moderate impacts are more common. This also applies to most of links 9 and 10A (the exception being mile 48 of link 9 where the route crosses high elevations on the isthmus between Seboomook and Moosehead Lakes), and to the northern sections of links 8 and 9A. For the remaining links in this segment, higher existing quality ratings result in high impact levels.

Segment 'C' - Landscape quality impacts in this segment are very high, more so than for any other segment. The total mileage of severe impact in all other segments exceeds segment 'C''s mileage of severe impact by only one mile. These impacts result from the extremely high quality landscape through which the segment passes. High quality landscapes occur primarily in western Maine. High impacts are the general rule and severe impacts are frequent. Only for link 38, near the end of the segment in New Hampshire, do moderate impacts predominate. Severe impacts are assigned to a long section of link 12 between miles 3-17 near Hardwood Mountain. Similar, but less extensive impacts are predicted

for link 11 (between miles 15-18), link 12 (between miles 34-36 near Eustis) and hilltops on links 15 and 16. Severe impacts dominate along link 17 in the Connecticut Lakes region. Around Colebrook, N.H., severe impacts were assigned to areas along links 17B, 18, 18A, and 19. Severe impacts again dominate in links 25, 26, and 27 from Kennebago Lake to the Rangeley Lakes region, and along links 35, 36, and 37 between Groveton N.H. and Whitefield, N.H. Included within this area are Cape Horn and the Connecticut River Valley where the alignment would be in full view of the Presidential Range of the White Mountains.

Segment 'D' - The average impact on landscape quality for this segment is between moderate and high. Except for severe impacts assigned to a few hilltop crossings southeast and southwest of Peacham, impacts are exclusively moderate or high. Impacts on nearly all of link 43 are high. High impacts are dominant along the first half of link 44, whereas moderate impacts dominate along the latter half These impact assignments reflect scenic quality ratings along the segment. The first half is located in a mountainous area adjacent to the Connecticut River Valley (high landscape quality, low absorption) and the last half in a more hilly, less mountainous area (moderate landscape quality, moderate absorption). Impact values along link 43 are higher as it does not parallel an existing right-of-way, as occurs on link 44 and all other links in this segment.

Segment 'E' - Right-of-way sharing is proposed for much of this segment. Coupled with the fact that the proposed lines will be of wood pole construction, the average impact value for the segment is moderate. The segment crosses more industrialized and developed areas than other segments thus its existing landscape quality ratings are lower. Severe impacts are assigned to ridge crossings at the beginnings of links 47 and 50. High and moderate impact ratings are more prevalent and are evenly distributed geographically among the areas in the segment. Low impacts are assigned to those portions of the segment between Richmond and Essex Junction, Vermont, from mile 11 of link 49 through link 56.

### 2.2.1.3 Impact on Viewers

Impacts on Viewers are discussed under three major headings: Recreation Viewer Impacts, Land Use Viewer Impacts and Viewer Route Impacts. The first two describe both the viewers which are being impacted and the severity of visual impacts upon them. The last category attributes these impacts to locations along the alternative routes as is done in the other visual impact assessment topics (as discussed in section 1.2.2.3).

Segment 'A'

Recreation Viewer Impacts - The average impact on recreational viewers in this segment is low. No severe impacts were assigned. There are only four predicted occurrences of potential high impact: on links 1 and 2 where the proposed lines cross a sightseeing and a fall foliage route; on link 2 around Hunnewell Lake; and on line 3 at the crossing of the St. John River (a canoe route). Recreational viewers along link 2 would view the proposed transmission lines from natural settings, where the lines would appear in greater contrast than along link 1, which has a more developed character. However, the potential number of recreational viewers in the link 1 viewsheds is greater than in link 2.

Land Use Viewer Impacts - The average impact on land use viewers is significantly less than low. Almost half of the segment miles are not visible from land use development. The area between the Fish River and Dickey Substations (link 1) will experience the most significant impacts, varying from low to moderate. The only high impacts assigned are on transportation and residential viewers south of Fort Kent Mills where Route 11 is crossed in the last mile of both links 1 and 2.

Viewer Route Impacts - Viewer impacts for this segment are generally low and the average value is below moderate, with only 11.7% of the segment miles rated high. Most of the high impacts occur in the vicinity of Fort Kent Mills on link 1C and at the ends of link 1 and 2. However, there are also high impacts along link 1 at miles 1 and 2 (at Lincoln School), and at mile 14 due to impacts on recreation, urban land use, and transportation viewers. There is a significant difference in viewer impacts between links 1 and 2. These links are particularly important because they form the transmission alternatives from Lincoln School to Fish River Substation. Although quantitative impact values do not differ significantly, the nature of impacts does. On link 1, situated in the populated St. John River Valley, impacts will be experienced by all but historic site viewers, whereas on link 2 the impacts are almost exclusively on recreation viewers.

Segment 'B'

Recreation Viewer Impacts - Moderate impacts constitute approximately 36% of all impacts assigned in segment 'B'. High and low impacts each constitute approximately 32% of the segment 'B' impacts. No severe impacts were assigned. High impacts primarily involve views of the proposed transmission lines from Wild and Scenic River candidates, a Wild and Scenic River study candidate, and large surface water bodies noted for their recreational use. Along link 5, the lines would be viewed from Chemquasabamticook Lake and Baker Branch above Baker Lake. Along links 6, 8, and 9, the line would be viewed from the West Branch, North Branch, and South Branch Penobscot River, as well as from Seboomook, Moosehead, Brassua, Caucomgomoc, and Canada Falls Lakes. High impacts along link 9A include views from Moose River, Long Pond, and public lands. As the proposed routes approach the Jackman area, they would be viewed from canoe, sightseeing, and fall foliage routes.

The number of water-based recreation viewers impacted would vary considerably across segment 'B' Recreational use would probably be greatest in the Moosehead Lake/Seboomook Lake area, resulting in a potentially greater viewer audience in this area. Other areas with relatively larger viewer audiences include Brassua Lake, and the Moose River/Long Pond area near Jackman. In areas with fewer viewers, the nature of the high impact would relate more to the perception of the profound contrast between the transmission facilities and the former natural setting, such as in the areas around Baker Lake and the North Branch and South Branch Penobscot River

Land Use Viewer Impacts - Due to the semi-wilderness nature of the landscape here, there are few impacts on visually sensitive land uses in segment 'B' Additionally. few of the link miles are visible from areas of urban development. Where the links are visible, the resulting impacts are predominantly low, and most are on transportation viewers travelling along low average daily traffic roads. The only moderate impacts are those on viewers in residential clusters around Long Pond, Maine, and along the 0-750 ADT road within the link 9A viewshed. There is one high impact -- on transportation viewers where link 11 crosses U.S. Route 201 near Moose River Substation.

Viewer Route Impacts - Viewer impacts for segment 'B' are exeremely low, as might be expected, due to its location in the unpopulated wilderness region of northwestern Maine. In fact, only 44.4% of the segment miles are assigned any viewer impacts at all Viewer impacts predominantly involve recreational viewers. In the last mile of link 11, high impacts are predicted for recreation and transportation viewers and a moderate impact for residential viewers, as the proposed alignment crosses Route 201, a well traveled scenic highway along which are located a few residences. Particularly high impacts on recreation viewers occur in: the area between miles 21-27 of link 5 in the vicinity of Baker Lake; almost all of link 6, especially near the North Branch Penobscot River and Green Mountain; link 9 where the route traverses the isthmus between Moosehead and Seboomook Lakes; and almost all of link 9A.

Segment 'C'

Recreation Viewer Impacts - Approximately one-third of the recreational viewer impacts along the routes in segment 'C' were rated severe or high. Seventeen miles of route were assigned severe impacts and 78 miles were assigned high impacts. Severe impacts are associated both with areas where the facilities would be most directly observed from recreational sites and with areas having high numbers of viewers. Severe recreational viewer impacts were assigned to links 17A and 18 within Coleman State Park. Along link 26, severe impacts are associated with the proposed lines on Observatory Mountain and where they would be visible from Route 16 (a fall foliage route), Aziscohos Lake, and Aziscohos Mountain. Severe impacts were also assigned along link 31 in the Upper Ammonoosuc River Valley where the proposed facilities are highly visible from Route 110 (a fall foliage route), and the Christine Lake/Bald

Mountain/Dickey Hill area, which contains a variety of recreational resources. On link 32, the transmission lines would also be visible from the Upper Ammonoosuc River (a State Wild and Scenic River candidate and canoe route), and Route 110. A variety of resources would experience a severe impact at the crossing of the Connecticut River along link 35. These include sightseeing and fall foliage routes (Route 3 in New Hampshire and Route 102 in Vermont); existing and proposed bicycle routes; a proposed recreation and conservation area; and the Connecticut River itself (a canoe route and National Wild and Scenic River study candidate). Along link 38, severe impacts were assigned where the proposed facilities would be visible from Routes 2 and 135 (sightseeing and fall foliage routes), the scenic lookout on Prospect Mountain within Mt. Prospect State Park, (a local scenic road), and the Israel River (a recreational and fishing stream). West of Whitefield along link 38, there will be a severe impact on a local scenic road near Dalton Mountain and on the mountain itself, an elevation of local significance. Severe impact along link 39 is associated with views from the Moore Reservoir and several scenic lookouts in Littleton, New Hampshire. Severe impacts along link 40 are associated with line visibility from Routes 18 and 135 (a bicycle route and recreational and fishing stream); and Route 93 (a scenic road).

High impacts for segment 'C' are assigned either to recreation areas within view of the alignments which are adjacent to areas of severe impact (links 35 and 40) or to recreational sites and areas (along twenty-one other links) which may also view the line. High impacts include line crossings of or visibility from State Wild and Scenic River candidates in New Hampshire (along links 18A, 19, 21, 22, 28, and 31); scenic roads or highways (along links 11, 12, 31, 36, and 38); sightseeing routes (along links 12, 18A, 19, 21, 22, 28, 31, 32, and 38); the Proclamation Area of the White Mountain National Forest (links 22, 32, and 33); and, a number of canoe routes, recreational streams, and hiking trails, including the Arnold Trail on link 12.

Land Use Viewer Impacts - There are few land use impacts in the upper portion of segment 'C', as few of the link miles here are visible from areas of visually sensitive land use development. Where the links are visible, views are usually from the transportation system, although residential viewers occur within the viewsheds of most links. Resultant impacts are primarily low, with some moderate impacts on both transportation and residential viewers, especially in links 28 and 31. The few high impacts were assigned to residential viewers around Otter Camp and in Kennebago, Maine (link 35); viewers in Percy, N.H. (link 31); and transportation viewers where the Canadian Pacific passenger rail line is crossed by link 11.

The landscape becomes more settled in the lower portion of segment 'C', and there is an associated increase in land use viewer impacts. About 75% of the segment miles here are visible from visually sensitive land uses. In these cases, visibility is rarely confined to just one category of land use viewers, e.g., where a link is visible to residential viewers it is usually also visible to transportation viewers. Although the

average impact is low, there are a significant number of moderate and high impacts along most links and there are severe impacts along links 35 and 38. Severe impacts were assigned to a single residence which is near the right-of-way on link 35 and to an historic site on link 38. High residential viewer impacts occur where single residences (on links 18A, 19, 22, 35, 36, and 38) and small residential clusters (on links 17A and 32) are close to the right-of-way. and also where the communities of Upper Kidderville, N.H., (link 17B), Northumberland, N.H. (link 35), and Whitefield, N.H. (link 38) are within the viewsheds. There are high transportation viewer impacts at the crossings of Routes 26 (links 18, 18A, and 19), U.S. 3 (links 21 and 35), 18 (link 40), and a 0-750 ADT road (link 32). There are also high historic site viewer impacts along links 18A and 38. The mollifying influence of an existing transmission line along many of the links has been taken into account in assigning the above impacts.

Viewer Route Impacts - Impacts on viewers for segment 'C' may be divided into two groups according to types of viewers impacted. Those links in western Maine will have impacts primarily on recreational viewers, given the nature and identity of this area. As the segment continues into New Hampshire, impacts on residential, transportation and historic site viewers are also assigned. The first severe impacts on viewers are assigned within this segment at miles 6, 7, and 8 on link 26 where the proposed alignment traverses Observatory Mountain and crosses Black Brook and Highway 16, near Aziscohos, Upper Richardson and a number of other small lakes and ponds. Miles 18 and 19 on link 31, near Percy, New Hampshire are assigned severe impacts on recreation viewers and high impacts on residential and transportation viewers. Severe impacts are assigned to more than half of link 35 in the Connecticut River Valley southwest of Groveton. Some of the most severe impacts were assigned on link 38. In mile 9, there will be high impacts on recreation and historic site viewers and moderate impacts on all others, whereas for mile 18 -- just north of Whitefield, New Hampshire -- there will be high impacts on recreation and urban land use viewers, moderate impacts on transportation viewers, and a severe impact on historic site viewers. In short, this segment characterizes the viewer impact issue; i.e., where the proposed alignments traverse more populated areas, viewer impacts intensify.

Segment 'D'

Recreation Viewer Impacts - One-third of the impacts in segment 'D' are high, and slightly less than one-third are severe. Severe impacts are assigned to areas within view of the proposed transmission lines. For link 42, these include areas along the Connecticut River (especially where crossings occur). and proposed recreation and conservation lands. At the river crossing, canoeing, fishing, and bicycling areas, an historic site, and a scenic highway would be within view of the proposed facilities. Along link 43, several consecutive miles of route through Groton State Forest, in addition to areas within Barre City Forest and State Park lands, were assigned severe impacts. On link 44. severe impacts may occur: in the viewing area from the Connecticut River, within the Pine Mountain Wildlife Management Area, and in Groton State Forest.

High impact areas in segment 'D' are generally adjacent to the severe impact areas which were described above. High impacts were also assigned where views are possible from areas containing a variety of recreational resources such as in the Connecticut River Valley (link 42); where the lines would cross a bicycle and fall foliage route, existing and proposed scenic roads, and historic sites (link 43); and, also at such recreational resources as the Bailey-Hazen Military Road, fishing streams, an historic site, a fall foliage route, and a proposed scenic road (link 43).

Land Use Viewer Impacts Because urban land use conditions are evenly dispersed over this landscape, almost 90% of the link miles of segment 'D' are visible from visually sensitive land uses. Except for very few instances, if a link mile impacts one land use category, it also impacts another. The average impact -- between low and moderate--would be higher were it not for the influence of existing transmission rights-of-way over much of the segment. Still, there are significant severe and high land use viewer impacts. Where single or clustered residences occur near the right-of-way, residential viewer impacts are severe (link 42) or high (links 43, 44, and 45). Barnet, Vt. will experience severe impacts (link 44) or high impacts (links 42 and 43). Other communities experiencing a high residential viewer impact include East Barre, Peacham, and South Peacham (all link 43). Viewers along the streets of many of the above communities will experience high transportation viewer impacts. There are also high transportation viewer impacts where the route crosses Routes 5 (link 42), 110 (links 43 and 44), and 302 (links 43 and 44). Historic site viewers will experience severe impacts (link 43) and high impacts (links 42, 43, and 44).

Viewer Route Impacts - Three of the five links in segment 'D' contain areas which cause severe impacts on viewers. The average viewer route impact for the entire segment is just below high. This is attributable to the relatively large number of people living and recreating in northeast Vermont. Impacts are most critical on recreation viewers, as evidenced by severe impacts along more than one-fourth of the segment mileage. Severe impacts on land use viewers will occur along the last mile of link 42 and the first mile of link 44, near Barnet. There will be a severe impacts on historic site viewers along mile 8 of link 43, west of Peacham. Severe impacts on all viewers types are prevalent from mile 7 to the end of link 42, along the first mile of link 44 near Barnet, from miles 6-8 of link 43 south of Peacham, along mile 28 (near East Barre), and in mile 25 of link 44.

## Segment 'E'

Recreation Viewer Impacts - Slightly fewer than half of the recreational viewer impacts within segment 'E' are rated high. Severe impacts represent slightly more than 10% of the total impacts. Severe and high impacts are assigned primarily to recreational sites and areas along the Winooski River Valley within view of the proposed facilities. Six of the eight severe impacts were assigned where the lines traverse the valley along links 47A, 48, 49, and 53. Along these links, the lines

are visible from the Winooski River (a canoe route and fishing stream); Routes 2, 100, and 89 (fall foliage routes and scenic roads); the Bolton Falls natural area; historic sites; and places such as Camels Hump State Park. The remaining severe impacts were recorded along link 46 where the lines would be visible from Barre City Forest and a natural area. The majority of high recreation viewer impacts were also assigned to recreational resources in the Winooski River Valley. Such features as the Long Trail, several fall foliage and scenic routes, the Mad and Huntington Rivers, other smaller recreational streams tributary to the Winooski River, and a ski area would have direct views of the facilities.

Land Use Viewer Impacts - Reflecting the highly-settled nature of the segment 'E' landscape, there are only a couple of link miles which are not visible to land use viewers. Despite the fact that most of the links in this segment share existing rights-of-way. this segment has the highest impact on visually sensitive land use viewers. There are many severe impacts on land use viewers, and high impacts are numerous. Severe impacts include those: on residential viewers, where single residences (link 47A) and mobile home parks (links 47 and 49) are located close to the right-of-way; on transportation viewers, where Routes I-89 (links 46 and 49), 2 (link 49) and the Central Vermont passenger rail line (links 48 and 49) are crossed; and on historic site viewers where sites are located close to the right-of-way (link 49). There are high residential viewer impacts on single residences (links 45C, 46, 47, 48, 49, 50, 54, and 55) and small residential clusters (links 45A, 49, 50, and 55) located close to the right-of-way, and on the communities of Middlesex (links 48 and 53), and Jonesville and Richmond (link 49) in Vermont. High transportation viewer impacts occur at crossings of Routes 34 (links 45B and 45C), I-89 (link 50), 12 (link 50), 100 (link 54), 117 (links 55 and 56), and the Central Vermont passenger rail line (links 55 and 56). There are also high transportation viewer impacts where parts of Routes 100 (link 48), 100B (link 53), I-89 (links 48 and 49). 2 (link 49), and the Central Vermont rail line (links 48 and 49) are located close to the right-of-way. Viewers at historic sites located close to the route along links 47, 47A, 49 and 55 will also experience high impacts.

Viewer Route Impacts - Because it traverses the most populated area found along the proposed system, the transmission lines of segment 'E' will cause the greatest viewer impacts. The average viewer impact for the segment is well above high, with a cumulative rating of severe assigned to about one-quarter of the segment miles. Overall the impacts are rather uniformly distributed throughout the segment, with no particular geographic area being distinguished. Link 49, through the Winooski River Valley, is by far the worst--severe impacts are assigned to 65% of its length. More than half (53.4%) of the miles in this segment are assigned high impacts; one-sixth (16.6%) moderate impacts; and only 4.4% low impacts. Numerous severe impacts on transportation viewers, particularly, are predicted. Because links 45B, 45C, miles 6 and 7 of link 46, and mile 1 of link 49 are close to route I-89, there will be severe impacts on transportation viewers along corresponding portions of the highway. Severe impacts on recreation viewers have been identified for

links 46 (miles 1 and 7), 47A (miles 1, 2, and 4), 48 (mile 1), and 49 (mile 1). There will also be a severe impact on historic site viewers along mile 4 of link 49.

## 2.2.2 Recreational Resources

### 2.2.2.1 Pre-emptive Impacts on Recreational Resources

The following discussions focus on pre-emptive recreation impacts -- those impacts of a displacement nature. Summaries of such impacts are provided for each segment. Appendices B and C, should be referenced for additional impact information.

Segment 'A' - The majority of pre-emptive impacts in segment 'A' result from crossing snowmobile trails. Impact from such crossings is rated low. Along links 2 and 3 there may be severe impacts on recreational activity on public lands. High impacts are associated with crossings of fall foliage, sightseeing, and canoe routes, and impingement upon Hunnewell Lake (a great pond) and Bossy Mountain (a high elevation of local significance).

Segment 'B' - As for segment 'A', the average impact rating in segment 'B' is low, because it also reflects numerous crossings of snowmobile trails. Severe impacts are assigned in links 6, 8, and 9 where the West Branch Penobscot River, North Branch Penobscot River, and South Penobscot River, respectively, are crossed. This river system is a National Wild and Scenic River candidate. Severe impacts are assigned to areas of public land along link 9A. High impacts will result from crossing canoe routes (in the semi-wilderness area between Dickey and Jackman) and a fall foliage and sightseeing route (near Jackman). The most significant impact associated with segment 'B' involves the location of link 9 between Moosehead Lake and Seboomook Lake. This is an area where a great number of people may recreate.

Segment 'C' Most pre-emptive recreation impacts along segment 'C' are rated either moderate (37%) or high (36%). Severe impacts are primarily associated with the disruption of public lands along links 11, 12, 13, 13A, and 25. Severe impacts are also assigned to an area along links 17A and 18 near Coleman State Park in New Hampshire. Potential high impacts involve the crossing of scenic, sightseeing, fall foliage, and canoe routes, as well as Wild and Scenic River candidates. Link 11 crosses Moose River and Kibby Stream, both National Wild and Scenic River study candidates. Several other Wild and Scenic River candidates, designated by the State of New Hampshire, are crossed by links 18A, 19, 20, 21, 22, 28, 31, 32, and 25. Potential moderate impacts involve crossing recreational streams and rivers on seventeen segment 'C' links. There may also be moderate impact on hiking trails and bicycle routes along several links, and on proposed recreation and conservation lands between Groveton and the Moore Dam.

Segment 'D' - Most impacts along segment 'D' involve crossing recreational streams and rivers, bicycle routes, and proposed scenic roads, and traversing proposed recreational and conservation areas. These impacts are rated moderate. Severe impacts occur along links 43 and 44, where the route traverses Groton State Forest, Barre City Forest, State parkland adjacent to the Barre Dam, and the Pine Mountain Wildlife Management Area. High impacts were assigned at crossings of fall foliage routes and historic sites. There may also be high impacts on a scenic road on link 42 and hiking trails on links 43 and 44.

Segment 'E' - Over half the impacts in this segment involve crossing a number of recreational and fishing streams (moderate impact ratings). Canoe routes and bicycle routes may also experience moderate impact. Four areas are assigned severe impacts: the Barre City Forest and a natural area (link 46); Bolton Falls (a natural area along link 49); and a skiing area (link 46). High impacts include crossings of fall foliage routes, historic sites, scenic roads, and the Long Trail (a significant hiking trail.)

## 2.3 Mitigating Actions

Mitigating actions are herein defined as specialized modifications to the design, construction, and installation of the proposed transmission facilities which should effect an overall lessening of impact. Impacts have been defined under four categories: Pre-emptive Impacts on Recreational Resources, Impact on Visual Landscape Quality, Impact on Visual Site Attractiveness and Impact on Viewers, the last being subdivided into Recreation Viewer Impacts, Land Use Viewer Impacts, and Viewer Route Impacts. Mitigation of impacts under each category is discussed in the following pages. The mitigation measures suggested are directed at the planning level, i.e., mitigation recommendations will be rather general and large-scale in nature. Mitigation recommendations which are part of the USDI construction and mitigation guidelines and used as a matter of course are not discussed here.

### 2.3.1 Identification of Need

The impact category "severe" was used to identify particular areas where impacts should be mitigated. Using this singular designation does not imply that impacts of lesser degrees should not be mitigated; rather, it keys areas most in need of mitigation. Sections of transmission lines designated as causes of severe impact are identified by link number and milepost locations in Tables II.1, II.2, II.3, II.4, and II.5. The length impacted within each mile is also shown. Link-miles having severe impacts on more than one of the resource categories are most in need of mitigation. Mitigating techniques for each impact category are presented in the following discussions.

Table II.1 - Severe Impacts on Visual Site Attractiveness

| IMPACT LOCATIONS | |
|---|---|
| Links | Link Mile(s) |
| 1C | 1* (.1) |
| 3 | 1* (.1) |
| 5 | 22* (.1) |
| 6 | 6* (.1) |
| 7 | 8* (.1) |
| 9 | 47* (.1) |
| 10 | 8* (.1) |
| 10A | 8* (.1) |
| 12 | 1* (.1), 33* (.1) |
| 15 | 7* (.1) |
| 16 | 8* (.1) |
| 18 | 3 (.3) |
| 19 | 3 (.3), 20* (.1) |
| 21 | 1* (.1) |
| 25 | 12* (.1) |
| 27 | 9* (.1), 12* (.1) |
| 28 | 4* (.1), 6* (.1), 7* (.1) |
| 32 | 1* (.1) |
| 36 | 2 (.1) |
| 37 | 6 (.4) |
| 38 | 3 (.3), 7* (.1), 8* ( 1), 17* (.1), 25* (.2) |
| 40 | 2* (.35) |
| 42 | 2* (.1), 3* ( 1), 8* (.1) |
| 44 | 7 (.3) |
| 46 | 7 (.3) |
| 47 | 1 (.3) |
| 48 | 1* ( 1) |
| 49 | 1* ( 1), 3 (.1) |
| 50 | 1 (.2), 2* (.1) |
| 55 | 1* (.1) |
| 56 | 2* (.1) |

( ) - length of link mile actually affected
* - alignment location through areas of high and very high existing visual landscape quality on ridges and hilltops

Table II.2 - Severe Impacts on Visual Landscape Quality

| IMPACT LOCATIONS | |
|---|---|
| Links | Link Mile(s) |
| 9* | 47(.1), 48( 7), 49(.1) |
| 11* | 11(.1), 16(.5), 17(.1), 18(.2) |
| 12 | 3(.3), 4(1), 5(1), 6(1), 7(.3). 8( 7), 9(1), 10(.9), 11(1), 12(.2), 13(.3), 14(1), 15(1), 16(1), 34(.2), 35(.2), 36(.1) |
| 15* | 10(.3) |
| 16 | 8( 7), 9(.2) |
| 17 | 1(.6), 2(1), 3(1). 4( 4), 5 (1), 6(1), 7(.8) |
| 17B | 11( 7), 13(.1), 14(.1) |
| 18 | 1(1), 2(1), 3(1) |
| 18A | 1(.2), 5(.9) |
| 19 | 1(1), 2(1), 3(1), 8(.7), 9(1) |
| 25 | 4(.6), 5(.8), 6(1), 7(1), 8(.5), 13(.1), 14(.9) |
| 26 | 1(1), 2(.6), 3(.9), 4(.7), 5(1), 6(1), 7(1), 8(1), 9(1), 10(.6) |
| 27 | 1(.8), 2( 4), 3(.5), 4(.4), 5(.7), 6( 4), 7(.5), 8(1), 9(1), 10(1), 11(1), 12( 4) |
| 28 | 1(.2) |
| 35 | 3(.7). 4(1). 5(1), 6(1), 7(.3) |
| 36 | 1(1), 2(.5). 3(.7), 4(.8), 5(1) |
| 37 | 1(.7), 2(1), 3(.9), 4(1), 5(1), 6(.9), 7(.8), 8(1), 9( 7) |
| 43* | 5(.1), 6( 1), 8(.1) |
| 47 | 1(.2), 2(.2) |
| 50 | 1(.1), 2(.2) |

( ) length of link miles actually affected
* alignment location through areas of high and very high existing visual landscape quality on ridges and hilltops

Table II.3 Severe Impacts on Recreational Viewers

| IMPACT LOCATIONS | |
|---|---|
| Links | Link Mile(s) |
| 17A | 7. 8, 9 |
| 18 | 1 |
| 26 | 6, 7, 8 |
| 31 | 18, 19 |
| 32 | 1 |
| 35 | 5, 6 |
| 38 | 10, 22 |
| 39 | 4 |
| 40 | 2, 3 |
| 42 | 3, 5, 8, 9 |
| 43 | 10, 11, 12, 13, 14, 15, 25, 26, 27, 28 |
| 44 | 1, 12, 17, 18 |
| 46 | 1, 7 |
| 47A | 1, 2, 4 |
| 48 | 1 |
| 49 | 1 |
| 53 | 1 |
| 56 | 6 |

Table II.4 - Severe Impacts on Visually Sensitive Land Use Viewers[1/]

| IMPACT LOCATIONS | |
|---|---|
| Links | Link Mile(s) [2/] |
| 35 | 1(R) |
| 38 | 18(H) |
| 42 | 10(R) |
| 43 | 6(H), 8(H) |
| 44 | 1(R) |
| 45B | 2(T) |
| 45C | 2(T) |
| 46 | 6(T), 7(T) |
| 47 | 2(R) |
| 47A | 4(R) |
| 49 | 1(T), 4(R, H) |

1/ - Viewers: R = residential; T = transportation; H = historic site
2/ - impacts are in whole miles

Table II.5 - Severe Pre-emptive Impacts on Recreational Resources [1/]

| IMPACT LOCATIONS | |
|---|---|
| Link | Link Mile(s) |
| 2 | 12(A), 13(A) |
| 3 | 4(A), 5(A) |
| 6 | 3(L), 7(L) |
| 8 | 3(L) |
| 9 | 47(L) |
| 9A | 3(A), 4(A), 6(A), 7(A) |
| 11 | 24(A), 38(A), 39(A) |
| 12 | 8(A), 22(A), 23(A) |
| 13 | 2(A), 3(A) |
| 13A | 6(A), 7(A) |
| 17A | 8(A), 9(A) |
| 18 | 1(A) |
| 19 | 1(A) |
| 21 | 6(A, L) |
| 25 | 5(A) |
| 37 | 3(P) |
| 43 | 10(A), 11(A), 12(A), 13(A), 14(A), 15(A), 24(A), 25(A), 26(A), 27(A), 28(A) |
| 44 | 12(A), 17(A), 18(A) |
| 46 | 1(A), 7(A) |
| 49 | 1(P) |
| 56 | 6(A) |

1/ - Recreational Resources: P = point feature; L = linear feature; A = areal feature

### 2.3.2 Mitigating Techniques

#### 2.3.2.1 Visual Resources

Impact on Visual Site Attractiveness - Three types of severe impact on visual site attractiveness were identified in the impact assessment. They are: water body crossings (usually linear water bodies such as streams and rivers); crossings of agricultural fields situated atop local peaks; and infringement upon unique natural areas (one instance), as indicated in Table II.1. Mitigation of these impacts can be categorized into two different, yet somewhat similar sets of mitigation techniques. No mitigation is discussed for impact upon the natural area, primarily because the geographic location of the unique area is not specifically known (see Table II.2, links 46 and 47).

Surface water body crossings (indicated in Table II.1 by an asterisk) are the most frequent causes of severe impact. However, these impacts will most likely be mitigated as part of the USDI's overall planning and design process. The joint Department of the Interior-Department of Agriculture publication Environmental Criteria for Transmission Systems establishes a frame-of-reference within which the land managing agencies will devise and implement regulations to protect and conserve the environment. This publication states that "where rights-of-way cross major highways and rivers, the transmission line towers should be stratigically located for minimum visibility" and that "clearing should be done in such a way that a screen of natural vegetation is left in the rights-of-way on each side of the road or river If natural vegetation is such that a screen cannot be left, the planting of native types of plants, low-growing trees, etc., should be considered to provide screening." These practices will provide the necessary mitigation, short of individual design solutions, to reduce impacts at surface water body crossings.

To mitigate impacts at crossings of unforested peaks, this same publication proposes "to avoid placing a transmission tower at the crest of a ridge or hill", and to "space towers below the crest or in a saddle to carry the line over the ridge or hill", so that "the profile of the facilities should not be silhouetted against the sky." Because impact on visual site attractiveness involves interruption of views afforded from such areas, avoidance of these areas in tower placement should serve to provide a satisfactory level of mitigation. However, additional measures--particularly where such open areas are too large to be bypassed by a single span--could include using a simple tower design, locating the right-of-way along the side of the peak in the direction of the least attractive views, and retaining trees at the open/woodland edge to shut off views along the right-of-way. Further, right-of-way realignment should be considered, as such locations present problems to other visual resources due to the visibility of hill and ridgetop locations. The above mitigation techniques are suggested for all locations listed in Table II.1, other than those on links 46 and 47, which reflect possible impacts on the natural area mentioned above.

Impact on Visual Landscape Quality - Two distinctly different types of severe impact on visual landscape quality have been identified in the impact assessment. They are: crossing ridge and hilltops in areas of high and very high existing visual landscape quality and crossing locations of low and very low visual absorption capability (including ridges and hilltops) in areas of exceptional existing visual landscape quality. Severe impacts on landscape quality are shown on Table II.2. An asterisk is used to identify the links affected by the first impact type.

Lessenings of impacts of the first type is accomplished through mitigating techniques discussed for site attractiveness impacts. A second set of techniques might be employed on vegetated peaks. Here, slight adjustments in the right-of-way, coupled with using the shortest towers possible, will do much to reduce impact. Third, it is suggested that as much vegetation as possible be retained and/or planted within the right-of-way to reduce the effects of impacts resulting from a cleared right-of-way. Alternative measures would include the painting of towers and conductors to match either the sky or the surrounding landscape to lessen silhouetting. Finally, realignment of the right-of-way should be considered wherever possible, as it is probably the most effective means of mitigating such impacts.

The remaining impacts have to do with the visual quality of the environments in which they occur. These impacts are not as conducive to mitigation, although any of the above techniques will produce some reduction and should not be discounted. None of the above techniques would entirely mitigate the impact. One mitigation solution would be to select alternative link alignments. However, in many locations it is possible only to select an alignment with less impact, not one which would eliminate impact. Thus, in some respects, certain of these impacts might be regarded as 'unavoidable.'

Impact on Viewers

Recreational Viewer Impacts Severe impacts on recreational viewers have been assigned where viewers would depend largely on scenery for enjoyment of the recreational experience, and where there are direct views of the proposed facilities. Such areas may be located either directly in the line of sight of the facilities or directly adjacent to or beneath the proposed facilities, as indicated in Table II.3. Techniques to mitigate impact on visual site attractiveness, visual landscape quality, and other types of visual impacts are directly applicable to the mitigation of recreational viewer impacts. Some pre-emptive impact mitigation measures also may have a direct application. Locating the centerline and towers to obtain maximum aesthetic compabibility would be of particular value in lessening recreational viewer impacts. Vegetation clearing and removal should be as minimal as possible and facilities should be placed at the least revealing elevations in the landscape, where possible. Specialized techniques such as helicopter clearing and construction could be utilized. Specialized tower designs should also be used in certain areas, depending on conditions observed in the

field. Towers should be painted to reduce specular reflection, especially in remote, relatively undeveloped areas.

Visually Sensitive Land Use Viewer Impacts - Table II.4 shows the locations of severe impacts on land use viewers. Mitigation of such impacts is primarily an individual, site-specific issue, in the sense that the numbers of viewers--and their locations with respect to the proposed alignments--are variable. Relocation of the alignments relative to viewers is possible but would require extensive field investigation to insure that greater impacts are not created. Any of the techniques heretofore mentioned have potential to mitigate viewer impacts and should receive due consideration, particularly those discussed for landscape quality impacts. However, one technique which may be of particular value is landscaping. Primarily, landscaping would involve the screening of views at some point between the route and the viewer audience. Effective use of landscaping requires individualized and site specific study beyond the scope of this report. Thus, additional, more detailed studies should be conducted during the facility design stage.

### 2.3.2.2 Recreational Resources

Pre-emptive Impacts on Recreational Resources Mitigation of pre-emptive impacts on recreational features depends on the nature of the area being impacted. Recreational features have one of three configurations--points, lines, and areas. As such, effects of the proposed transmission facilities can be mollified in varying ways, depending on the configuration of the resource and the proximity of transmission lines and/or towers to the resource. Wherever the proposed facilities would be tangent to or coincident with recreational sites or small areas, a severe impact was assigned. Similarly, where larger recreation areas would be disrupted by the proposed line, a severe impact was recorded. In the case of linear features, those along which the viewer is highly dependent upon scenery for the primary satisfaction of his recreational experience were considered to be severely impacted where they are crossed by an alternative route. Table II.5 lists the pre-emptive impacts on point, line, or area features by link and milepost.

The most direct way to mitigate impact on point features involves avoiding the site or locating the alignment on the perimeter of the activity area. As the exact centerline has not been determined, minor locational changes would be a helpful mitigation measure for the point features. After final centerline selection, further mitigation would include providing vegetative screening, as necessary.

Where severe impacts are assigned to recreational areas, changing the location of the right-of-way to avoid them entirely or to follow their perimeters would reduce impacts. Recreational areas bisected by the proposed right-of-way will need specific measures to lessen the impact. These include special clearing and construction techniques to minimize disruption of the physical and/or visual settings. Hence, vegetation removal should be confined to that necessary for the safe operation of

the facility. Furthermore, the right-of-way alignment should be deflected to restrict long views, and vegetative screens should be introduced between major use areas and the right-of-way. In certain instances the towers could be painted to obscure visibility. Where certain right-of-way alignments may enhance the existing recreational activity, access roads should be located so to improve access to the activity areas. For example, providing more access may expand an existing trail network within an area by creating additional functional trails.

Where severe impacts are assigned to crossings of linear recreational resources, several mitigating actions could be employed. These include the use of long span towers at crossings of roads, streams and rivers, and trails. In addition, the right-of-way should be left natural or "feathered" at these crossings to avoid a notched effect. Vegetative screens could also be introduced to restrict views of the facilities at prominent vantage points. Where "feathering" is not possible, the right-of-way itself could be deflected to reduce long views. In the vicinity of the crossing, the lines should approach the feature diagonally and cross it at a slight angle to limit the time of viewing.

# III. Substations

# 3. SUBSTATIONS

Eight substations are proposed as part of the overall Dickey-Lincoln School Lakes Transmission System. Of these, seven are to be utilized, pending the selection of one of two midpoint substation alternatives. Three of the facilities are existing -- Fish River, Moore, and Granite. A substation at Essex Junction, Vt., will be constructed by Vermont Electric Power Company. New substations are to be built at the following locations: Dickey, Lincoln School, and, of the midpoint locations, either Jackman or Moose River The existing substations are not discussed, as little or no modification of them will be made.

Descriptions of visual conditions and recreational facilities at the existing substations can be extracted from the following link descriptions, Appendix A: descriptions for links 45 and 45A apply to Granite substation; discussions for the ends of links 55 and 56 apply to Essex Substation; link 1C, Fish River Substation; and link 41, Moore Substation. Impacts at these facilities will be either low or insignificant, and no mitigation other than that embodied in the standard landscaping and design practices employed by the Department will be necessary.

The remaining substation alternatives are discussed below. Included are descriptions of the existing environment, impact assessments, and mitigating actions for each. There is no discussion for pre-emptive impacts on recreational resources since none of the proposed substations are located directly on recreational sites or areas. Only the substation facilities--not the towers or rights-of-way entering or exiting from them -- are discussed.

## 3.1 Description of Existing Environment

### 3.1.1 Dickey Substation

This substation would be a new facility located near the Dickey Dam powerhouse. The proposed site is adjacent to a garbage dump. Access to this site is developed. The substation will require about 5.2 acres of land.

#### 3.1.1.1 Visual Resources

Visual Site Attractiveness - The site attractiveness of the substation site is predominantly low to very low, as its present use is an open dump and landfill.

Visual Landscape Quality - This substation is situated in the Allagash River Valley near the confluence of the Allagash and St. John Rivers.

The immediate substation site can be described as being in hills, with moderate water and wetlands interest, low variety and contrast and moderate topographic interest. Absorption is low due to location in a narrow valley floor Since the site is located about 1000 feet from the river in an area with significant topographic interest, the visual quality for the specific site could be regarded as high. However, as the transmission facility must invariably succeed the installation of the Dickey Dam hydroelectric facilities, the existing environment will already have been significantly altered. A rating of moderate was therefore assigned.

Visually Sensitive Land Uses - There is one residence along the Eliza Hole Rapids of the Allagash River southwest of the substation site. The Michaud Tote Road (ADT 0-750) parallels the river across the viewshed.

3.1.1.2 Recreational Resources

Both existing and proposed recreational resources are found within the viewsheds of the Dickey Substation. The most noteworthy existing recreational resource is the Allagash River, a State Wilderness Waterway and heavily-used canoe route. Other existing features include a Maine Forest Service ranger station west of Michaud Road, a public lot near Campbell Brook, a picnic area just east of the proposed substation, and an unmaintained snowmobile trail bordering the eastern edge of the Allagash River Proposed recreation features are associated with development of the Dickey/Lincoln School Lakes Project. These include hiking trails, a visitor center, and a scenic turnout. The hiking trails would pass directly by the proposed substation, and the visitor center and scenic turnout would be approximately 0.5 mile west and east of the proposed site, respectively.

3.1.2 Lincoln School Substation

This substation would be a new facility located near the Lincoln School Dam and powerhouse. The site is about 2 miles west of the town of St. Francis on Maine Highway 161. It would be less than 0.25 mile from the relocated highway. A short access road, plus about 0.7 acre of land will be required.

3.1.2.1 Visual Resources

Visual Site Attractiveness - The existing site attractiveness for the area around this substation site is high, as the land cover is presently cultivated agricultural field in a dominantly agrarian landscape. A large stand of mixed mature woodland is located along the northwestern edge of the site.

Visual Landscape Quality - This substation is in an area rated high for existing visual landscape quality. The site is situated in a landscape of hills adjacent to mountains (McLean Mountain) with moderate water and

wetlands interest and variety and contrast, and high topographic interest. It's numerical landscape quality rating is in the upper threshold of the high range as the facility is in an agrarian section of the landscape, which provides high variety and contrast relative to both its forested surroundings and the St. John River Thus, existing landscape quality could be regarded as very high. Absorption is low due to it's location within the open agrarian landscape of the narrow St. John River Valley floor.

Visually Sensitive Land Uses - The substation's viewshed is bisected by Route 161 (ADT 0-750). The highway runs adjacent to the proposed site. Several individual residences and two residential clusters located along this road are within view of the substation.

3.1.2.2 Recreational Resources

Recreational resources within the viewsheds of Lincoln School Substation are all linear Recreational features include: Route 161, a fall foliage route; the St. John River, a noted canoe route; and maintained and unmaintained snowmobile trails. The snowmobile trails are approximately 0.5 mile east of the site. Travellers along Route 161, a fall foliage route, would have better views of the substation more than would other recreational users, as the road passes directly in front of the proposed site.

3.1.3 Moose River Substation

The proposed site for this facility is 4 miles north of Moose River, Maine, and 0.25 mile from Maine Highway 201 An access road would have to be developed. The station would require about 4.1 acres of land.

3.1.3.1 Visual Resources

Visual Site Attractiveness - The site attractiveness of this particular location is high. The land cover is marshland, part of an extensive area of the same, and the site is adjacent to swamps and woodlands.

Visual Landscape Quality - The existing visual landscape quality around the substation site is very high. The landscape in which the site is located is described as hills adjacent to mountains with high topographic interest and views from the surrounding hills of the nearby town of Jackman and Moose River. Water and wetlands interest is moderate; variety and contrast is low; and absorption is moderate, as woodlands flank the site to the north and east. The site is surrounded by hills, taking advantage of the visual closure they provide. However, the facility will be located next to a rather large marsh and will thus be somewhat obvious, being adjacent to an opening in the forest cover.

Visually Sensitive Land Uses - Two residences along U.S. 201 are within the viewshed. 1.5 miles of Route 201 (ADT 750-3000) are within the eastern edge of the viewshed.

### 3.1.3.2 Recreational Resources

Recreational resources within the viewshed include a snowmobile trail and a seasonal residence. The snowmobile trail is located east of the site along Route 201 The seasonal residence is the former Customs Motor Inn, also located east of the proposed site on the east side of Route 201.

## 3.1 4 Jackman Substation

The Jackman Substation site is located about three miles east of Jackman, Me. It is about 0.5 miles south of Route 15 and the Canadian Pacific railroad southwest of Long Pond. The substation would require 4.1 acres of land.

### 3.1.4.1 Visual Resources

Visual Site Attractiveness Site attractiveness is rated moderate to low as the substation site is situated almost entirely in mixed mature woodlands, although a small portion of the site lies within an area of regenerating mixed woods.

Visual Landscape Quality Existing visual landscape quality at this substation site is high. It is in hills adjacent to mountains with moderate water and wetlands interest due to the presence of the Moose River and views toward Long Pond. Variety and contrast is moderate. Topographic interest is high. Absorption is high, as the site is on a level area in the relatively broad Moose River Valley floor, and mature woodlands surround it on three sides. To the north/northwest is a small area of regenerating woodland (moderate absorption). However, beyond this area the land cover again becomes mature woodland.

Visually Sensitive Land Uses - Six residences located along U.S. 201 and two miles of U.S. 201 (ADT 750-3000) are within the viewshed. A secondary road (ADT 0-750) crosses the northern tip of the viewshed.

### 3.1 4.2 Recreational Resources

Existing recreational resources near the proposed substation are linear except for a state-maintained picnic and rest area along Route 20. Route 15 runs north of the proposed site. This is a fall foliage and sightseeing route, and part of the Heritage Trail in Maine. Route 201 is also both a fall foliage and sightseeing route. A maintained snowmobile trail is located in the area between the Route 15 and 201 intersection, and there is an unmaintained snowmobile trail near the headwaters of Halfway Brook.

## 3.2 Impact Assessment

### 3.2.1 Dickey Substation

#### 3.2.1.1 Visual Resources

Impact On Visual Site Attractiveness - As the existing site is presently a dump and landfill, replacement by the substation will result in only a low impact.

Impact On Visual Landscape Quality - Impact should be moderate to low, owing almost equally to the moderate existing quality and low absorbability around the site. This is particularly true in that the hydroelectric generation facilities will precede the substation, thus drastically altering the environment prior to its installation.

Impact on Viewers
Recreational Viewers - Recreational viewer impact is rated high due to the visibility of the substation from the Allagash River. The status of the Allagash as a wilderness waterway and renowned canoe route is the basis for the high impact designation. In addition to recreational viewers along the river, there could be impacts on viewers at an existing picnic area and along proposed hiking trails, depending on the final location of these trails.
Visually Sensitive Land Use Viewers There is a low viewer impact on transportation viewers on the Michaud Tote Road (ADT 0-750) where it crosses the viewshed.
Viewer Substation Impacts - The combined rating of the impacts upon recreation and land use viewers is moderate, as woodlands along the banks of the Allagash River will block views of the site.

### 3.2.2 Lincoln School Substation

#### 3.2.2.1 Visual Resources

Impact on Visual Site Attractiveness Replacing the active cultivated agricultural field and its adjacent hedgerows (and woodlots) with a substation will result in a high impact.

Impact on Visual Landscape Quality The impact on landscape quality is high, due to a very high existing quality rating combined with a low absorbability rating.

Impact on Viewers
Recreational Viewers - Recreational viewer impacts at this site would be high due to the direct visibility of the facility from Route 161, a fall foliage route.
Visually Sensitive Land Use Viewers - Because the substation site is directly adjacent to Route 161, there are high impacts on transportation

viewers. Viewers at single residences and residential clusters along Route 161 will also experience high impacts.
Viewer Substation Impacts - Combined viewer impacts are assigned a high rating due to high impacts on recreational, residential and transportation viewers.

### 3.2.3 Moose River Substation

#### 3.2.3.1 Visual Resources

Impacts on Visual Site Attractiveness - Existing site attractiveness is high, due to the substation site location adjacent to a large marshland. Thus impact on viual site attractiveness will also be high.

Impacts on Visual Lanscape Quality - A high impact is expected on visual landscape quality. The moderate absorbability will somewhat lessen the impact in this area of very high existing quality.

Impacts on Viewers
Recreational Viewers - Impact on recreational viewers from the proposed facility should be low. The low impact involves the snowmobile trail and seasonal residence located approximately 0.25 mile east of the site along Route 201.
Visually Sensitive Land Use Viewers - Transportation viewers along U.S. 201 through the viewshed, and viewers at two single residences along the road, will experience low impacts.
Viewer Substation Impacts - The combined rating for impacts on viewers resultant from this substation is moderate.

### 3.2.4 Jackman Substation

#### 3.2.4.1 Visual Resources

Impact on Visual Site Attractiveness - Because the existing site attractiveness is moderate to low, expected impact is low.

Impacts on Visual Landscape Quality - A moderate to high impact on visual landscape quality is expected. The variable, moderate to low absorbability is responsible for a high to moderate impact rating in this area, which is characterized by high existing visual landscape quality.

Impact on Viewers
Recreational Viewers Recreational viewer impacts at this proposed substation site would be low due to the distance from which such viewers would observe the facility. Motorists traveling along Route 15, a fall foliage and sightseeing route, would only be able to see the facility through the right-of-way of the proposed transmission lines.

Visually Sensitive Land Use Viewers - Transportation viewers along a one-mile stretch of U.S. 201, and viewers at six residences, will experience low impacts.
Viewer Substation Impacts - The combined rating for the impact of the substation on recreational and land use viewers is moderate.

## 3.3 Mitigating Actions

As no severe impacts are expected to result from the installation of substation facilities for the transmission system, no major mitigating actions are suggested. Mitigation of substation impacts will be appropriate at the facility design stage, given that standard planning and design criteria incorporate a standard set of mitigation techniques. However, coloration of the facilities to reduce contrast with surrounding areas is suggested, as are site adjustments to take maximum advantage of existing site qualities.

The facilities most in need of mitigation include the Dickey, Lincoln School, and Moose River Substations. The Moose River Substation site, which is located adjacent to marshland, is predicted to cause a high impact on visual site attractiveness. It should be relocated to a site more distant from this marsh. The Dickey Substation site is partly visible from the Allagash River and is predicted to cause a high impact on recreation viewers. To mitigate this impact, it should be heavily screened. The Lincoln School Substation, visible from Route 161 (a fall foliage route) should also be heavily screened.

# IV. Microwave Installations

# 4. MICROWAVE INSTALLATIONS

Fifteen microwave alternatives are proposed as part of the Dickey-Lincoln School Lakes Transmission System. However, the maximum number required by the system is fourteen and as few as twelve installations may be required: Moose River and Jackman are mutually exclusive alternatives; Hot Brook is an alternative which may not be required; and the need for a passive reflector near the Lincoln School substation is uncertain. The Moose River or Jackman installations and facilities at Dickey and Lincoln School would be developed as part of the overall substation. As such, impact assessment of these microwave facilities is treated with the substation facilities and need not be repeated here.

Of the eleven sites not associated with substations, four (Black Cap, Hot Brook, Bagley, and Ferry) are to be developed in conjunction with existing microwave facilities. The proposed facilities would be constructed within 200 feet of existing ones, and because impact is measured as the change in existing conditions, resultant changes in visual site attractiveness and landscape quality will be minimal. Viewer impacts will increase slightly. although not significantly. Overall, visual impacts may be generally regarded as low or insignificant at these four sites. The potential for pre-emptive impacts on recreational resources is low since existing recreational resources at existing sites are rare and could easily be avoided when selecting the exact tower location. The only unavoidable condition would occur in the case of Black Cap, the entire area of which is proposed as open space by the Town of Eddington. Recreational viewer impacts would also be low due to the presence of the existing towers.

Therefore, only seven proposed microwave installations--the Lincoln School Passive Repeater, and microwaves at McLean Mountain, Pennington Mountain, Ashland, Oakfield, Oak Ridge and Parlin--are discussed in detail. The following discussion on these facilities includes a description of the existing environment, impact assessment, and mitigating actions. At Hot Brook, Bagley, Ferry, and Black Cap, only a description of the existing environment is provided since all impacts would be low or negligible.

## 4.1 Description of The Existing Environment

### 4.1.1 Lincoln School Passive Repeater

#### 4.1.1.1 Visual Resources

Visual Site Attractiveness - The mature woodland land cover of the site has moderate visual site attractiveness.

Visual Landscape Quality - The proposed facility is situated in the St. John River Valley about two miles west of the confluence of the St. John and St. Francis Rivers. The area may be described as hills adjacent to mountains with moderate water and wetlands interest (provided by the St. John River). It has high topographic interest, and moderate variety and contrast, yielding a high existing visual landscape quality rating. Absorption is moderate as the site is situated astride the valley floor of the St. John River. Views from above will not likely be affected by such a facility. which is essentially a point feature.

Visually Sensitive Land Uses Maine Highway 161 and the farmsteads and residences scattered along it could view this facility. Route 161 is located on the opposite side of the St. John River about 0.5-0.75 miles south of the site, and runs in a northeast/southeast direction. St. Francis is about 1.5 miles due east of the proposed site.

4.1.1.2 Recreational Resources

The site is situated adjacent to the St. John River, and a variety of recreational resources are nearby. The majority of these resources relate to the orientation and alignment of the river, and include canoe routes along the St. John River and St. Francis River; Route 161, a fall foliage route; and maintained and unmaintained snowmobile trails. Other recreational resources along the St. John and in the town of St. Francis which could observe the facility include Rankin Rapids Park and its picnic area to the south, and a campsite and boat launch to the east.

4.1.2 McLean Mountain

4.1.2.1 Visual Resources

Visual Site Attractiveness The existing visual site attractiveness rating is moderate as the land cover is presently dense woodland.

Visual Landscape Quality - The proposed site is situated atop McLean Mountain within an area of hills adjacent to mountains. Water and wetlands interest and variety and contrast are low; topographic interest, due to the focus of the mountain, is high. An overall high existing visual landscape quality rating was assigned to the area in which the site is proposed.

Visually Sensitive Land Uses - There is virtually no land use development within two miles of the site. Only a scattered residence or two may be found. Beyond two miles, to the west, is the St. John River Valley and its settlements.

4.1.2.2 Recreational Resources

The proposed microwave facility, located in St. Francis near Wallagrass Stream, has several recreational features nearby. Maintained and

unmaintained snowmobile trails range from south of McLean Mountain to St. John Plantation and Bran Lake, a great pond. In addition, McLean Lake is noted for its fishing and Third Lake is a recognized intensive recreation area. Wallagrass Stream and its tributaries are also noted fishing streams.

### 4.1.3 Pennington Mountain

#### 4.1.3.1 Visual Resources

Visual Site Attractiveness - Mature woodlands at the site are rated as moderate for existing visual site attractiveness.

Visual Landscape Quality Close to Hedgehog Mountain, the area for this proposed site can be described as mountains with high topographic interest. However, water and wetlands interest and variety and contrast are not significant. Overall, the visual landscape quality rating of the Pennington Mountain site is moderate. Absorption is very low due to the mountaintop location.

Visually Sensitive Land Uses The major land use in the area of Pennington Mountain is commercial forestry. Only an occasional camp or seasonal residence is to be found. Logging access roads are relatively numerous at the lower elevations.

#### 4.1.3.2 Recreational Resources

This proposed site has few recreational resources nearby due to a relatively remote location. The recreational site closest to the facility is a forest service camp. Within three or more miles of the proposed site are great ponds (such as Silver Lake), and Route 11 (a designated scenic highway), and Pennington Road.

### 4.1.4 Ashland

#### 4.1.4.1 Visual Resources

Visual Site Attractiveness - Visual site attractiveness is high at the Ashland site due to its location in an actively cultivated agricultural field.

Visual Landscape Quality - The Ashland site is situated in hills with moderate water and wetlands interest due to the proximity of the Machias and Aroostook Rivers. Topographic interest and variety and contrast are also moderate. The overall rating for existing visual landscape quality is moderate. Absorption is very low due to the hilltop location.

Visually Sensitive Land Uses - The town of Ashland is situated to the northeast, just over two miles from the proposed site. Within two miles, there are only scattered residences and farmsteads, situated along the roads from Ashland. Most significant, however, is the farmhouse which is situated adjacent to the proposed site location.

4.1.4.2 Recreational Resources

The recreational resources in proximity to the proposed site involve both roads and the surface water network of the Machias and Aroostook Rivers. The Machias River, a noted canoe route and fishing stream, flows generally east to the Aroostook River. The Aroostook River is noted for fishing, canoeing, boating, and swimming. Route 11, a fall foliage and sightseeing route near the town of Ashland, could be within view of the proposed facility where the road crosses or follows the Aroostook River The American Realty Tote Road, north of the site, provides access to hunters, and Lynchs Tote Road, tangent to and south of the site, serves as an unmaintained snowmobile trail. Above the Machias River, near the Ashland town line, are a forest ranger station and a hotel or inn which may by frequented by recreationists.

4.1.5 Oakfield

4.1.5.1 Visual Resources

Visual Site Attractiveness - Existing visual site attractiveness is moderate as the land cover at the proposed site is mature woodland.

Visual Landscape Quality Existing visual landscape quality at this site is rated exceptional It is situated in mountains with high topographic interest and low water and wetlands interest, but high variety and contrast due to large tracts of agricultural land to the northwest near Oakfield. Absorption is very low due to the mountaintop location.

Visually Sensitive Land Uses - Oakfield and Red Bridge are situated more than the two miles from the proposed site to the northwest and southwest, respectively. Scattered farmsteads and residences are situated within two miles. The largest cluster of these is located on Thompson Settlement Road about two miles northwest of the site.

4.1.5.2 Recreational Resources

The recreational resources in closest proximity to the proposed microwave site are maintained and unmaintained snowmobile trails. Unmaintained snowmobile trails encircle Sam Drew Mountain to the north, west, and south. A maintained trail follows North Road, east of the proposed site. Other recreational resources are located northwest of the site, and include Spaulding Lake, (a great pond noted for its recreational use), and seasonal residences along the lake and east of Oakfield near the lake.

### 4.1.6 Oak Ridge

#### 4.1.6.1 Visual Resources

Visual Site Attractiveness - Visual site attractiveness is moderate as the site is presently covered by mature woodlands.

Visual Landscape Quality - The Oak Ridge microwave installation is in hills with moderate topographic interest, low water and wetlands interest and low variety and contrast. Overall, these provide a low existing visual landscape quality rating. Absorption is very low due to the hilltop location.

Visually Sensitive Land Uses - Visually sensitive land uses are restricted to occasional residences and farmsteads west of the site in the direction of Shirley Mills. Shirley Mills, itself, is located about 2.5 - 3 miles west-southwest of the proposed site. There are only secondary roads within two miles of the site.

#### 4.1.6.2 Recreational Resources

The recreational resources in the vicinity of the proposed site include two linear features which may be within view of the microwave tower: Routes 6 and 15, west of the site, are both fall foliage and sightseeing routes, and parts of the Heritage Trail System in Maine. The Appalachian Trail, southeast of the site, is a national scenic trail. Between Shirley Mills and Elliottsville, hikers and other trail users could observe the facility.

### 4.1.7 Parlin

#### 4.1.7.1 Visual Resources

Visual Site Attractiveness - Visual site attractiveness is moderate as the proposed site is presently covered by mature woodlands.

Visual Landscape Quality - The visual landscape quality of this site is very high. It is characterized as mountains with high topographic interest, low water and wetlands interest, and low variety and contrast. Absorption is very low due to the mountaintop location.

Visually Sensitive Land Uses - The only land uses within two miles of the proposed installation are residences or tourist facilities scattered along Route 201, and the road itself. Jackman airport is situated about one mile west-southwest of the proposed site. Long Pond and Lake Parlin are to the north and south, respectively. beyond two miles from the site.

4.1.7.2 Recreational Resources

There are several recreational resources located near the proposed site, the most noteworthy of which are Parlin Pond and a number of seasonal residences along it edge. Parlin Pond, however, is situated approximately three miles to the south and is not directly within view of the proposed site. Recreationists who would notice the facility include those traveling along Route 201 (a fall foliage and sightseeing route), those using unmaintained snowmobile trails to the north and east of the site, and those using Horseshoe Pond (a great pond and remote trout pond). The area around Horseshoe Pond is proposed for recreation and conservation use, and the public land on Bean Brook Mountain also supports recreationists who may view the facility.

4.1.8 Hot Brook

4.1.8.1 Visual Resources

Visual Site Attractiveness - The land cover at the site is mature woodland which is considered to have moderate site attractiveness.

Visual Landscape Quality - The existing visual landscape quality for the site is rated moderate. The site is in an area which may be described as hills. Water and wetlands interest and variety and contrast are rated high. Topographic interest is only moderate, and the existing microwave facility represents an existing negative intrusion. Absorption is very low due to the hilltop location for the proposed site.

Visually Sensitive Land Uses - Maine Highway 169 and Baker Ridge Road run in an approximate north-south direction to the east of the proposed site. Scattered residences and farmsteads are situated along these roads, with clusters at their intersection and at Shaw School. There are also clusters of seasonal residences two miles south, near Spinney and Kinney Coves on Upper Hot Brook Lake. Danforth, Me. lies about 3.5 - 4 miles northeast of the site.

4.1.8.2 Recreational Resources

The recreational resources in the vicinity of the proposed site (which contains an existing microwave facility) are located to the west along the Danforth municipal boundary. Lower Hot Brook Lake and Upper Hot Brook Lake, both great ponds, are used for water-based recreation. Seasonal residences are situated along the lakes above Pine Cove, between the two lakes on Kittery Island, and in concentrations at Spinney and Kinney Coves. An unmaintained snowmobile trail winds through the area from Owl Mountain to Hardwood Ridge and Kinney Cove before entering the town of Danforth.

### 4.1.9 Bagley

#### 4.1.9.1 Visual Resources

Visual Site Attractiveness Site attractiveness is low to moderate. Successional woodlands covering the proposed site are of moderate height.

Visual Landscape Quality The existing visual landscape quality of the site is exceptional, despite the existing New England Bell Telephone Company microwave facility. The site area can be described as mountains with high topographic interest. Further, water and wetlands interest and variety and contrast are also rated high. Absorption is rated very low due to the location at the top of Bagley Mountain.

Visually Sensitive Land Uses - Farmsteads and seasonal residences on Cambolasse, Long, and Egg Ponds represent the major land uses within two miles of the site. Those along the southwestern edge of Long Pond are in full view of Bagley Mountain. About two miles to the northwest, along the Penobscot River, is Route 2 with its accompanying residential and farm properties, and the Maine Central rail line. Lincoln Center, Me., the closest town, is situated about 4 miles southwest of the proposed site.

#### 4.1.9.2 Recreational Resources

The recreational resources in the vicinity of Bagley Mountain involve water-based activities associated with the Penobscot River and the great ponds south of the proposed site. The Penobscot River is a noted canoe route with challenging conditions at Sebonibus Rapids. Running along the Penobscot, Route 2 is a noted sightseeing route, and part of the Heritage Trail in Maine. South of the site, Cambolasse, Long, Egg, and Caribou Ponds provide over one thousand acres of surface water for recreational use. Clusters of seasonal residences are located along these ponds. Maintained snowmobile trails wind through this area at the Bagley site itself and along the great ponds toward the town of Lincoln and Rollins Mountain. Rollins Mountain also has a forest service lookout tower. Many of these recreational resources are in view of the existing microwave facility on Bagley Mountain.

### 4.1.10 Ferry

#### 4.1.10.1 Visual Resources

Visual Site Attractiveness - Visual site attractiveness is moderate as the site in mature woodland.

Visual Landscape Quality - The proposed facility is located in an area which may be described as rolling terrain with low topographic interest. Water and wetlands interest is high due to the presence of the Piscataquis River and Freese Bog. Variety and contrast however, are generally low,

although the proposed site is adjacent to an actively cultivated tract of farmland. The New England Telephone Company microwave facility now located at the site represents an intrusion on the existing visual quality of the site. As such, the existing visual landscape quality rating for this location is low. Absorption is very low as the proposed site is at the highest elevation for several miles.

Visually Sensitive Land Uses - Only a few roads and some scattered residences and farmsteads are present within two miles of the site. Medford Center is situated just over two miles to the east. Other towns such as Derby, Boyd Lake, Milo, and LaGrange, Me., are considerably farther away. Most significant to the proposal are the farmstead residences located directly adjacent to the site. Mitigation measures appear to have been provided for the New England Telephone facility and will probably be required to reduce the increased affects of the Ferry installation.

4.1.10.2 Recreational Resources

The Ferry site, also the site of the existing Medford lookout tower, has several types of recreational resources in its vicinity. Close to the proposed site is a seasonal residence, and there is a campsite just north of the lookout tower. There are also campsites along the road to Medford Center and along the Piscataquis River The Piscataquis and Pleasant Rivers, north of the site, are noted for their canoeing and are very attractive. Route 16, a sightseeing route which is part of the Heritage Trail System in Maine, would also be within view of the proposed tower

4.1.11 Black Cap

4.1.11.1 Visual Resources

Visual Site Attractiveness - The proposed site is covered in mature woodlands. The site attractiveness rating is moderate.

Visual Landscape Quality - The Black Cap site is located in an area of mountains with high topographic interest. Variety and contrast, and water and wetlands interest -- due to the presence of Fitts, Snowshoe, Little Burnt, and Burnt Ponds -- are rated moderate. Thus, despite the rather large existing microwave facility and the radio towers on the site, visual landscape quality is high. Absorption is very low due to the mountaintop location.

Visually Sensitive Land Uses - Visually sensitive land uses in the area are farmsteads and residences scattered along South and Black Cap Roads and Highway 175. The town of East Eddington, Me., is situated about 2.5-3 miles north of the site on Davis Road.

#### 4.1.11.2 Recreational Resources

The Black Cap site, situated in the southeast corner of Eddington, currently supports five radio towers. The proposed facility would be located in the general area of these towers. The recreational features near the site include a hiking trail on Black Cap itself, known as the Roberts Trail, and a proposed recreation and conservation area on Black Cap. This area is proposed as open space in the Eddington Comprehensive Plan of 1971. The recreational features in the vicinity include the Katahdin Area Council Boy Scout Camp, northeast of the proposed site in the town of Clifton; and a series of great ponds, to the south and east of Black Cap, which are used for water-based recreation. These include Fitts, Burnt, Little Burnt, Snowshoe, Hatcase, and Mountainy Ponds. There are seasonal residences along the shores of the last two ponds.

## 4.2 Impact Assessment

Since there are no known recreational resources at the proposed sites for the Lincoln School Passive Repeater, McLean Mountain, Pennington Mountain, Ashland, Oakfield, Oak Ridge and Parlin, there will be no pre-emptive impacts on recreational resources. Recreational viewer impacts are described below. Of the existing microwave sites, (Hot Brook, Bagley. Ferry and Black Cap), there are recreational features near the Bagley site and the Ferry and Black Cap sites. These features, are either snowmobile or hiking trails which can readily be avoided or relocated slightly when selecting locations for the towers.

### 4.2.1 Lincoln School Passive Repeater

#### 4.2.1.1 Visual Resources

Impact on Visual Site Attractiveness - As the existing site attractiveness is rated moderate, impact will also be moderate.

Impact on Visual Landscape Quality - The predicted level of impact on visual landscape quality for this facility is moderate owing to a high existing quality and moderate absorption rating. The extent of land clearing will be minimal and the greatest impact will result from the reflector's intrusion on the visual landscape.

Impact on Viewers

Recreational Viewers - The overall impact on recreational viewers would be high due to the direct visibility of the facility. Motorists on Route 161, snowmobilers, or users of the Rankin Rapids Park and other sites along the St. John River could directly observe the proposed facility.

Visually Sensitive Land Use Viewers - Impacts on residential and transportation viewers are low, primarily because there are few viewers. Mitigating effects result from the screening provided by existing hedgerows and woodlands along the edge of the St. John River and Highway 161. No historic site viewer impacts are predicted.
Viewer Microwave Installation Impacts - The overall impact on viewers was rated moderate as a result of low impacts predicted for transportation and residential viewers and high impact on recreational viewers.

### 4.2.2 McLean Mountain

#### 4.2.2.1 Visual Resources

Impact on Visual Site Attractiveness - Due to a woodland land cover (moderate site attractiveness), the impact rating is also moderate.

Impact on Visual Landscape Quality A high existing landscape quality rating, coupled with very low absorption conditions, results in a severe impact on visual landscape quality. The facility--situated atop McLean Mountain, a focal element in the area -- will undoubtedly present a most obvious intrusion on the landscape.

Impact on Viewers
Recreational Viewers Due to the direct visibility of the proposed tower from McLean and Third Lakes, as well as from the fishing streams and snowmobile trails in the area, the overall impact of the installation would be high. This is due to the visual change that would be introduced into this fairly remote portion of St. Francis.
Visually Sensitive Land Use Viewers - Impact on sensitive land use viewers is low to very low, owing to the fact that almost none are present within two miles of the proposed installation. However, it is likely that some uses beyond two miles will be affected, albeit slightly.
Viewer Microwave Installation Impacts - The overall impact on viewers will be moderate. There are no historic site viewer impacts, few transportation or residential viewer impacts, but a number of high recreational viewer impacts.

### 4.2.3 Pennington Mountain

#### 4.2.3.1 Visual Resources

Impact on Visual Site Attractiveness - A moderate impact on this resource corresponds to the moderate existing site attractiveness rating.

Impact on Visual Landscape Quality - Although the existing quality at the proposed site is moderately low, due to very low absorbability, a high impact on visual landscape quality was assigned.

Impact on Viewers
Recreational Viewers - Since recreational viewers would be few in number, the overall impact at this site will be low.
Visually Sensitive Land Use Viewers - Due to the extremely rural and remote character of the area around Pennington Mountain, few if any land use viewers will be impacted. A low impact rating was assigned due to the possibility of random impact occurrences.
Viewer Microwave Installation Impacts - A combined viewer impact rating of low was assigned. This site will have an extremely small viewing audience. Land use viewers would not be significantly impacted and recreational viewers are only slightly affected.

### 4.2.4 Ashland

#### 4.2.4.1 Visual Resources

Impact on Visual Site Attractiveness The facility is proposed within an agricultural field. Impact on visual site attractiveness is rated high.

Imapct on Visual Landscape Quality - As with most of the microwave sites, absorption qualities are very low. At Ashland, very low absorption coupled with moderate existing quality will result in a high impact on landscape quality.

Impact on Viewers
Recreation Viewers - The overall impact on recreation viewers from the Ashland site would be high. This is due primarily to a viewer audience (associated with the Machias and Aroostook Rivers). which would include canoeists, fishermen, swimmers, and those involved in boating. In addition, hunters using the American Realty Tote Road, snowmobilers using Lynch's Tote Road and motorists traveling along Route 11 could view the facility.
Visually Sensitive Land Use Viewers Impact on land use viewers is moderate as a farmhouse is located adjacent to the site. A moderate rating, as opposed to high, has been assigned only because a New England Telephone Company microwave facility is already located adjacent to the house. Other impacts in the vicinity will be low.
Viewer Microwave Installation Impacts Impacts on viewers, overall, are rated moderate. A moderate impact on residential viewers and a high impact on recreation viewers are reflected in this rating. No historic site viewers are affected by the proposal.

4.2.5 Oakfield

4.2.5.1 Visual Resources

Impact on Visual Site Attractiveness - Being situated in a mature woodland, the impact expected from this microwave installation will be moderate.

Impact on Visual Landscape Quality - Impact on landscape quality will be severe. The existing landscape quality around Oakfield is the highest of any of the microwave proposals and absorption is very low.

Impact on Viewers
Recreational Viewers The overall recreational viewer impact at this site will be moderate since snowmobilers would be the only known nearby viewers of the facility. Other viewers may be at Spaulding Lake, located approximately two miles away; however, these viewers would probably be more oriented toward the lake.
Visually Sensitive Land Use Viewers - As only scattered residences and farmsteads are located in the vicinity of the proposed site, impact on land use viewers will be low. Settlements at Oakfield and Red Bridge would not be affected. No historic site viewers would be affected.
Viewer Microwave Installation Impacts - Overall, impacts on viewers are rated moderate as a result of low transportation and residential impacts and moderate recreation viewer impacts.

4.2.6 Oak Ridge

4.2.6.1 Visual Resources

Impact on Visual Site Attractiveness - As the proposed site is situated in a mature woodland stand, impact on visual site attractiveness will be moderate.

Impact on Visual Landscape Quality A high impact on existing visual landscape quality is predicted for this site. This is primarily the result of the very low absorption rating, as existing quality is rated low.

Impact on Viewers
Recreational Viewers The recreational viewer impact at Oak Ridge will be high. This is due to the visibility of the proposed site from Routes 6 and 15 and the Appalachian Trail A high, rather than severe, rating was assigned to this facility only due to the orientation of the recreational viewers. Motorists on Routes 6 and 15 would not have a direct line of sight to the facility, and the users of the Appalachian Trail may notice the facility. only when travelling north. There would also be no direct line of sight from the trail.
Visually Sensitive Land Use Viewers - Land use viewer impacts will be low as residences and farmsteads occur only occasionally in the vicinity of the proposed site. Possible visual effects on the town of Shirley

Mills would not appreciably change the impact rating. Roads near the site are secondary and will also be subject only to low impacts.
Viewer Microwave Installation Impacts - Viewer impacts overall are moderate, primarily due to a high impact on recreation viewers, and low transportation and residential viewer impacts.

### 4.2.7 Parlin

#### 4.2.7 1 Visual Resources

Impact on Visual Site Attractiveness - As the microwave site is presently covered with mature woodland, impact on visual site attractiveness will be moderate.

Impact on Visual Landscape Quality - Due to the very low absorbability of the mountaintop location, and a very high existing quality rating, impact on visual landscape quality will be severe.

Impact on Viewers
Recreational Viewers - The overall impact of the Parlin site will be moderate, since most of the recreational viewers would be located a distance from the facility. Motorists using Route 201 would not be directly in line of sight with the tower The site would, however, be visible from an unmaintained snowmobile trail and possibly to trout fishermen at Horseshoe Pond.
Visually Sensitive Land Use Viewers - Visually sensitive land uses within the vicinity of the proposed facility are widely scattered. Thus, impacts on residential viewers are low. Although Route 201 passes near the site, transportation viewer impacts are also rated low.
Viewer Microwave Installation Impacts - Viewer impacts overall are moderate due to low impacts on residential and transportation viewers and a moderate impact on recreation viewers. No historic site viewer impacts are forseen.

## 4.3 Mitigating Actions

No mitigating actions are suggested for pre-emptive impacts since there are no known recreational features at the newly proposed sites. In the cases of Bagley, Ferry, and Black Cap, attention should be given to existing recreational resources in the final selection of the tower sites.

There are no severe recreational viewer impacts assigned to the proposed installations, obviating the need for extensive mitigation. High impacts were assigned to the sites of the Lincoln School Passive Repeater, McLean Mountain, Ashland and Oak Ridge. At these sites, the standard mitigating techniques discussed in section 3.0 should reduce the visibility of the towers.

Mitigating actions are required to lessen the severe impacts on visual landscape quality at the McLean Mountain, Oakfield, and Parlin sites. In part, these impacts are the result of the visual impact inherent to microwave facility location; i.e. microwave towers must be situated at high points. Absorption at such sites is very low. This increases impacts for all facilities except the Lincoln School Passive Repeater, especially where the existing visual landscape quality is high -- such as at the three locations mentioned above. Thus, aside from the standard techniques to reduce the extent of clearing, special consideration should be given to methods of coloration which might reduce the silhouetting effect likely to result.

# V. Ranking of Alternative Routes

# 5. RANKING OF ROUTE ALTERNATIVES

Numerical analogs for all impact assessments have been maintained through out this study in order to provide numerical statistics to compare routes. In this way, alternative alignments may be ranked and a preferred alignment selected.

The first step of the route ranking process was to establish the alternative routes according to their link composition. Figure V.1 lists (by segment) the links contained in each of the alternative routes. The figure includes eight "Localized Routing Alternatives," (LRA's) which are minor link alternatives within a total route. They were evaluated separately in the comparison of routes.

The second step involved the tabulation of impacts. This was accomplished by multiplying the number of miles rated as having severe, high, moderate, or low impact by their respective numerical values (severe=5, high=3, moderate=2, low=1). The resultant numeric values for each link were then summed according to the route combinations in Figure V 1. The result is a total numeric impact value for each alternative route. Separate numeric totals were calculated for visual resources and for recreational resources. Combined totals for all impacts are also calculated. With these and other quantitative values, it was possible to rank the alternative alignments and select a preferred route for each segment.

The above calculations are summarized on Tables V.1 V.4. Table V.1 contains the total numeric scores for the alternative routes and the resultant rankings. Table V.2 lists the number of miles given severe impact ratings. Table V.3 lists the number of miles given high impact ratings. Table V.4 provides numeric values which express the average impact per mile.

In instances where the quantitative values did not produce results significant enough to rank alternative alignments, qualitative comparisons were made. If neither of these procedures revealed a significant difference, equal rank values were assigned, indicating that either alternative would be suitable or that more detailed study is needed to differentiate among alternatives.

Before discussing a segment-by-segment ranking of route alternatives, three items need to be discussed: the influence of Localized Routing Alternatives (LRA's); the determination of route lengths; and the calculation of total impact-mile values for visual resources and recreational resources. LRA's were analyzed first in the calculation of the quantitative (numeric) impact values. Once a link (or set of links) defining an LRA was determined to be preferred, it became a fixed component for the route in which it is utilized. A preferred LRA was first chosen for both visual and recreational impacts. For assessing impact on visual or

recreational resources this LRA was thereafter used in calculating scores for a total route. The "best" LRA for visual concerns is not always the "best" LRA for recreation concerns.

The mileage length of preferred LRA's was used in the calculation of mileage for the alternative routes. The resultant lengths are presented in Table V.5. All calculations based upon mileage utilize these lengths.

Numeric impact values for the recreational and visual systems were calculated as the sum of the values for each of the component categories (see Tables V.1-V.4). They are not of themselves quantitatively significant. Still they reflect some noteworthy facts about the individual impact categories, particularly for the visual resources. For instance, in segment 'C', impact on visual landscape quality is by far the most influential, whereas in segment 'E' the impact on viewers is most important. Checking these predictions against the geography of the area -- segment 'C' is located in what is a remote scenic landscape of southwestern Maine and northern New Hampshire, whereas segment 'E' is situated in the populated Winooski Valley of Vermont -- confirmed that the simple sum seemed to provide an inherently correct weighting system.

A segment-by-segment description of the alternative route rankings for each resource component is provided below. Only the first two or three top ranked routes are discussed in detail. Others are discussed in a more general fashion. Reference to Figure V.1. -- the Alternative Route Link Composition table -- and to Figure 1 -- the Facility Location Map enclosed at the end of this report -- will be helpful in understanding the comparisons which are made.

## 5.1 Visual Resources

### Segment 'A'

Route A2 is ranked first, and A1 second. This is primarily the result of the significant difference in viewer route impacts between the two: A2 should cause significantly less viewer impact, considering its more remote location. Although, A1 has slightly less total impact on both site attractiveness and visual landscape quality, A2 is less detrimental in terms of miles of high impact (only 8.4 miles as compared to 18.6 miles for A1) and severe impact (0.2 miles as compared to 0.4 miles for A1). The average impact per mile for A2 is slightly less for landscape quality and significantly less for viewer route impacts, although somewhat higher for impact on visual site attractiveness. Thus, as viewer impacts are relevant to this segment, and, as there was no significant difference between the two routes in impacts on other visual resource categories, alignment A2 is preferred over A1.

Figure V.1 - Link Composition of Alternative Routes

## Segment 'A': Dickey-Lincoln School -- Fish River

Alternate Links - 1, 1A, 1B, 1C, 2, 3

Alternate Routes - A1 = 1, 1A, 1B, 1C, 3
A2 = 2, 1A, 1B, 1C, 3

## Segment 'B'; Dickey -- Jackman/Moose River

Alternate Links - 4, 5, 6, 7, 8, 9, 9A, 10, 10A, 11(1st 7.2 mi), 11A, 12(1st 1.0 mi)

Localized Routing Alternatives (LRA) - LRA I: Alt I-1 = link 6
Alt I-2 = link 7

Alternate Routes -

| Segment '$B_1$' (Dickey-Jackman) | Segment '$B_2$' (Dickey-Moose River) |
|---|---|
| $B_1$1 = 4, 5, Best LRA-I, 8, 10, 12(1st 1.0 mi) | $B_2$1 = 4, 5, Best LRA-I, 8, 11A, 11(1st 7.2 mi) |
| $B_1$2 = 4, 9, 9A, 12(1st 1.0 mi) | $B_2$2 = 4, 9, 10A, 11(1st 7.2 mi) |

## Segment 'C': Jackman/Moose River -- Moore

Alternate Links - 11(mi. 7.2 to end), 12(mi. 1.0 to end), 12A, 13, 13A, 14, 14A, 15, 16, 17, 17B, 18, 18A, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41

Localized Routing Alternatives (LRA) -

LRA II: Alt II-1 = link 15
Alt II-2 = link 16

LRA III: Alt III-1 = links 17A, 18, 18A
Alt III-2 = links 17A, 19
Alt III-3 = links 17B, 18A

LRA IV: Alt IV-1 = link 26
Alt IV-2 = link 27

LRA V: Alt V-1 = link 29
Alt V-2 = link 30

LRA VI: Alt VI-1 = link 21
Alt VI-2 = links 22, 23, 33
Alt VI-3 = links 23, 24, 32, 33

LRA VII: Alt VII-1 = link 36
Alt VII-2 = links 37, 39

Alternate Routes -

Segment '$C_1$' (Jackman-Moore)

$C_1$1 = 12(mi. 1.0 to end), 13A, 14, Best II, 17, Best III, 20, Best VI, 34, 35, Best VII, 40, 41

$C_1$2 = 12(mi 1.0 to end), 13A, 14. BestII, 17, Best III, 20, Best VI, 34, 35, Best VII, 40, 41

$C_1$3 = 12(mi. 1.0 to end), 12A, 25, Best IV, 28, Best V. 31, 32, 33, 34, 38, 39, 40, 41

$C_1$4 = 12(mi. 1.0 to end), 13A, 14, Best II, 17, Best III, 20, Best VI, 34, 38, 39, 40, 41

Segment '$C_2$' (Moose River-Moore)

$C_2$1 = 11(mi. 7.2 to end), 14A, 14, Best II, 17, Best III, 20, Best VI, 34, 35, Best VII, 40, 41

$C_2$2 = 11(mi. 7.2 to end), 13, 25, Best IV. 28, Best V, 31, 32, 33, 34. 35, Best VII, 40, 41

$C_2$3 = 11(mi. 7.2 to end), 14A, 14, Best II, 17, Best III, 20, Best VI, 34, 38, 39, 40, 41

$C_2$4 = 11(mi. 7.2 to end), 13, 25, Best IV, 28, Best V, 31, 32, 33, 34. 38, 39, 40, 41

Segment 'D': Moore - Granite

Alternate Links - 41, 42, 43, 44, 45

Alternate Routes - D1 = 41, 42, 44. 45
D2 = 41, 42, 43, 45

Segment 'E': Granite - Essex

Alternate Links - 45A, 45B, 45C, 46, 47, 47A, 48, 49, 50, 51, 52, 53, 54, 55, 56

Localized Routing Alternatives (LRA) - LRA VIII: Alt VIII-1 = link 45B
Alt VIII-2 = link 45C

Alternate Routes -

$E_1$A = 45A, Best VIII, 46, 47, 47A, 48, 49, 55

$E_1$B = Replace 55 above with 56

$E_2$A = 45A, Best VIII, 46, 49, 50, 52, 54, 55

$E_2$B = Replace 55 above with 56

$E_3$A = 45A, Best VIII, 46, 47. 49, 51, 52, 54, 55

$E_3$B = Replace 55 above with 56

$E_4$A = 45A, Best VIII, 46, 47, 47A, 49, 53, 54, 55

$E_4$B = Replace 55 above with 56

| SEGMENTS: | A | | $B_1$ | | $B_2$ | | $C_1$ | | | | $C_2$ | | | | D | | E | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ROUTES: | A1 | A2 | $B_1 1$ | $B_1 2$ | $B_2 1$ | $B_2 2$ | $C_1 1$ | $C_1 2$ | $C_1 3$ | $C_1 4$ | $C_2 1$ | $C_2 2$ | $C_2 3$ | $C_2 4$ | D1 | D2 | $E_1 A$ | $E_1 B$ | $E_2 A$ | $E_2 B$ | $E_3 A$ | $E_3 B$ | $E_4 A$ | $E_4 B$ |
| TOTAL MILES: | | | | | | | | | | | | | | | | | | | | | | | | |
| Visual Site Attractiveness | 57.2 | 61.1 | 240.1 | 255.8 | 241.2 | 262.9 | 238.1 | 255.5 | 222.9 | 234.8 | 252.5 | 249.4 | 231.8 | 228.7 | 48.7 | 86.0 | 63.4 | 66.1 | 68.8 | 71.5 | 65.6 | 68.3 | 61.6 | 64.3 |
| Visual Landscape Quality | 57.9 | 59.2 | 181.7 | 207.2 | 180.5 | 216.1 | 460.9 | 468.7 | 443.9 | 451.7 | 431.7 | 438.9 | 414.7 | 421.9 | 91.1 | 110.8 | 82.4 | 82.6 | 90.1 | 90.3 | 87.0 | 87.2 | 85.3 | 85.5 |
| Viewer Route Impacts | 52.1 | 40.5 | 60.4 | 56.0 | 61.0 | 51.2 | 211.9 | 197.6 | 227.6 | 213.3 | 197.3 | 208.1 | 203.0 | 223.8 | 103.5 | 118.9 | 150.8 | 151.4 | 130.6 | 131.2 | 133.4 | 134.0 | 140.6 | 141.2 |
| All Visual Categories | 167.2 | 160.8 | 482.2 | 519.0 | 482.7 | 530.2 | 910.9 | 921.8 | 894.4 | 899.8 | 871.5 | 896.4 | 849.5 | 874.4 | 243.3 | 315.7 | 296.6 | 300.1 | 289.5 | 293.0 | 286.0 | 289.5 | 267.5 | 291.0 |
| Pre-emptive Recreation Impacts | 52.5 | 71.0 | 56.2 | 64.5 | 43.3 | 31.0 | 282.6 | 201.4 | 298.6 | 217.4 | 179.4 | 283.6 | 195.4 | 299.6 | 83.6 | 130.6 | 106.9 | 102.2 | 102.8 | 98.1 | 106.0 | 101.3 | 109.1 | 104.4 |
| Recreation Viewer Impacts | 41.6 | 45.0 | 131.0 | 74.5 | 76.1 | 66.8 | 240.1 | 218.6 | 273.0 | 251.5 | 196.3 | 233.3 | 229.2 | 198.8 | 97.7 | 130.1 | 115.1 | 118.6 | 98.7 | 96.7 | 98.2 | 101.7 | 105.4 | 108.9 |
| All Recreation Categories | 94.1 | 116.0 | 187.2 | 139.0 | 119.4 | 97.8 | 522.7 | 420.0 | 571.6 | 468.9 | 375.7 | 516.9 | 424.6 | 498.4 | 181.6 | 260.7 | 222.0 | 220.8 | 201.5 | 194.8 | 204.2 | 203.0 | 214.5 | 213.3 |
| RANK ORDERING: | | | | | | | | | | | | | | | | | | | | | | | | |
| Visual Site Attractiveness | 1 | 2 | 1 | 3 | 2 | 4 | 5 | 8 | 1 | 4 | 7 | 6 | 3 | 2 | 1 | 2 | 2 | 5 | 7 | 8 | 4 | 6 | 1 | 3 |
| Visual Landscape Quality | 1 | 2 | 2 | 3 | 1 | 4 | 7 | 8 | 5 | 6 | 3 | 4 | 1 | 2 | 1 | 2 | 1 | 2 | 7 | 8 | 5 | 6 | 3 | 4 |
| Viewer Route Impacts | 2 | 1 | 3 | 2 | 4 | 1 | 5 | 2 | 8 | 6 | 1 | 4 | 3 | 7 | 1 | 2 | 7 | 8 | 1 | 2 | 3 | 4 | 5 | 6 |
| All Visual Categories | 2 | 1 | 1 | 3 | 2 | 4 | 7 | 8 | 4 | 6 | 2 | 5 | 1 | 3 | 1 | 2 | 7 | 8 | 3 | 6 | 1 | 3 | 2 | 5 |
| Pre-emptive Recreation Impacts | 1 | 2 | 3 | 4 | 2 | 1 | 5 | 3 | 7 | 4 | 1 | 5 | 2 | 7 | 1 | 2 | 6 | 3 | 3 | 1 | 6 | 2 | 8 | 5 |
| Recreation Viewer Impacts | 1 | 2 | 4 | 2 | 3 | 1 | 6 | 3 | 8 | 7 | 1 | 5 | 4 | 2 | 1 | 2 | 7 | 8 | 2 | 1 | 2 | 4 | 5 | 6 |
| All Recreation Categories | 1 | 2 | 4 | 3 | 2 | 1 | 7 | 2 | 8 | 4 | 1 | 6 | 2 | 5 | 1 | 2 | 7 | 7 | 2 | 1 | 3 | 3 | 5 | 5 |

TABLE V.1 - Visual and Recreational Resources Quantitative Impact Assessment:
Total Scores in Impact-Miles and Ranking of Same

| SEGMENTS: | A | | $B_1$ | | $B_2$ | | $C_1$ | | | | $C_2$ | | | | D | | E | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ROUTES: | A1 | A2 | $B_1 1$ | $B_1 2$ | $B_2 1$ | $B_2 2$ | $C_1 1$ | $C_1 2$ | $C_1 3$ | $C_1 4$ | $C_2 1$ | $C_2 2$ | $C_2 3$ | $C_2 4$ | D1 | D2 | $E_1 A$ | $E_1 B$ | $E_2 A$ | $E_2 B$ | $E_3 A$ | $E_3 B$ | $E_4 A$ | $E_4 B$ |
| TOTAL MILES: | | | | | | | | | | | | | | | | | | | | | | | | |
| Visual Site Attractiveness | 0.4 | 0.2 | 0.4 | 0.2 | 0.2 | 0.1 | 0.7 | 0.5 | 1.5 | 1.3 | 0.5 | 0.7 | 1.3 | 1.5 | 0.6 | 0.3 | 1.1 | 1.1 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Visual Landscape Quality | 0.0 | 0.0 | 0.0 | 0.9 | 0.0 | 0.9 | 31.5 | 27.0 | 24.4 | 19.9 | 16.7 | 21.2 | 9.6 | 14.1 | 0.0 | 0.3 | 0.4 | 0.4 | 0.3 | 0.3 | 0.4 | 0.4 | 0.4 | 0.4 |
| Viewer Route Impacts | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 5.5 | 3.5 | 4.0 | 2.0 | 3.5 | 5.5 | 2.0 | 4.0 | 4.1 | 6.1 | 15.1 | 15.1 | 9.7 | 9.7 | 10.7 | 10.7 | 13.7 | 13.7 |
| All Visual Categories | 0.4 | 0.2 | 0.4 | 1.1 | 0.2 | 1.0 | 37.7 | 31.0 | 29.9 | 23.2 | 20.7 | 27.4 | 12.9 | 19.6 | 4.7 | 6.7 | 16.6 | 16.6 | 11.0 | 11.0 | 12.1 | 12.1 | 15.1 | 15.1 |
| Pre-emptive Recreation Impacts | 2 | 4 | 1 | 5 | 1 | 1 | 8 | 5 | 8 | 5 | 3 | 10 | 3 | 10 | 3 | 11 | 3 | 4 | 3 | 4 | 3 | 4 | 3 | 4 |
| Recreation Viewer Impacts | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 2 | 8 | 5 | 4 | 7 | 5 | 8 | 8 | 10 | 7 | 7 | 3 | 3 | 3 | 3 | 7 | 7 |
| All Recreation Categories | 2 | 4 | 1 | 5 | 1 | 1 | 15 | 7 | 16 | 10 | 7 | 17 | 8 | 18 | 11 | 21 | 10 | 11 | 6 | 7 | 6 | 7 | 10 | 11 |
| RANK ORDERING: | | | | | | | | | | | | | | | | | | | | | | | | |
| Visual Site Attractiveness | 2 | 1 | 4 | 2 | 2 | 1 | 3 | 1 | 5 | 7 | 1 | 3 | 7 | 5 | 2 | 1 | 7 | 7 | 1 | 1 | 1 | 1 | 1 | 1 |
| Visual Landscape Quality | 1 | 1 | 1 | 3 | 1 | 3 | 8 | 7 | 6 | 4 | 3 | 5 | 1 | 2 | 1 | 2 | 1 | 1 | 7 | 7 | 1 | 1 | 1 | 1 |
| Viewer Route Impacts | 1 | 1 | 1 | 1 | 1 | 1 | 7 | 3 | 5 | 1 | 3 | 7 | 1 | 5 | 1 | 2 | 7 | 7 | 1 | 1 | 3 | 3 | 5 | 5 |
| All Visual Categories | 2 | 1 | 2 | 4 | 1 | 3 | 8 | 7 | 6 | 4 | 3 | 5 | 1 | 2 | 1 | 2 | 7 | 7 | 1 | 1 | 3 | 3 | 5 | 5 |
| Pre-emptive Recreation Impacts | 1 | 2 | 1 | 4 | 1 | 1 | 5 | 3 | 5 | 3 | 1 | 7 | 1 | 7 | 1 | 2 | 1 | 5 | 1 | 5 | 1 | 5 | 1 | 5 |
| Recreation Viewer Impacts | 1 | 1 | 1 | 1 | 1 | 1 | 5 | 1 | 7 | 3 | 2 | 5 | 3 | 7 | 1 | 2 | 5 | 5 | 1 | 1 | 1 | 1 | 5 | 5 |
| All Recreation Categories | 1 | 2 | 1 | 4 | 1 | 1 | 5 | 2 | 6 | 4 | 1 | 7 | 3 | 8 | 1 | 2 | 7 | 5 | 1 | 3 | 1 | 3 | 7 | 5 |

TABLE V.2 - Visual and Recreational Resources Quantitative Impact Assessment:
Miles of Severe Impact for each Alignment and Ranking of Same (Visual)
Number of Occurrences of Severe Impacts for each Alignment and Ranking of Same (Recreation)

| SEGMENTS: | A | | $B_1$ | | $B_2$ | | $C_1$ | | | | $C_2$ | | | | D | | E | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ROUTES: | A1 | A2 | $B_1 1$ | $B_1 2$ | $B_2 1$ | $B_2 2$ | $C_1 1$ | $C_1 2$ | $C_1 3$ | $C_1 4$ | $C_2 1$ | $C_2 2$ | $C_2 3$ | $C_2 4$ | D1 | D2 | $E_1 A$ | $E_1 B$ | $E_2 A$ | $E_2 B$ | $E_3 A$ | $E_3 B$ | $E_4 A$ | $E_4 B$ |
| TOTAL MILES: | | | | | | | | | | | | | | | | | | | | | | | | |
| Visual Site Attractiveness | 5.7 | 6.7 | 1.8 | 4.0 | 2.7 | 4.5 | 5.6 | 7.6 | 6.7 | 8.7 | 7.5 | 5.5 | 8.6 | 6.6 | 9.8 | 15.6 | 14.5 | 14.1 | 12.1 | 11.7 | 13.7 | 13.3 | 14.3 | 13.9 |
| Visual Landscape Quality | 0.3 | 0.1 | 24.3 | 21.3 | 23.9 | 25.3 | 99.6 | 106.5 | 89.3 | 98.2 | 110.0 | 106.1 | 101.7 | 97.8 | 14.9 | 27.3 | 6.9 | 6.9 | 13.5 | 13.5 | 10.3 | 10.3 | 9.2 | 9.2 |
| Viewer Route Impacts | 12.6 | 1.6 | 0.0 | 0.0 | 1.0 | 1.0 | 15.1 | 12.0 | 21.1 | 18.0 | 12.0 | 15.1 | 18.0 | 21.1 | 20.0 | 24.0 | 21.5 | 21.7 | 20.3 | 20.5 | 20.3 | 20.5 | 19.1 | 19.3 |
| All Visual Categories | 18.6 | 8.4 | 26.1 | 25.3 | 27.6 | 30.8 | 118.3 | 126.1 | 117.1 | 124.9 | 129.5 | 126.7 | 128.3 | 125.5 | 44.7 | 66.9 | 42.9 | 42.7 | 45.9 | 45.7 | 44.3 | 44.1 | 42.6 | 42.4 |
| Pre-emptive Recreation Impacts | 5 | 10 | 8 | 7 | 5 | 3 | 46 | 37 | 46 | 37 | 30 | 40 | 30 | 40 | 11 | 9 | 13 | 11 | 13 | 11 | 13 | 11 | 13 | 11 |
| Recreation Viewer Impacts | 2 | 2 | 9 | 13 | 9 | 7 | 37 | 31 | 44 | 38 | 25 | 32 | 32 | 39 | 14 | 8 | 20 | 24 | 17 | 21 | 17 | 21 | 15 | 19 |
| All Recreation Categories | 7 | 12 | 17 | 20 | 14 | 10 | 83 | 68 | 90 | 75 | 55 | 72 | 62 | 79 | 25 | 17 | 33 | 35 | 30 | 32 | 30 | 32 | 28 | 30 |
| RANK ORDERING: | | | | | | | | | | | | | | | | | | | | | | | | |
| Visual Site Attractiveness | 1 | 2 | 1 | 3 | 2 | 4 | 1 | 5 | 3 | 7 | 5 | 1 | 7 | 3 | 1 | 2 | 5 | 5 | 1 | 1 | 3 | 3 | 5 | 5 |
| Visual Landscape Quality | 2 | 1 | 3 | 1 | 2 | 4 | 2 | 6 | 1 | 2 | 8 | 6 | 5 | 2 | 1 | 2 | 1 | 1 | 7 | 7 | 5 | 5 | 3 | 3 |
| Viewer Route Impacts | 2 | 1 | 1 | 1 | 3 | 3 | 3 | 1 | 7 | 5 | 1 | 3 | 5 | 7 | 1 | 2 | 1 | 1 | 7 | 7 | 5 | 5 | 1 | 1 |
| All Visual Categories | 2 | 1 | 2 | 1 | 3 | 4 | 1 | 3 | 1 | 3 | 7 | 3 | 7 | 3 | 1 | 2 | 1 | 1 | 7 | 7 | 5 | 5 | 1 | 1 |
| Pre-emptive Recreation Impacts | 1 | 2 | 4 | 3 | 2 | 1 | 7 | 3 | 7 | 3 | 1 | 5 | 1 | 5 | 2 | 1 | 5 | 1 | 5 | 1 | 5 | 1 | 5 | 1 |
| Recreation Viewer Impacts | 1 | 1 | 2 | 4 | 2 | 1 | 5 | 2 | 8 | 6 | 1 | 3 | 3 | 7 | 2 | 1 | 5 | 8 | 2 | 6 | 2 | 6 | 1 | 4 |
| All Recreation Categories | 1 | 2 | 3 | 4 | 2 | 1 | 7 | 3 | 8 | 5 | 1 | 4 | 2 | 6 | 2 | 1 | 7 | 8 | 2 | 5 | 2 | 5 | 1 | 2 |

TABLE V.3 - Visual and Recreational Resources Quantitative Impact Assessment:
Miles of High Impact for each Alignment and Ranking of Same (Visual)
Number of Occurrences of High Impacts for each Alignment and Ranking of Same (Recreation)

| SEGMENTS: | A | | $B_1$ | | $B_2$ | | $C_1$ | | | | $C_2$ | | | | D | | E | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ROUTES: | A1 | A2 | $B_1$1 | $B_1$2 | $B_2$1 | $B_2$2 | $C_1$1 | $C_1$2 | $C_1$3 | $C_1$4 | $C_2$1 | $C_2$2 | $C_2$3 | $C_2$4 | D1 | D2 | $E_1$A | $E_1$B | $E_2$A | $E_2$B | $E_3$A | $E_3$B | $E_4$A | $E_4$B |
| AVERAGE IMPACT/ MILE: | | | | | | | | | | | | | | | | | | | | | | | | |
| Visual Site Attractiveness | 1.95 | 2.02 | 2.02 | 2.07 | 2.03 | 2.08 | 1.77 | 1.82 | 1.58 | 1.60 | 1.86 | 1.85 | 1.63 | 1.62 | 1.28 | 2.08 | 1.51 | 1.57 | 1.60 | 1.65 | 1.54 | 1.60 | 1.46 | 1.51 |
| Visual Landscape Quality | 1.97 | 1.96 | 1.53 | 1.67 | 1.52 | 1.71 | 3.43 | 3.33 | 3.15 | 3.07 | 3.18 | 3.26 | 2.92 | 2.99 | 2.39 | 2.68 | 1.97 | 1.96 | 2.09 | 2.09 | 2.05 | 2.04 | 2.02 | 2.02 |
| Viewer Route Impacts | 1.77 | 1.34 | 0.51 | 0.45 | 0.51 | 0.41 | 1.58 | 1.41 | 1.62 | 1.45 | 1.38 | 1.55 | 1.43 | 1.59 | 2.72 | 2.88 | 3.60 | 3.60 | 3.03 | 3.03 | 3.14 | 3.14 | 3.33 | 3.33 |
| All Visual Categories | 1.90 | 1.77 | 1.35 | 1.40 | 1.35 | 1.40 | 2.26 | 2.19 | 2.12 | 2.04 | 2.14 | 2.22 | 1.99 | 2.07 | 2.13 | 2.55 | 2.36 | 2.38 | 2.24 | 2.26 | 2.24 | 2.26 | 2.27 | 2.29 |
| Pre-emptive Recreation Impacts | 1.78 | 2.35 | 0.47 | 0.52 | 0.37 | 0.25 | 2.00 | 1.42 | 2.07 | 1.47 | 1.31 | 2.05 | 1.36 | 2.07 | 2.21 | 3.19 | 2.53 | 2.41 | 2.37 | 2.25 | 2.48 | 2.36 | 2.57 | 2.44 |
| Recreation Viewer Impacts | 1.41 | 1.49 | 1.10 | 0.60 | 0.64 | 0.53 | 1.70 | 1.54 | 1.89 | 1.70 | 1.43 | 1.68 | 1.60 | 1.37 | 2.58 | 3.17 | 2.73 | 2.80 | 2.27 | 2.22 | 2.29 | 2.37 | 2.48 | 2.55 |
| All Recreation Categories | 1.60 | 1.92 | 0.79 | 0.56 | 0.50 | 0.39 | 1.85 | 1.49 | 1.98 | 1.58 | 1.37 | 1.87 | 1.48 | 1.72 | 2.40 | 3.18 | 2.63 | 2.60 | 2.32 | 2.23 | 2.39 | 2.36 | 2.52 | 2.50 |
| RANK ORDERING: | | | | | | | | | | | | | | | | | | | | | | | | |
| Visual Site Attractiveness | 1 | 2 | 1 | 3 | 2 | 4 | 5 | 6 | 1 | 2 | 8 | 7 | 4 | 3 | 1 | 2 | 2 | 5 | 6 | 8 | 4 | 6 | 1 | 3 |
| Visual Landscape Quality | 2 | 1 | 2 | 3 | 1 | 4 | 8 | 7 | 4 | 3 | 5 | 6 | 1 | 2 | 1 | 2 | 2 | 1 | 7 | 7 | 6 | 5 | 3 | 3 |
| Viewer Route Impacts | 2 | 1 | 3 | 1 | 3 | 1 | 6 | 2 | 8 | 4 | 1 | 5 | 3 | 7 | 1 | 2 | 7 | 7 | 1 | 1 | 3 | 3 | 5 | 5 |
| All Visual Categories | 2 | 1 | 1 | 3 | 1 | 3 | 8 | 6 | 4 | 2 | 5 | 7 | 1 | 3 | 1 | 2 | 7 | 8 | 1 | 3 | 1 | 3 | 5 | 6 |
| Pre-emptive Recreation Impacts | 1 | 2 | 3 | 4 | 2 | 1 | 5 | 3 | 6 | 4 | 1 | 6 | 2 | 6 | 1 | 2 | 7 | 4 | 2 | 1 | 6 | 2 | 7 | 4 |
| Recreation Viewer Impacts | 1 | 2 | 4 | 2 | 2 | 1 | 6 | 3 | 8 | 6 | 2 | 5 | 4 | 1 | 1 | 2 | 7 | 8 | 2 | 1 | 2 | 4 | 5 | 6 |
| All Recreation Categories | 1 | 2 | 4 | 3 | 2 | 1 | 6 | 2 | 8 | 4 | 1 | 6 | 2 | 5 | 1 | 2 | 8 | 7 | 2 | 1 | 4 | 3 | 6 | 5 |

TABLE V.4 - Visual and Recreational Resources Quantitative Impact Assessment:
Average Impact Per Mile for each Alignment and Ranking of Same

Table V.5 - Alternative Route Lengths [1/]

| ROUTE ALIGNMENT | LENGTH (Miles) | |
|---|---|---|
| | Visual | Recreational |
| A1 | 29.4 | 29.4 |
| A2 | 30.2 | 30.2 |
| $B_1 1$ | 119.0 | 119.0 |
| $B_1 2$ | 123.8 | 123.8 |
| $B_2 1$ | 118.6 | 118.6 |
| $B_2 2$ | 126.3 | 126.3 |
| $C_1 1$* | 134.4 | 141.2 |
| $C_1 2$* | 140.6 | 141.9 |
| $C_1 3$* | 140.7 | 144.6 |
| $C_1 4$* | 146.9 | 148.2 |
| $C_2 1$* | 135.8 | 137 1 |
| $C_2 2$* | 134.6 | 138.5 |
| $C_2 3$* | 142.1 | 143.4 |
| $C_2 4$* | 140.9 | 144.8 |
| D1* | 38.1 | 37.8 |
| D2* | 41.3 | 42.2 |
| $E_1 A$* | 41.9 | 42.2 |
| $E_1 B$* | 42.1 | 42.4 |
| $E_2 A$* | 43.1 | 43.4 |
| $E_2 B$* | 43.3 | 43.6 |
| $E_3 A$* | 42.5 | 42.8 |
| $E_3 B$* | 42.7 | 43.0 |
| $E_4 A$* | 42.2 | 42.5 |
| $E_4 B$* | 42.4 | 42.7 |

[1/] Length differences (indicated by *) are due to differences in preferences for Localized Routing Alternatives.

Segment 'B'

Routes $B_1 1$ and $B_2 1$ are both ranked first, route $B_1 2$ ranked third and $B_2 2$ fourth. There is no significant difference between $B_1 1$ and $B_2 1$ in total impact on the visual resource categories. Both, however, have less impact on visual site attractiveness and landscape quality than the other alternatives.

Because site attractiveness and landscape quality are the most important visual issues for the area traversed by segment 'B', $B_1 1$ and $B_2 1$ were ranked higher Of the four, alignments $B_1 1$ and $B_2 1$ are ranked first and second, respectively, for miles of high impact. Their order is reversed for miles of severe impact. Their average impacts on all visual categories are equal and ranked first. Although there is virtually no difference between $B_1 1$ and $B_2 1$, $B_2 1$ is preferred because it terminates in Moose River and can hook up with the most preferred alignment in segment 'C' Inherent to this ranking and preference is the selection of Alternate I-2 in LRA I.

Segment 'C'

Rankings of routes in this segment are as follows:

| | |
|---|---|
| $C_1 1$ = 7th | $C_2 1$ = 2nd |
| $C_1 2$ = 5th | $C_2 2$ = 3rd |
| $C_1 3$ = 8th | $C_2 3$ = 1st |
| $C_1 4$ = 6th | $C_2 4$ = 4th |

Due to the above rankings the $C_1$ alignments, which terminate at the Jackman substation site, were precluded from further consideration. Of the three top ranked alternatives, $C_2 1$ exhibits the lowest score for viewer route impacts, and $C_2 3$ the lowest for impact on visual landscape quality. However, there is no dramatic difference in impact from best to worst among the top ranked four routes when judging the three viual impact categories simultaneously. There are differences among them, however, in number of miles of severe impact: $C_2 3$ has the fewest severe impact-miles for all visual categories except visual site attractiveness. Route $C_2 3$ also has the lowest average impact on visual landscape quality. Because this is the most critical visual resource of the area traversed by Segment 'C', route $C_2 3$ became the preferred alignment. The above rankings and preferences are based upon use of LRA's II-2, III-3, IV-2, V-2, VI-1, and VIII-1.

Segment 'D'

Alignment D1 is ranked first and D2 second. D1 has fewer impact-miles for each visual resource category, and for all of the categories as a whole. It also has fewer miles of high and severe impact and a lower average impact per mile. D1 is, by far, the preferred alignment in segment 'D'

Segment 'E'

Of the eight alternative routes in segment 'E', the E1 and E4 alternative routes, ranked below, were dropped from consideration early

| | |
|---|---|
| $E_1A$ - 6th | $E_4A$ - 5th |
| $E_1B$ - 8th | $E_4B$ - 7th |

This is mainly because viewer impacts -- a critical issue in the area traversed by segment 'E' -- are significantly higher than for the other alignments. Although the impact of these alternatives on site attractiveness and visual landscape quality -- less important resources -- is lower than for other routes it is not sufficiently low to overcome the viewer impact problem. Quantitatively, the four remaining routes are not too different from one another The E2 alternatives exhibit fewer miles of severe impact, but more of high impact, then the E3 alternatives. Average impact per mile is virtually identical. The real difference between them is the extent of right-of-way sharing proposed for each. Based primarily on the relative use of existing rights-of-way, routes $E_3A$, $E_2A$, $E_2B$, and $E_3B$ were ranked first through fourth, respectively. The preference for $E_3A$ however, is slight. Localized Routing Alternate VIII-1 was preferred and used in all segment 'E' routes.

## 5.2 Recreational Resources

Segment 'A'

Alternative route $A_1$ is ranked first and $A_2$ is ranked second. The ranking is based on the lower overall and average impact scores along A1, as well as its fewer severe and high impacts. Route A2 is relatively more remote than A1 and constructing a transmission line through this area would cause a more significant net change in the recreational resource base. One further point, however, should be made. Route A1, although preferred, would have a potentially greater number of recreation viewers, such as those along Route 161. Nevertheless, it was chosen over A2 because the need for passive recreational experiences in the general area was considered significant enough to avoid the link 2 recreational activity areas.

Segment 'B'

In this segment, route $B_2$1 was ranked first and $B_1$1 was ranked second. They were both preferred over the $B_2$2 alternative primarily to avoid affecting numerous recreational users in the Moosehead Lake/Seboomook Lake area along Link 9. This selection was a compromise in that the $B_2$2 alternative had the best overall rank, but was tied for the highest severe impact rank (with $B_2$1 and $B_1$1), and also had the highest ranks for high and average impacts. Route $B_2$1 and $B_1$1 were independently ranked higher because impacts from their crossings of the St. John River above Baker Lake and from recreational viewer impacts in the Baker Lake area can be mitigated. For example, there would be a need for careful

mitigation along links 5,7, and 11 to lessen the potential impact on these more primitive recreational activity areas and their users.

Segment 'C'

The "best" routes in this segment are: 1st-$C_2$1, 2nd-$C_2$3, 3rd-$C_1$2, 4th-$C_1$4. $C_2$1 and $C_2$3 were preferred not only for their lower impacts but also because they do not pass through the Rangeley, Maine area, and the relatively less developed area in New Hampshire extending from Second College Grant to the Upper Ammonoosuc River Valley, near the northern portion of the White Mountains National Forest. Route $C_2$1 also has the least total and average impact and the fewest severe and high impacts. In the southern portion of segment 'C', $C_2$1 was also chosen in order to avoid a variety of public and private recreational features along link 38 and the views of the line from the White Mountains. However, route $C_2$3 -- second "best" --would use link 38, which parallels an existing right-of-way.

Segment 'D'

Route $D_1$ was ranked first and D2 second in this segment. This decision reflects a preference for link 42 over link 43, where there are a disproportionate number of severe impacts. Route $D_1$, in addition to having both the lowest overall and average impact, parallels an existing right-of-way Although both D1 (along link 44) and D2 (along link 43) would impinge upon the Groton State Forest, route $D_1$ would do so for fewer miles. Route D1 also by passes the Peacham, Vt., area, which contains a variety of recreational reatures.

Segment 'E'

The selection of preferred route alternatives in segment 'E' was complex due to the number of tie scores for both severe and high impacts. Route $E_3$A was ranked first, $E_2$A second and $E_3$B and $E_2$B tied for third. The 'A' routes were chosen over the 'B' routes to avoid link 56, which impacts a ski jump and ski area. Taking advantage of potential right-of-way sharing along link 55 was a major factor in the ranking. Although route $E_2$B has the lowest overall and average impact, route $E_3$A was preferred due to its use of link 55.

# Appendix A
# Existing Environment: Links

APPENDIX A
DESCRIPTION OF THE EXISTING ENVIRONMENT: LINKS

## Table of Contents

## Visual Resources

### Visual Site Attractiveness

Segment 'A'

Link 1: The average site attractiveness value for this link is moderate (1.95). The route area is dominated by mature woodlands with significant and approximately equal extents of regenerating stands and active and abandoned fields. The most notable items within the route area are the Bangor and Aroostook Railway (freight), of low site attractiveness; and a shopping area and mobile home park, between miles 13 and 16, considered to have no site attractiveness value.

None -
Low - 27.2
Moderate - 50.9
High - 21.9
Very High -

Link 1A: The site attractiveness value for this small link is high (3.0), due to its location in an active agricultural field.

None
Low -
Moderate -
High - 100
Very High -

Link 1B: This is another small link located in an active agricultural field and a small adjacent stand of regenerating woodland. The average site attractiveness value is below moderate (1.67).

None -
Low - 33.3
Moderate -
High - 66.7
Very High -

Link 1C: This link traverses an active agricultural field for most of its length. Other areas traversed include a mature hardwood stand and, most notably, the Fish River The average site attractiveness value is high (3.11).

None -
Low -
Moderate - 11.1
High - 77.8
Very High - 11.1

Link 2: The western half of this link traverses an extensive area of mature woodlands. The eastern half crosses a more agrarian landscape of active and regenerating abandoned fields. The most notable areas within the route are the three lakes located approximately at miles 3, 6, and 11, and some rather large beaver dams and swamps in their vicinities. East of Wheelock Lake, the Bureau of Public Lands has a landholding for which timber and grass rights have been retained by the State, thus enhancing the site attractiveness value of the woodlands within its jurisdiction. Conversely, in the vicinity of mile 3 are some 'snag and insect damage' areas of low site attractiveness. The average value for the site attractiveness of the link is above moderate (2.08).

None -
Low - 18.6
Moderate - 54.8
High - 26.6
Very High -

Link 3: The average site attractiveness value for the link is just below moderate (1.84). This is due to the extensive areal coverage of the route by mature woodlands. One stand of such woodlands, in the vicinity of miles 3.5 to 5, is enhanced by State ownership of the timber and grass rights with a designated public landholding. Most significant, however, is the crossing of the Allagash River, which occurs within the first half mile.

None -
Low - 27.9
Moderate - 62.2
High - 9.0
Very High - .9

Segment 'B'

Link 4: The average site attractiveness value for this link is between low and moderate (1.52). Land coverage is almost equally divided between regenerating and mature woodlands. Insignificant in areal coverage, but worthy of note, are occasional attractive swamps or marshes (rated high) and a few active sand and gravel extraction areas.

None - 4
Low - 48.1
Moderate - 51.2
High - .2
Very High -

Link 5: The average site attractiveness score for this link is well below moderate (1.60). Again, the land coverage is almost equally split between regenerating and mature woodlands. High values are embodied in occasional marshes and cedar and other swamps, whereas low values are assigned almost exclusively to the active or abandoned sand and gravel extraction areas.

None - .3
Low - 42.7
Moderate - 54.4
High - 2.3
Very High - .3

Link 6: The average score for this link is approximately moderate (1.97). The route traverses an area composed primarily of mature woodlands. In the southern half, particularly, the stands are almost exclusively mature. Aside from a beaver dam swamp at mile 10 and an abandoned field at mile 6, the only area of significance is the crossing of the North Branch of the Penobscot River at mile 6, which received a rating of very high.

None -
Low - 24.5
Moderate - 54.4
High - 20.4
Very High - 7

Link 7: The average score for this link is below moderate (1 77). The northern part of this link has a greater extent of regenerating woodland. There is a linear beaver dam (high) at mile 5 and the Dole Brook is crossed at mile 7

None -
Low - 23.9
Moderate - 75.5
High -
Very High - .6

Link 8: The average site attractiveness value for this link is moderate (2.02). This is due to almost exclusive coverage of the route area by mature woodlands. There are a couple scattered patches of regeneration. Some beaver dams, cedar swamps, and abandoned fields are scattered about, and the South Branch of the Penobscot River is crossed at about mile 3, where it enters Canada Falls Lake.

None -
Low - 5.8
Moderate - 88.3
High 4.9
Very High - 1.0

Link 9: The average site attractiveness value for this link is below moderate (1.81). The area is composed predominantly of mature hardwood stands, particularly in its middle around the mountain area north of Moose Head Lake and southwest of Caucomgomoc Lake. High values are assigned primarily to scattered wetlands and old fields. Also worthy of mention is an abandoned (field) road network in the vicinity of miles 40 to 45, which was assigned high values for site attractiveness, and the crossing of the West Branch of the Penobscot River at approximately mile 46.

None -
Low - 24.4
Moderate 70.3
High 5.2
Very High 1

Link 9A: The average site attractiveness value for this link is below moderate (1.76). Mature woodlands predominate the route area.

None -
Low - 28.2
Moderate - 67 4
High - 4.4
Very High -

Link 10: The average site attractiveness for this link is below moderate (1.72). Mature woodlands predominate. Of greatest significance are an active sand and gravel mine near mile 5 and a small lake along mile 8.

None -
Low - 35.4
Moderate - 59.5
High - 3.8
Very High - 1.3

Link 10A: The average site attractiveness value for this link is approximately moderate (1.94). Mature mixed hardwoods predominate the route area. Marshlands provide occasional areas of high site attractiveness, and parts of Muscrat, Luther, and other small water bodies extend into the route area between miles 6 and 8.

None -
Low - 7.2
Moderate - 91.8
High -
Very High - 1.0

Link 11 (First 5.9 miles): The average site attractiveness value for this portion of link 11 is below moderate (1.79). Mature woodland stands predominate the area. At the end of this portion of link 11 is the edge of an extensive marshland.

None -
Low - 25.4
Moderate - 67.8
High - 6.8
Very High -

Link 11A: The average site attractiveness value for this link is above moderate (2.15). The area, except for a large beaver dam swamp, is in mature woodland.

None -
Low -
Moderate - 84.6
High - 15.4
Very High -

Link 12 (First 1.0 mile ): The average site attractiveness value for this portion of link 12 is below moderate (1.83). It is characterized by almost equal extents of mature and regenerating woodlands. The most attractive sites are found along the Moose River, which the route crosses.

None - .3
Low - 19.3
Moderate - 78.2
High - 1.9
Very High - .3

Segment 'C'

Link 11 (Mile 5.9 to end): The average site attractiveness value for this section of link 11 is just below moderate (1.93). The area is almost exclusively in mature woodland, particularly along the southern half of the link. There are, however, less attractive patches of regenerating woodland and two sand and gravel pits, along with more attractive marshland areas (particularly at the beginning of the link (mile 5.9) ), and an area of wetlands and water (approximately at mile 23).

None -
Low - 10.6
Moderate - 86.3
High - 3.1
Very High -

Link 12 (Mile 1.0 to end): The average site attractiveness value for the rest of link 12 is below moderate. The predominant land cover type is mature woodland; however, there is a concentrated and extensive area of regeneration for the last 6 or 7 miles. Small areas of marshland and open water are scattered along the route and two sand and gravel extraction areas are present. Most significant is the crossing of the North Branch of the Dead River at approximately mile 33, which is a designated 'unusual area' (LURC) coincident with the Arnold Trail.

None - .3
Low - 19.5
Moderate - 78.3
High - 1.9
Very High -

Link 12A: Link 12A is composed predominantly of regenerating woodland, as reflected in an average site attractiveness score just above low (1.32). One bog and one sand and gravel pit are present within the route.

None -
Low 67 7
Moderate - 32.3
High -
Very High -

Link 13: This link is mostly in mature woodland, but areas of regeneration are extensive. The average site attractiveness score is well below moderate (1.6).

None -
Low - 40.0
Moderate - 60.0
High -
Very High -

Link 13A: This cross-over link is similar to link 13 in composition. The eastern half is primarily in regeneration, whereas the western half is largely composed of mature woodland, yielding an average site attractiveness value for the link of well below moderate (1.66).

None -
Low - 34.4
Moderate - 65.6
High -
Very High -

Link 14A: The average site attractiveness value for the link is moderate (2.0), owing to complete coverage by mature woodlands.

None -
Low -
Moderate - 100
High
Very High

Link 14: The average site attractiveness value for the link is approximately midway between low and moderate (1.54). Cover for the route area is evenly split between regenerating and mature woodland.

None
Low 45.9
Moderate 54.1
High
Very High

Link 15: The average site attractiveness score for this link is just below moderate (1.92). Mature woodlands predominate, with a few marshlands at the edge of the route. The Magalloway River is crossed approximately at mile 6.

None
Low - 10.8
Moderate - 88.0
High - 0.6
Very High 0.6

Link 16: The average site attractiveness value for this link is midway between moderate and low (1.49). Cover for the area is almost equally divided between mature and regenerating woodland. There is one gravel pit at the edge of the route between miles 1 and 2, and the Magalloway River is crossed just past Parmachenee Lake at mile 7

None
Low - 51.6
Moderate - 47.8
High
Very High - .6

Link 17: Link 17 is almost exclusively in mature woodland, yielding an average site attractiveness score just below moderate (1.97). A sand and gravel extraction area and a small pond are located between miles 4 and 5.

None - 1.4
Low
Moderate - 98.6
High
Very High -

Link 17A: The average site attractiveness value for this link is above moderate (2.06). It is almost entirely in mature woodland except for an area of mature hardwood at the end of the link within Colemam State Park.

None
Low
Moderate = 93.8
High = 6.2
Very High =

Link 17B: The average site attractiveness score for this link is about moderate (1.81). Mature woodlands predominate, but there are significant areas of regenerating woods and abandoned agricultural fields in the area north of Kidderville.

None
Low = 29.1
Moderate = 50.7
High = 20.2
Very High =

Link 18: The average site attractiveness value for this link is below moderate (1.69). Areas of softwood regeneration predominate, and large

abandoned agricultural fields provide highly attractive sites. At the beginning of the link, mature hardwood stands within the boundary of Coleman State Park also provide high attractiveness. Along mile 3, unwooded local peaks are rated very high in site attractiveness.

None -
Low - 65.4
Moderate -
High - 34.6
Very High -

Link 18A: This link repeats the pattern of regenerating woodlands and abandoned agricultural fields found in link 18. Some mature woodlands can be found at the end of its length. The average site attractiveness value is low to moderate (1.62).

None -
Low - 56.7
Moderate - 25.0
High - 18.3
Very High -

Link 19: This link is similar to 18A. The pattern is one of alternating regenerating woodlots and abandoned agricultural fields, with some mature hardwoods near the end. The average site attractiveness value is above moderate (2.05).

None -
Low - 38.2
Moderate - 24.5
High - 31.8
Very High - 5.5

Link 20: Link 20 is primarily in mature woodland. The average site attractiveness score, reflecting the presence of regenerating stands, is just below moderate (1.89). Nash Stream parallels the alignment for about the last 4 miles and intersects it once between miles 6 and 7

None - 1.0
Low - 10.5
Moderate - 87.5
High -
Very High - 1.0

Link 21: The average site attractiveness value for this link is just below moderate (1.95). The link is primarily in woodland. However, items of interest include: scattered wetlands, a sand and gravel extraction area, scattered single-family residences, the intersection of Boston and Main "Grand Trunk" between miles 4 and 5, and the intersection of another transmission right-of-way within the last 0.25 mile.

None -
Low - 17.2
Moderate - 75.0
High - 6.1
Very High - 1.7

Link 22: The average site attractiveness value is above moderate (2.13). Some abandoned agricultural fields are present, the Boston and Main "Grand Trunk" is crossed within the last one-half mile, and a large sand and gravel extraction area is located along the Upper Ammonoosuc at the 0.8 mile mark. Single-family residences are scattered throughout the route and one commercial establishment is present.

None -
Low -
Moderate - 89.6
High - 10.4
Very High -

Link 23: The average site attractiveness score for this link is above moderate (2.11). The area is primarily in regenerating woodland with some large abandoned fields. Some mobile homes may be found within the last 0.5 mile, west of the proposed alignment. Homes are scattered through the route area.

None -
Low -
Moderate - 92.1
High - 7.9
Very High -

Link 24: The average site attractiveness score for this link is above moderate (2.11). The area is primarily in mature woodland with a few large abandoned fields. Homes are scattered throughout the route area, and there are mobile homes within the last 0.5 mile.

None -
Low -
Moderate - 92.1
High - 7.9
Very High -

Link 25: The average site attractiveness value for this link is below moderate (1.84). The area is primarily in mature woodland with large patches of regeneration, one bog, one marsh, and two sand and gravel extraction areas. The Cupsuptic River is crossed between miles 11 and 12.

None -
Low - 21.7
Moderate - 72.3
High - 5.3
Very High 7

Link 26: The average site attractiveness value for this link is below moderate (1.89). Land cover is primarily mature woodland with the exception of a large area of regeneration on the north side of Observatory Mountain.

None -
Low - 12.0
Moderate 88.0
High
Very High -

Link 27: The average site attractiveness value for this link is well below moderate (1 76). Regenerating woodlands are present within the first third of the link east of East Richardson Ponds. The remainder of the area is in mature woodland, particularly softwood. Small ponds are present within the east-west portion of the link, and there is a large sand and gravel extraction area at mile 10.

None -
Low 28.9
Moderate 69.3
High
Very High - 1.8

Link 28: The average site attractiveness score for this link is moderate (2.01). The area is covered, except for one small marsh, by mature woodland. There are river crossings at the following locations: Magalloway River (mi. 3-4); Dead Diamond River (mi.5-6); and the Swift Diamond River (mi 6-7).

None -
Low -
Moderate - 96.1
High -
Very High - 3.9

Link 29: Land cover is primarily mature woodland. Greenough and Little Greenough Ponds are nearby, but are not affected by the proposed alignment. However, one bog (mi. 1-2) and a rather large marsh (mi. 3-4) lie along the proposed right-of-way. The average site attractiveness value is below moderate (1.92).

None -
Low - 16.4
Moderate - 76.9
High - 6.7
Very High -

Link 30: The average site attractiveness value is between low and moderate (1.7). The land cover is primarily mature woodland (softwoods). Greenough Pond is intersected at the edge of the route, as is one other small pond.

None -
Low - 30.2
Moderate - 69.8
High -
Very High -

Link 31: The average site attractiveness value for this link is just below moderate (1.96). Land cover is predominantly mature woodland, except the first three miles which are characterized by some regenerating woodland, some abandoned agricultural fields, and scattered residences. Clear Stream also meanders through this area of the route. The final three miles of the link parallel an existing transmission right-of-way. The "Grand Trunk" of the Boston and Maine Railroad is nearby and there is a concentration of residences between miles 17 and 18.

None -
Low - 9.6
Moderate - 85.2
High - 5.2
Very High -

Link 32: The average site attractiveness score for this link is above moderate (2.17). An existing right-of-way is present, along with some abandoned agricultural fields. The Ammonoosuc River is crossed at the 0.2 mile mark. The "Grank Trunk" is crossed near the end of the link.

None -
Low
Moderate - 88.9
High - 5.6
Very High - 5.5

Link 33: The average site attractiveness value is above moderate (2.18). The land cover is primarily mature woodland except for a small area of marsh and a regenerating abandoned cultivated field. An existing transmission right-of-way runs down the center of the entire link. There is a light manufacturing facility north of the link terminus.

None -
Low -
Moderate - 82.5
High - 17.5
Very High -

Link 34: The average site attractiveness value for this link is moderate (2.0). Except for the existing transmission right-of-way. the land cover is mature woodland.

None -
Low -
Moderate 100.
High
Very High

Link 35: The average site attractiveness value for this link is moderate (2.0). Land cover is predominantly mature woodland, although there is a significant extent of regenerating woodlands. There is one substantial stretch of agricultural fields near mile 5, an existing transmission line right-of-way is crossed at mile 4, the "Grand Trunk" is crossed at mile 5, and a mobile home park sits alongside the proposed right-of-way near mile 3. The Connecticut River is crossed at mile 5. In addition, two historic structures are present at the end of the link, on either side of the alignment. A couple residences are present within the route. The most attractive stretch lies between miles 0.5 2.5 where the alignment traverses the foot of Cape Horn, a designated unique natural area.

None - 2.4
Low - 86.5
Moderate - 11 1
High -
Very High

Link 36: This link is almost entirely in mature woodland. The average site attractiveness value for the link is moderate (1.98), reflecting some areas of regeneration at miles 4 and 7, and scattered residences and abandoned agricultural fields between miles 10 - 15, particularly. The Maine Central rail line is crossed at about mile 12. An abandoned field on a secondary hilltop is present just past mile 1.

None -
Low - 8.
Moderate - 86.4
High - 5.6
Very High -

Link 37: The average site attractiveness value for this link is above moderate (2.17). Land cover is mostly mature woodland with scattered abandoned agricultural fields, two of which are situated along a relatively prominent ridge (miles 6 and 9.5). One historic site is present -- a cemetery approximately at mile 7 A few homes are scattered throughout

the route and a large institutional structure is located approximately at mile 9.5. Pipelines are crossed between miles 2 and 3, and the Maine Central rail line is crossed approximately at mile 11.

None
Low - 2.1
Moderate - 86.0
High - 8.5
Very High - 3.4

Link 38: The average site attractiveness value for the link is below moderate (1.88). The link almost entirely parallels an existing transmission right-of-way. The Maine Central rail line crosses the alignment at miles 8, 18.2, and 18.4, and parallels the route between miles 8 - 9. Residences are scattered throughout the route. Pipelines are encountered between miles 9 - 10. A large sand and gravel area is located at mile 25, and the Connecticut River is crossed at mile 24.8.

None - 0.4
Low - 32.0
Moderate - 53.3
High - 11.2
Very High - 3.1

Link 39: The average site attractiveness value for this link is moderate (2.0). The land cover is mature woodland except for one small marshland near the edge of the route just past mile 1, the existing transmission right-of-way, and the Moore Reservoir, which encroaches upon the southern portion of the route boundary of the link. There are some urban uses within the first mile, including residences and a store. An historic cemetery lies within the last mile of the route.

None -
Low -
Moderate - 100.
High -
Very High -

Link 40: The average site attractiveness value for this link is above moderate (2.13). Aside from land used for an existing transmission line right-of-way, (which the proposed alignment parallels), some intersecting rights-of-way. and some abandoned fields within the last mile, the land cover is mature woodlands.

None
Low -
Moderate - 75.0
High - 13.3
Very High - 11 7

Link 41: This link is covered entirely by mature hardwoods, with an average site attractiveness value of moderate (2.0).

None -
Low -
Moderate - 100.0
High -
Very High -

Segment 'D'

Link 41: (see above)

Link 42: The average site attractiveness value for the link is above moderate (2.31). The alignment almost entirely parallels an existing transmission line. There is an existing substation at mile 6, from which other rights-of-way emanate. The Canadian Pacific rail line is crossed between miles 8 - 9. Scattered residences are present between miles 7 - 8. The most attractive areas are the Connecticut River, which is crossed at mile 8 and enters the route near miles 2 and 5. Land cover is predominantly mature woodland; however, in the western half of the route, abandoned agricultural fields become more numerous. The extent of regeneration is relatively insignificant. Two historic sites are within the route, south of the proposed alignment near mile 8.

None -
Low -
Moderate - 75.8
High - 20.9
Very High - 3.3

Link 43: The average site attractiveness value for the link is well above moderate (2.33). The route area is primarily in mature hardwoods. The section of mature woods between miles 9.5 - 14.0 is particularly attractive, due to its location within Groton State Forest. Regenerating woodlands are not significant in extent, although there are some large patches between miles 21 - 23. Abandoned agricultural fields are numerous throughout the route. Of particular note are those located on local peaks at miles 8, 5, and between miles 22 - 23. Historic sites are found in the vicinity of miles 5, 6, 8, and 20. Martin's Pond extends into the route between miles 8 - 9. Residences are scattered throughout the route area. One light manufacturing facility is located at the edge of the route at mile 28 and three institutional sites are located at or near miles 2, 6, and 8. The Montpelier and Wells River rail line is crossed near mile 14.

None
Low - 8.2
Moderate - 50.5
High - 41.3
Very High -

Link 44: The average site attractiveness value for the link is above moderate (2.15). This link is almost entirely parallel to an existing transmission right-of-way. Land cover is predominantly mature woodland. One area of mature woodland is highly attractive due to its location

within Groton State Forest at mile 18. Regeneration is relatively insignificant in extent, but abandoned agricultural fields are present throughout. Of particular note are several fields situated on local peaks between miles 7 - 10. Historic sites are present near mile 12 and residences are scattered throughout the route area. An institutional site is located near mile 20. Mining areas -- one inactive near mile 12 and one active within the first mile -- are located at the edge of the route.

None -
Low - 7.7
Moderate - 66.4
High - 24.8
Very High - 1.1

Link 45: The average site attractiveness value for the link is below moderate (1.73). The route area is primarily in abandoned agricultural fields. Scattered residences are present within the first mile. The entire link alignment parallels an existing transmission right-of-way.

None -
Low -
Moderate - 26.7
High - 73.3
Very High -

Segment 'E'

Link 45A: Land cover for this link is predominantly abandoned agricultural fields with some mature mixed woodlands, yielding an average site attractiveness value between moderate and high (2.5). The proposed alignment entirely parallels an existing transmission right-of-way. There is a relatively dense cluster of residences east of the 0.5 mile mark, and a less dense cluster west of the alignment near the link end.

None -
Low -
Moderate - 50.
High - 50
Very High -

Link 45B: The average site attractiveness value for this link is above moderate (2.23). Land cover is primarily abandoned agricultural fields with some mature woodland and a patch of mixed regenerating woodland. The alignment parallels an existing transmission right-of-way. Some residences are located west of the alignment at the start of the link.

None -
Low - 30.0
Moderate - 16.7
High 53.3
Very High -

Link 45C: The average site attractiveness value for this link is above moderate (2.35). Land cover is mixed between mature woodlands and abandoned agricultural fields. Some residences are present southwest of the line's midpoint. West of the end of the link, there is an abandoned agricultural field on a secondary hilltop.

None -
Low -
Moderate - 65.2
High - 34.8
Very High -

Link 46: The average site attractiveness value for this link is between moderate and high (2.57). The link entirely parallels an existing transmission right-of-way. Land cover, particularly within the first half of the route, is predominantly abandoned agricultural fields. West of the link beginning, there is one such field on a local peak. The end of the proposed alignment passes through a 'unique geological area'. Two historic sites are present -- one alongside the alignment at mile 4, and one at the edge of the route near mile 3. Residences are located throughout the route area, particularly a cluster east of mile 3; a relatively urban setting dominates the last half mile, including residential, light industrial, and commercial uses, and an abandoned mining area.

None - 6.
Low -
Moderate - 33.5
High - 56.0
Very High - 4.5

Link 47: The average site attractiveness value for link 47 is between moderate and high (2.55). Land cover within the route is mixed mature woods and abandoned agricultural fields. Some areas of regeneration are also present. The alignment entirely parallels an existing transmission right-of-way. At the beginning of the link the alignment passes through a 'unique geological area' At approximately the 1 mile mark, agricultural fields on a hilltop flank the proposed alignment. An historic site is located northeast of the proposed alignment at mile 3, and the line parallels the Winooski River for about the last 1.2 miles. Route I-89 is crossed between miles 1 - 2. Residences are clustered at the beginning of the link within the first 0.5 mile and between miles 3 4. At mile 2.3, the Central Vermont rail line is crossed. There are also two light manufacturing facilities and two abandoned extraction areas between miles 1 - 2.

None -
Low -
Moderate - 59.5
High - 33.3
Very High - 7.2

Link 47A: This link also parallels an existing transmission right-of-way. The average site attractiveness value is above moderate (2.32). West of the proposed alignment the area is primarily mature hardwoods, whereas to the east are abandoned agricultural fields. The Winooski River meanders through the northeastern half of the route. Two historic sites are present at miles 1 and 1.5. There is a small cluster of homes at the end of the link.

None -
Low -
Moderate - 67.6
High - 32.4
Very High -

Link 48: The average site attractiveness value for this link is above moderate (2.18). Land cover is a combination of abandoned agricultural fields and mature woodland. Most of the alignment parallels an existing transmission right-of-way. The Winooski River meanders throughout the route, particularly in the northeastern half; and, it and the Mad River are crossed within the first mile. An historic site is located at about the 6 mile mark. Residences are scattered throughout the eastern half of the alignment, with clusters at the beginning near the town of Middlesex, and at about the 4 mile mark near Waterbury. In the Waterbury area some institutional facilities are also present.

None -
Low -
Moderate - 84.8
High - 13.9
Very High - 1.3

Link 49: The average site attractiveness value for the link is above moderate (2.23). Land cover is predominantly mature hardwoods. The link almost entirely parallels both an existing transmission right-of-way and Route I-89. The Winooski River crosses the link in the first mile, and reenters the edge of the route between miles 5 - 6. Five small historic sites are located near miles 3, 11, and 12; one large site is located south of mile 7 Residences are located throughout the area, with clusters around Bolton at miles 3 - 5, near Jonesville, and north of Richmond. Other uses within the route include commercial and institutional trade facilities between miles 4 - 5, a light manufacturing facility in the Richmond area between miles 10 - 11, abandoned extraction areas at miles 3.5 and 11.6 and active mines at mile 5, and a large mobile home park near mile 11.6.

None - 3.2
Low - 2.9
Moderate - 72.1
High - 20.1
Very High 1 7

Link 50: The average site attractiveness value for this link is above moderate (2.13). Most of the route area is covered in mature woodland. Minor and approximately equal extents of regenerating woodland and abandoned agricultural fields are present. At the 1 mile mark, on both sides of the proposed alignment, there is an abandoned field on a secondary hilltop. Also at the 1 mile mark, Route I-89 crosses the route. Clusters of residences are located where the route crosses the Dog River Valley near mile 2, and at the end of the link near mile 6. An active extraction area is located north of the alignment near mile 2.

None - 1.5
Low - 5.8
Moderate - 85.5
High - 2.9
Very High - 4.3

Link 51: The average site attractiveness value for the link is above moderate (2.19). Land cover is almost exclusively in mature hardwoods. One residence is present just south of the 1.2 mile mark.

None -
Low -
Moderate - 83.3
High - 16.7
Very High -

Link 52: This link is exclusively covered in mature hardwoods and has a average site attractiveness value of moderate (2.0).

None -
Low -
Moderate - 100.0
High -
Very High -

Link 53: The average site attractiveness value for the link is between moderate and high (2.67). Land cover is predominantly mature hardwoods, except for the existing transmission right-of-way, which the alignment parallels, and small areas of abandoned agricultural fields.

None -
Low -
Moderate - 33.3
High - 66.7
Very High -

Link 54: This link passes through a large area of mature hardwoods and a few areas of abandoned agricultural fields. The Mad River is crossed within the first 0.5 mile. Clusters of residences are present at miles 3, 3.5, 4.5 and between miles 6 - 7; individual homes may be found in several other locations. All but two miles of the proposed alignment parallels an existing transmission right-of-way. The average site attractiveness value is moderate (2.06).

None -
Low -
Moderate - 94.0
High - 6.0
Very High -

Link 55: The average site attractiveness value for this link is between moderate and high (2.63). The route area is primarily in abandoned agricultural fields, with some areas of mature hardwoods. An existing transmission right-of-way is paralleled for much of the route length. The Winooski River meanders through the first mile of the route and is crossed once. Five historic sites are present south and north of mile one, three between miles 2.0 - 2.5, and two within the last 0.5 mile. The Central Vermont rail line is crossed within the first mile. Residences are present throughout the route, with clusters at mile 1, between miles 2 - 3, and from mile 4 to the end. There is a mobile home at the link terminus.

None -
Low - 4.1
Moderate - 32.7
High - 61.2
Very High 2.0

Link 56: The average site attractiveness value for this link is between moderate and high (2.49). The land cover is mostly mature woodland. The Winooski River parallels the alignment for the first mile, crosses it once, and re-enters the route for the final 0.5 mile. A large historic site is present north of the alignment at mile 3. The Central Vermont rail line crosses the alignment between miles 1 and 2. Southeast of mile 5 there is a large active mine. Mile 1 parallels an existing transmission right-of-way.

None - 3.9
Low -
Moderate - 43.1
High - 51.0
Very High - 2.0

Visual Landscape Quality/Absorption

Segment 'A'

Link 1: The average value for landscape quality is just above moderate (3.12). Approximately the first mile of the link is rated high as it is situated in hills adjacent to mountains with some views of the valley in the vicinity of the confluence of the St. John and Allagash Rivers. Most of mile 2 through the midpoint of the last mile is rated moderate. The attractions of this section are the views of the St. John and surrounding hills and the agricultural valley floor However, there are also many views toward industrial sites and a relatively great extent of urban development. The last part of this link is rated low, having similar views of urban areas, without the amenities.

| | |
|---|---|
| Very Low | - |
| Low | - 2.4 |
| Moderate | - 90.5 |
| High | - 7 1 |
| Very High | - |
| Exceptional | - |

Absorption values are generally high to moderate along north-facing slopes and along the valley floor One location, across the top of Stevens Hill, however, has a very low absorption capability. The narrow valley of the Allagash River is also an area of poor absorption capability.

Link 1A: Link 1A is rated high, with landscape quality characteristics similar to those for the beginning of link 1.

| | |
|---|---|
| Very Low | - |
| Low | - |
| Moderate | - |
| High | - 100.0 |
| Very High | - |
| Exceptional | - |

Absorption is low due to location in the narrow valley floor of the Allagash River

Link 1B: Same as 1A above.

Link 1C: Link 1C is rated low (2.00). Conditions are similar to those for the last part of link 1, with a low value for views of water and little variety and contrast. The link is situated in hills adjacent to mountains, and views are of industrial and developed areas. Topographic interest is only moderate.

| | |
|---|---|
| Very Low | - |
| Low | - 100 |
| Moderate | - |
| High | |
| Very High | - |
| Exceptional | - |

Absorption values are high to moderate.

Link 2: The average landscape quality value for this link is moderate (3.01). The entire link is situated in hills adjacent to mountains. Topographic interest is moderate, except for the westernmost seven miles, where it is high (in the vicinity of McLean Mountain). A high rating is assigned to the first mile, owing to the influence of the Allagash River The last 0.5 mile is rated low, with characteristics identical to link 1C. The remainder of the link is rated moderate, although there are higher quality areas around Wheelock Lake and two others situated between miles 3 - 4 and at mile 6.

| | |
|---|---|
| Very Low | - |
| Low | 2.8 |
| Moderate | - 93.2 |
| High | - 4.0 |
| Very High | - |
| Exceptional | - |

Absorption is high along many north-facing slopes along the southern edge of the route. Other areas are rated low, and hilltops in the vicinities of miles 10, and 12, and Steven Hill, at the end of the link, received very low ratings.

Link 3: The average landscape quality value for this link is below high (3.75). The first 2.8 miles are located in hills flanking the Allagash River, whereas the remainder is situated in hills adjacent to mountains. This accounts for much of the difference in landscape quality ratings. The highest values are assigned to the last two miles, owing to views of the St. John River Valley and greater topographic interest.

| | |
|---|---|
| Very Low | - |
| Low | - |
| Moderate | - 25.2 |
| High | - 74.8 |
| Very High | - |
| Exceptional | |

Absorption is mixed. Primary and secondary hilltops, located between miles 3-4, 4-5, and 7-8 are the least absorptive. The remainder of the link is divided between: high and moderate absorption areas, such as along north-facing slopes and on gently rolling terrain; and low absorption areas, such as on hillsides and within narrow valleys.

Segment 'B'

Link 4: The average landscape quality rating for this link is just under low (1.93). The first two miles are similar to the first part of link 3, with views of the Allagash River Valley. The last 4.7 miles are rated very low, due to the link's location on some relatively gentle rolling terrain in the upland plateau. The remainder of the link is rated low, being located in hills with little topographic interest. An occasional lake, pond, river, or other water feature, or open field may be rated higher, but the overall rating remains low.

| | |
|---|---|
| Very Low | - 10.9 |
| Low | - 84.7 |
| Moderate | - 4.4 |
| High | - |
| Very High | - |
| Exceptional | - |

Absorption is primarily moderate to high, particularly on north-facing, gentle hillsides and on gently rolling terrain. Low absorbability is experienced along narrow valley floors and on wooded secondary hilltops. Very low absorbability is experienced on hilltops and unforested secondary hilltops and ridges in the vicinities of miles 3, 4, 8, 13.5, 15.5, 18.5, 20.5, 24, 29.5, 32, 36, 37.5, and 38.5.

Link 5: The average landscape quality value for this link is above very low (1.28). The first 22.5 miles of this link are rated very low, being situated on rolling terrain with little topographic interest. The next 11 miles are rated low, due to views of water and open fields. The last five miles are rated very low, due to a lack of these features.

| | |
|---|---|
| Very Low | - 71.5 |
| Low | - 28.5 |
| Moderate | - |
| High | - |
| Very High | - |
| Exceptional | - |

Absorption along this link is high with the exception of the East Branch Rainey Brook Valley west of Big Bog, and a hilltop between miles 6 - 7.

Link 6: The average landscape quality value for the link is just below moderate (2.91). The first 2.8 miles are in rolling terrain; the next 4.2, in hills adjacent to mountains; the next 4.3, in mountains; and the last 3.4, in rolling terrain adjacent to mountains. These physiographic breakdowns are the prime determinants for the ratings. The area in mountains has moderate topographic interest and is rated high.

| | |
|---|---|
| Very Low | - 19. |
| Low | - |
| Moderate | - 51.7 |
| High | - 29.3 |
| Very High | - |
| Exceptional | - |

Absorption within the first 2 miles is high. Thereafter, primarily in the mountainous area and areas adjacent to mountains, the absorption values are low except for north-facing slopes or semi-wooded areas.

Link 7: The average landscape quality value for this link is below moderate (2.84). The first 3.5 miles are rated very low, being located on rolling terrain with only moderate topographic interest. A mountainous area between miles 7.5 - 12, with views toward Long Pond, has been rated high. Other areas adjacent to the mountains are rated moderate.

| | |
|---|---|
| Very Low | - 22.6 |
| Low | - |
| Moderate | - 48.4 |
| High | - 29.0 |
| Very High | - |
| Exceptional | - |

Absorption is high in areas of rolling terrain. Generally. however, it is low, and very low values are assigned along ridgetops near miles 5 and 6. North-facing slopes generally have moderate absorbability.

Link 8: The average landscape quality value for this link is above high (4.26). The first four miles are rated moderate, being in rolling terrain adjacent to mountains and having a moderate number of views toward water and open fields. The remainder of the link is in mountains with few water views, but has high topographic interest provided by Boundary Bald and Ironbound Mountains, and Trickey Bluffs. It is rated very high.

| | |
|---|---|
| Very Low | - |
| Low | - |
| Moderate | - 38.8 |
| High | - |
| Very High | - 61.2 |
| Exceptional | - |

Except for some north-facing mountainsides and hillsides and some unforested areas where absorption is moderate, absorption values are low.

Link 9: The average landscape quality score for this link is below moderate (2.86). The first 2.9 miles, in rolling terrain with little water and topographic interest, have been rated very low. The next 10 miles are rated low due to their location in hills. Some small sections of this length are rated high due to views toward small lakes and ponds. Miles 12.9-22.2, where the route passes through hills adjacent to mountains with moderate topographic interest, are rated moderate. Near

Wadleigh Pond and St. Francis Lake, scores are slightly higher Where the route traverses the areas around Caucomgomoc Mountain, the hills adjacent to it, and Mucalrea Mountain, high landscape quality ratings are assigned. Several small ponds between miles 29-38 enhance these values. Rolling terrain adjacent to mountains begins at mile 35.4 and continues through the end of the link. Through this last stretch of the link, one area must be singled out. Between miles 46.3-50.2, the route passes between Seboomook Lake and the Northwest Cove of Moosehead Lake, where the landscape quality rating is high primarily due to significant views of the water features. From this section on, ratings are moderate except for between miles 57-61, where views of Tomhegan Pond and adjacent wetlands are possible.

| | |
|---|---|
| Very Low | - 4.6 |
| Low | - 32.9 |
| Moderate | - 34.1 |
| High | - 28.4 |
| Very High | - |
| Exceptional | - |

Absorption is primarily moderate to high in areas other than mountains, where it is mostly low. Hill and ridgetops at miles 14, 15, 18, 18.5, and particularly the one-mile stretch between miles 47-48 which connects Seboomook and Moosehead Lakes, are assigned very low absorption values.

Link 9A: The average landscape quality value for this link is above moderate (3.26). However, ten of the links' 13.5 miles are rated moderate, being in rolling terrain adjacent to mountains, with high topographic interest. The remainder of the link is located in hills adjacent to mountains with views both across Long Pond and of a moderate number of open fields, where the scores are high.

| | |
|---|---|
| Very Low | - |
| Low | - |
| Moderate | 74.1 |
| High | 25.9 |
| Very High | |
| Exceptional | - |

In the rolling terrain, the absorption is generally moderate, whereas in the hills it is generally low.

Link 10: All values for link 10 are very high (5.00). The first half of the link differs from the second half in that the latter experiences better water views across Long and Supply Ponds, and more views of open fields and wetlands. The former has views only across Fish and Muskrat Ponds and of a few small scattered wetlands. The link is located entirely in hills adjacent to mountains with high topographic interest. Some parts of the link have views toward the town of Jackman.

| | |
|---|---|
| Very Low | - |
| Low | - |
| Moderate | - |
| High | - |
| Very High | - 100.0 |
| Exceptional | - |

Absorption throughout the link is low except in unforested areas, where absorption is high.

Link 10A: The average landscape quality value for the link is between moderate and high (3.63). The first 4.5 miles are rated moderate, due to a location within rolling terrain adjacent to mountains with high topographic interest. The next 4.4 miles are in hills adjacent to mountains with high topographic interest and have some views of open fields, small ponds (Fish and Muskrat), and wetlands. The remainder of the route has views toward Jackman, thus enhancing its landscape quality.

| | |
|---|---|
| Very Low | - |
| Low | - |
| Moderate | - 45.9 |
| High | - 44.9 |
| Very High | - 9.2 |
| Exceptional | - |

Absorption is moderate throughout the link.

Link 11 (First 5.9 miles): This part of link 11 is rated very high for landscape quality. The route traverses hills adjacent to mountains, with high topographic interest. Views of water and wetlands, a few open fields, and the town of Jackman are possible.

| | |
|---|---|
| None | - |
| Low | - |
| Moderate | - |
| High | - |
| Very High | - 100.0 |
| Exceptional | - |

Link 11A: All values for this link are very high (5.00). The link is in hills adjacent to mountains with high topographic interest, owning to the proximity of Boundary Bald Mountain. Views of small ponds, open areas, and Jackman are possible.

| | |
|---|---|
| Very Low | - |
| Low | - |
| Moderate | - |
| High | - |
| Very High | - 100. |
| Exceptional | - |

Absorption is low throughout the link.

Link 12 (First 1.0 mile ): The first mile of link 12 is rated very high. The area is in hills adjacent to mountains with high topographic interest, and has some views toward water, wetlands, open fields, and the town of Jackman.

| | |
|---|---|
| Very Low | - |
| Low | - |
| Moderate | - |
| High | - |
| Very High | - 100.0 |
| Exceptional | - |

Absorption is moderate along this link, due to its location in the wide valley floor of the Moose River.

Segment 'C'

Link 11 (Mile 5.9 to end): The average landscape quality value for this portion of the link is below very high (4.87). The first 19.3 miles of this part of the link are in hills adjacent to mountains. The remainder is in mountains. Between miles 6-9, topographic interest is high and there are some views of small ponds (Diamond, Coburn, Burnt Jacket, etc.), wetlands, and some open fields. Moose River and Jackman provide additional townscape interest. The next eleven miles are rated very high, primarily due to increased numbers of open fields and water, and wetlands (Wood, Little Big Wood, Holeb, and Attean Ponds and Moose River) and due to markedly high topographic interest (from proximity to Sally, Attean, and Burnt Jacket Mountains). The next five miles are similar to the first part of the link, except there is no townscape interest. This reduces their rating to high. The remainder of the link is rather uniform, with a rating of very high. The area is in mountains with high topographic interest but there is only low interest for water and wetlands views.

| | |
|---|---|
| Very Low | - |
| Low | - |
| Moderate | - |
| High | - 13.4 |
| Very High | - 86.6 |
| Exceptional | - |

Absorption is primarily low, except on north-facing hillsides and mountainsides, where it is moderate. Some unwooded areas are rated high, whereas hilltops and ridges (at miles 9.5, 10.5, 12, 16, 17, 18, 19, and 24.5) are rated very low.

Link 12 (Mile 1.0 to end): The average landscape quality value for this part of this link is between very high and exceptional (5.51). The first 0.5 mile of this part of the link is the same as the first mile (Segment 'B'). However, the subsequent 15.5 miles pass through an area of exceptional quality. The area is in mountains with high topographic interest, high water and wetlands views (Attean, Holeb, Wood and Little Big Wood Ponds and the areas adjacent to the Moose River), and moderate

open field conditions. The rating for the next 12 miles is reduced to very high due to a drastically lower number of views toward water and wetlands and open fields. The number of such views decreases further for the next five miles. However, for the three miles which pass through the Eustis area, moderate extents of open field and water and wetlands (Flagstaff Lake and North Branch of the Dead River area), and the Eustis townscape itself, make the quality exceptional. The last mile encounters less water and wetlands, and fewer open fields, and is not influenced by the town of Eustis.

| | |
|---|---|
| Very Low | - |
| Low | - |
| Moderate | - |
| High | - |
| Very High | - 48.6 |
| Exceptional | - 51.4 |

Absorption is predominantly low except in unwooded areas of gently rolling terrain (where it is high). and north-facing hillsides and mountainsides (where it is moderate).

Link 12A: All of this link is rated very high for landscape quality. It is situated in mountains with high topographic interest and low variety and contrast due to the presense of open, unwooded, areas. Extents of water and wetlands are insignificant except for the 1.5 mile stretch of the link northwest of Tim Pond.

| | |
|---|---|
| Very Low | - |
| Low | - |
| Moderate | - |
| High | - |
| Very High | - 100.00 |
| Exceptional | - |

Absorption is predominantly high on the unforested, gently rolling portions of the link. Elsewhere it is low, except for one north-facing hillside at mile 4.

Link 13: All of link 13 is rated very high (5.00). The route lies in mountains with good topographic interest. However, water and wetland conditions, and variety and contrast are both low.

| | |
|---|---|
| Very Low | - |
| Low | - |
| Moderate | - |
| High | - |
| Very High | - 100.0 |
| Exceptional | _ |

Absorption is divided into three categories of approximately equal land coverage. Unwooded gently rolling terrain is rated high. North-facing mountainsides -- occupying much of the western third of the route -- are rated moderate. The remainder -- primarily wooded, rolling terrain --is rated high.

Link 13A: The entire link is rated very high. The description is identical to that for link 13.

Link 14A: All of link 14A is rated very high. The description is identical to that for the two preceeding links, except that absorption is rated low throughout the route area.

Link 14: The average landscape quality rating for the link is between high and very high (4.38). The entire link is in mountains. The first 3.8 miles have high topographic interest, whereas the remainder has exceptional topographic interest due to its proximity to the Kennebago Divide.

| | |
|---|---|
| Very Low | - |
| Low | - |
| Moderate | - |
| High | - 62.2 |
| Very High | - 37.8 |
| Exceptional | - |

Absorption is primarily low, with small areas of unwooded, gently rolling terrain rated high, and one north-facing hillside rated moderate.

Link 15: The average landscape quality rating for the link is very high (5.03). The entire link is in mountains. The first 1.7 miles have exceptional topographic interest due to the proximity of the Kennebago Divide. High topographic interest is present for the remainder In addition to these attributes, miles 5-13 have low water and wetlands interest, and the remainder has moderate water and wetlands interest due to views of and across Second Connecticut Lake.

| | |
|---|---|
| Very Low | - |
| Low | - |
| Moderate | - |
| High | - 20.9 |
| Very High | - 55.7 |
| Exceptional | - 23.4 |

Absorption is predominantly low, with some north-facing hillsides rated moderate. A very low rating is assigned between miles 9-10, where the line traverses a prominent hilltop.

Link 16: The average landscape quality rating for this link is between high and very high (4.62). The entire area is in mountains. The first mile is rated exceptional for topographic interest, due to the influence of the Kennebago Divide, whereas the remainder has high topographic interest. Added interest is provided around mile 8 where views across Parmachenee and Aziscohos Lakes are of high-quality water and wetlands conditions. Between miles 8.5-10.7 water, wetlands, and variety and contrast viewing conditions are rated low.

| | |
|---|---|
| Very Low | - |
| Low | - |
| Moderate | - |
| High | - 58.7 |
| Very High | - 20.6 |
| Exceptional | - 20.7 |

Absorption conditions are mixed. Unwooded north-facing hillsides and gently rolling terrain are rated high. Other north-facing hillsides and mountainsides are rated moderate. All other areas are rated low, except a hill between Parmachenee and Aziscohos Lakes, which is rated very low.

Link 17: All but the last mile of this link is rated exceptional, yielding an average landscape quality rating of (5.86). The link is entirely in mountains with high topographic interest. Variety and contrast is low but water and wetlands interest is high, due to views toward and across First Connecticut Lake.

| | |
|---|---|
| Very Low | - |
| Low | - |
| Moderate | - |
| High | - |
| Very High | - 13.5 |
| Exceptional | - 86.5 |

Absorption is primarily low, with north-facing hillsides and some unforested hillsides rated moderate. A hilltop crossing at mile 7 is rated very low.

Link 17A: The average landscape quality rating for this link is between high and very high (4.56). The route is entirely in mountains with high topographic interest. Within the first three miles, water and wetland interest is moderate and variety and contrast is low, due to a minimum number of open fields. For the next 3.5 miles, neither of these conditions is a factor, but in the last 1.5 miles, moderate water and wetlands interest is provided by Diamond Pond.

| | |
|---|---|
| Very Low | - |
| Low | - |
| Moderate | - |
| High | - 44.4 |
| Very High | - 55.6 |
| Exceptional | - |

Absorption is low for all but the final 1.6 miles, where the route traverses a north-facing mountainside.

Link 17B: The average landscape quality rating for this link is above very high (5.35). The entire link is in mountains. The first 4.5 miles have only moderate topographic interest, but such interest is high for the remainder of the link. Also within this stretch, water and wetlands

interest is rated moderate and variety and contrast is rated low. For the next 2.5 miles neither of these is a factor, however The next 7.5 miles are distinguished by high variety and contrast due to a high number of abandoned agricultural fields. The final mile is influenced by townscape views of Kidderville and Upper Kidderville.

| | |
|---|---|
| Very Low | |
| Low | |
| Moderate | |
| High | - 17 1 |
| Very High | - 30.8 |
| Exceptional | - 52.1 |

Absorption is mixed throughout the link. Unwooded areas are rated moderate unless they occupy north-facing slopes of hills and mountains, in which case they are rated high. Wooded north-facing conditions are rated moderate. All other areas are rated low except the area between miles 2-3, where the pinnacle of Roundtop Mountain is approached.

Link 18: The entire link is rated exceptional (6.00). The whole link is in mountains with high topographic interest and has high variety and contrast provided by abandoned agricultural fields. All but the first two miles are also affected by views of Kidderville and Upper Kidderville.

| | |
|---|---|
| Very Low | - |
| Low | - |
| Moderate | - |
| High | - |
| Very High | - |
| Exceptional | - 100.0 |

Absorption is low on the mountainside and high in the unwooded, gently rolling terrain of the valley.

Link 18A: All six miles of this link are rated exceptional (6.00). All areas are in mountains with high variety and contrast, and topographic interest. The first two miles are also affected by views of Kidderville and Upper Kidderville.

| | |
|---|---|
| Very Low | - |
| Low | - |
| Moderate | - |
| High | |
| Very High | |
| Exceptional | 100.0 |

Absorption ratings are mixed. Gently rolling terrain is rated high, with all north-facing and unwooded slopes rated moderate. Other mountainsides are rated low.

Link 19: The entire link is rated exceptional for landscape quality. It traverses mountains with high topographic interest and variety and contrast, owing to the presence of numerous agricultural fields. Along miles 2-6.5, townscape views of Kidderville and Upper Kidderville are possible.

None -
Low -
Moderate -
High -
Very High -
Exceptional - 100.0

Link 20: The average landscape quality value for this link is below very high (4.79). The entire link is in mountains with high topographic interest. There is variation in the effect of water and wetlands. Water and wetlands interest is absent for the first 2.2 miles, rated moderate for the next 1.8 miles due to the proximity of Nash Bog Pond, and rated low for the remainder of the link.

Very Low -
Low -
Moderate -
High - 21.0
Very High - 79.0
Exceptional -

Absorption is predominently low except for a stretch of north-facing mountainsides near the end of the link.

Link 21: The average landscape quality value for link 21 is below very high (4.81). The entire link is in mountains with high topographic interest. The first 2.4 miles also have low water and wetlands values, and miles 0.5-2.4 have high variety and contrast ratings due to the presence of agricultural fields in the valley of the Upper Ammonoosuc. The remainder is rated high, with a moderate water and wetlands influence (Upper Ammonoosuc) and low variety and contrast. Also influential are views toward the industrial town of Groveton.

Very Low -
Low -
Moderate -
High - 51.7
Very High - 15.5
Exceptional - 32.8

Absorption is low throughout.

Link 22: The entire link is rated very high (5.00). All of it lies in mountains with high topographic interest. Water and wetland values are low, and existing agricultural fields bring about a moderate rating for variety and contrast. The southern third, however, is affected by views of the transportation corridor and associated development south of Beach Hill.

Very Low
Low
Moderate
High -
Very High - 100.0
Exceptional -

Absorption is low throughout.

Link 23: All of the link is rated very high (5.00). Situated in mountains with high topographic interest, the link also has low water and wetlands values and moderate variety and contrast.

Very Low
Low
Moderate
High -
Very High - 100.0
Exceptional -

Absorption is low.

Link 24: The entire link is rated very high (5.00). It is entirely within mountains with high topographic interest. The Upper Ammonoosuc gives water and wetlands interest a low value, whereas existing agricultural fields provide moderate variety and contrast. Approximately the last mile is affected by the transportation corridor and accompanying urban development at the foot of the Pilot Range of the White Mountains to the south.

Very Low -
Low -
Moderate -
High -
Very High - 100.0
Exceptional -

Absorption is low, except for one small patch of unwooded rolling terrain which is rated moderate.

Link 25: The average landscape quality value for link 25 is above very high (5.14). The entire link lies within mountains with high topographic interest. The first 3.4 miles have low ratings for water and wetlands, and variety and contrast. The subsequent 4.2 miles are of exceptional quality, with high water and wetlands values due to the presence of Kennebago Lake, and low variety and contrast. Miles 11-12.8 have low water and wetlands values associated with the Cupsuptic River Water and wetlands values increase to high for the remainder of this link, around Cupsuptic Lake.

| | |
|---|---|
| Very Low | - |
| Low | - |
| Moderate | - |
| High | - 24.3 |
| Very High | - 37 1 |
| Exceptional | - 38.6 |

Absorption is predominantly low with an occasional small patch of unwooded rolling terrain.

Link 26: The entire link is rated exceptional (6.00). All of the link is located in mountains with high topographic interest. Differences occur primarily in values for water and wetlands. The first 3.3 miles are rated high, whereas the remainder of the link is rated exceptional for this factor due to the abundance of water features throughout the landscape -- Cupsuptic, Aziscohos, Upper Richardson, and Mooselookmeguntic Lakes and Richardson, Beaver, and Little Beaver Ponds. Miles 5.2-7.6 are further distinguished in that the route crosses a primary area of interest -- Observatory Mountain.

| | |
|---|---|
| Very Low | - |
| Low | - |
| Moderate | - |
| High | - |
| Very High | - |
| Exceptional | - 100.0 |

Absorption is low except for some north-facing mountainsides, where it is rated moderate, and some mountain and hilltops between miles 5-7 Most critical among these is the pinnacle of Observatory Mountain, located near mile 7

Link 27: All of this link is exceptional (6.00) for landscape quality. The first three miles are rated only high for water and wetlands, as opposed to the exceptional rating given to the rest of the link. Water bodies include Cupsuptic, Upper Richardson, and Mooselookmeguntic Lakes, and Richardson, East Richardson, Beaver, and Little Beaver Ponds.

| | |
|---|---|
| Very Low | - |
| Low | - |
| Moderate | - |
| High | - |
| Very High | - |
| Exceptional | - 100.0 |

Absorption is predominantly low. However, some north-facing mountainsides and unforested rolling terrain are rated moderate and high, respectively.

Link 28: The average landscape quality value for this link is below very high (4.70). The first 0.2 mile reflects the values of the ends of links 26 and 27, and is rated exceptional. The entire link is in mountains with high topographic interest. Miles 0.2-5.2 are rated very high with low water and wetlands values. Variety and contrast are rated

low for miles 3.2-5.2 in the Magalloway River Valley. The final 1.7 miles are rated high.

| | |
|---|---|
| Very Low | - |
| Low | - |
| Moderate | |
| High | - 32.5 |
| Very High | - 64.9 |
| Exceptional | - 2.6 |

Absorption is low except in the area of a north-facing mountainside at the end of the link, where it is rated moderate.

Link 29: The average landscape quality value for this link is below very high (4.81). The first mile is rated high, the remainder, very high. The entire link is in mountains with high topographic interest. The final 4.2 miles are rated moderate for variety and contrast and high for water and wetlands, due to the proximity of Dustan, Akers, Greenough, and Little Greenough Ponds.

| | |
|---|---|
| Very Low | - |
| Low | - |
| Moderate | |
| High | 19.2 |
| Very High | - 80.8 |
| Exceptional | - |

Absorption is low except in a few small unwooded areas on gently rolling terrain.

Link 30: The average landscape quality value for this link is between high and very high (4.43). The entire link is in mountains with high topographic interest. In addition, the last 2.3 miles have moderate variety and contrast and high water and wetlands values due to the proximity of Akers, Greenough, Little Greenough, Round, Long, and Bear Brook Ponds.

| | |
|---|---|
| Very Low | - |
| Low | - |
| Moderate | |
| High | 56.6 |
| Very High | 43.4 |
| Exceptional | - |

Absorption is predominantly low with small, unwooded, gently rolling terrain areas rated high, and unwooded hillsides or wooded north-facing hillsides woods rated moderate.

Link 31: The average landscape quality value for this link is below very high (4.95). The entire link is in mountains with high topographic interest. The first 2.9 miles reflect the conditions at the end of links 29 and 30, and are rated exceptional. The following 2.4 miles are rated high. Miles 5.3-7 7, rated very high, also are rated for water

and wetlands (low). The following 1.6 miles are rated high, whereas the remainder of the link is rated very high. Miles 9.3-13.3 have low variety and contrast and moderate water and wetlands values due to the presence of Dummer Ponds and a large marsh north of mile 12. The next three miles have a moderate value for variety and contrast as a result of agricultural fields near the town of Criptal, New Hampshire. The remainder of the link has moderate water and wetlands values, due to the presence of Christine Lake and the Ammonoosuc River, and high variety and contrast, resulting from the agricultural fields in the Ammonoosuc Valley. However, a small extent of urban development is also present in the valley.

| | |
|---|---|
| Very Low | - |
| Low | - |
| Moderate | |
| High | 19.7 |
| Very High | 66.0 |
| Exceptional | - 14.3 |

Absorption is predominantly low except for north-facing hillsides and mountainsides, where it is rated moderate. Two small unwooded areas in gently-rolling terrain are rated high.

Link 32: The average rating for link 32 is very high (5.00). The entire link is in mountains with high topographic interest. Moderate water and wetlands interest and variety and contrast are characteristic of the link, which crosses the Upper Ammonoosuc River Valley However, the transportation corridor also located in the valley presents a low rating for views of urban development.

| | |
|---|---|
| Very Low | - |
| Low | - |
| Moderate | - |
| High | - |
| Very High | - 100.0 |
| Exceptional | - |

Absorption is predominantly low, with a small area of moderate absorption on a north-facing hillside at the western edge of the link.

Link 33: The average rating for the link is very high (5.00). The entire link is in mountains with high topographic interest. Variety and contrast is primarily low, except at the western edge of the link, where it is high due to the presence of agricultural fields near Groveton. Water and wetlands interest is moderate in this area, due to views of the Upper Ammonoosuc River and glimpses of the Connecticut River However, in this area, views of urban development -- associated with the industrial town of Groveton -- are rated low.

| | |
|---|---|
| Very Low | - |
| Low | - |
| Moderate | - |
| High | |
| Very High | - 100.0 |
| Exceptional | - |

Absorption is mixed: low values are found on the gently rolling terrain, moderate values on north-facing slopes, and high values within the existing transmission right-of-way and unwooded lowlands.

Link 34: All of the link is rated very high. The values are identical to those for the last part of the previous link.

| | |
|---|---|
| Very Low | - |
| Low | |
| Moderate | - |
| High | - |
| Very High | - 100.0 |
| Exceptional | - |

Absorption is low, except within the existing right-of-way in the center of the proposed route alignment, where it is high.

Link 35: The average landscape quality value for the link is between very high and exceptional (5.63). The link begins in an area of mountains but after 2.3 miles it enters adjacent hills. Topographic interest is high in the mountains, and variety and contrast is high in the Connecticut River Valley. The river and its surrounding wetlands produce high water and wetlands interest. However, Groveton is in full view in this area and its associated urban development is rated low. In the adjacent hills, topographic interest is exceptional, with views from nearby mountains and hills oriented toward the Presidential Range of the White Mountains. Water and wetlands and variety and contrast conditions in this section are identical to those for the first part of the link. Urban development is also the same, however, the townscape views are not of industrial conditions (as found at Groveton), but of the more picturesque conditions of Lancaster, Northumberland, and Guildhall.

| | |
|---|---|
| Very Low | - |
| Low | |
| Moderate | |
| High | |
| Very High | - 36.5 |
| Exceptional | - 63.5 |

Absorption is primarily low, with moderate values on the north-facing slopes of Cape Horn and Beach Hill. The top of Beach Hill near the edge of the route is rated very low.

Link 36: The average landscape quality value for the link is above very high (5.27). Only the first 5 miles -- rated exceptional -- are in mountains. The remainder -- rated very high -- is in adjacent hills.

Topographic interest is exceptional throughout, however, as many hills and mountains within the viewshed are oriented south-to-southeast and have majestic views of the Presidential Range of the White Mountains. Water and wetlands interest is moderate in the western part of the link owing to the influence of Miles, Neal, and other small ponds. Variety and contrast is high in the eastern half of the link due in part to the greater number of agricultural fields in the Connecticut River Valley and fewer number in the uplands.

| | |
|---|---|
| Very Low | |
| Low | - |
| Moderate | - |
| High | - |
| Very High | - 73.3 |
| Exceptional | - 26.7 |

Absorption is predominantly low. A few north-facing slopes are rated moderate and some unwooded rolling terrain is rated high. In addition, secondary hilltops at the edge of the route between miles 6 - 7 are rated very low.

Link 37: The average landscape quality value for the link is between very high and exceptional (5.52). Almost the entire link is in hills adjacent to mountains with exceptional topographic interest afforded by views of the Presidential Range of the White Mountains. The first eight miles are also characterized by the high water and wetlands and variety and contrast conditions provided by the agricultural valley of the Connecticut River. The valley also affords some picturesque townscape views, mixed with low-rated urban development. Thereafter, the link passes through a relatively different area which, although oriented away from the White Mountains, still maintains high topographic interest. Agricultural fields are numerous in this area, providing high variety and contrast; however, the river valley, per se, narrows considerably, reducing water and wetlands values to moderate. Gilman is a semi-industrial town and the urban development in its vicinity is rated moderate. Approximately the last 0.5 mile has a high water and wetlands condition and does not share views of the industrial parts of the valley.

| | |
|---|---|
| Very Low | - |
| Low | - |
| Moderate | - 12.7 |
| High | - 5.1 |
| Very High | - 82.2 |
| Exceptional | - |

Absorption is primarily low except on a few small unforested pieces of land.

Link 38: The average landscape quality value for this link is between moderate and high. Most of the area is in rolling terrain adjacent to mountains. However, approximately the first mile, east of Cape Horn, is located in mountains with good topographic interest, high water and wetlands views, and high variety and contrast. These values are complicated by the views of Groveton and its surrounding urbanization. The

subsequent nineteen miles are in rolling terrain adjacent to mountains with high-to-exceptional topographic interest, depending upon orientation to the White Mountains. Water and wetlands conditions are high due to a large marsh and some small ponds, south of Cape Horn and northeast of Lancaster. Southeast of Lancaster, water and wetlands interest is rated low. Variety and contrast is rated high from the beginning to mile 13.2 and from 23.3 to the end. Elsewhere, primarily east and west of Whitefield, it is rated moderate. Townscape views are possible in the vicinity of Lancaster and Whitefield as are views of Gilman, an industrial town on the Vermont/New Hampshire border Urban development is high around Groveton, but moderate thereafter owing particularly to the extent of settlement in this large valley area and to the existing transmission lines which criss-cross and parallel the proposed alignment.

| | |
|---|---|
| Very Low | - |
| Low | - |
| Moderate | - 45.7 |
| High | - 49.3 |
| Very High | - 5. |
| Exceptional | - |

Absorption is predominantly moderate. Some areas of more rugged, wooded terrain are rated low and much land -- particularly that occupied by existing transmission rights-of-way -- is rated high. A very low rating is assigned along mile 21 where a ridgetop on Dalton Mountain is crossed.

Link 39: All of this link is rated high (4.00). The area is in hills adjacent to mountains with high topographic interest. Water and wetlands interest is high due to the presence of the Moore Reservoir. In addition, the agricultural hillsides in the area provide high variety and contrast. Urban development, represented primarily by other existing transmission rights-of-way in the area, is rated moderate.

| | |
|---|---|
| Very Low | - |
| Low | - |
| Moderate | - |
| High | - 100.0 |
| Very High | - |
| Exceptional | - |

Absorption is mostly low except for some patches of unwooded hillsides and the existing right-of-way which are rated high.

Link 40: All of link 40 is rated high (4.00). The conditions are identical to those for link 39. Its moderate urban development rating may be attributed primarily to the area around the Moore Dam and the transmission facilities and lines which converge there.

| | |
|---|---|
| Very Low | - |
| Low | - |
| Moderate | - |
| High | - 100.0 |
| Very High | - |
| Exceptional | - |

Absorption conditions are identical to those for the previous link.

Link 41: Because this link connects the transmission line proposal to the existing substation at Moore Dam, the conditions for this link are identical to those for link 40.

| | |
|---|---|
| Very Low | - |
| Low | - |
| Moderate | - |
| High | - 100.0 |
| Very High | - |
| Exceptional | |

Absorption is approximately the same as that for the previous two links. However, the numerous existing transmission facilities in the immediate area make it somewhat more absorptive.

Segment 'D'

Link 42: Link 42 is rated high (4.0). The entire link traverses hills adjacent to mountains and the surrounding mountains provide high topographic interest. High ratings for water and wetlands and variety and contrast are attributable to the proximity of the Connecticut River and to routing through the river's agricultural valley. Urban development, however, is moderate owing primarily to the existing transmission facilities associated with the Frank D. Comerford Hydroelectric Plant and to roads and railroads on the Vermont side of the river.

| | |
|---|---|
| Very Low | |
| Low | - |
| Moderate | - |
| High | - 100.0 |
| Very High | - |
| Exceptional | - |

Absorption is mixed. Unwooded, north-facing hillsides are rated high; wooded ones, moderate. Other areas are rated low except for a secondary hilltop which is traversed at the 7 mile mark.

Link 43: The average site attractiveness value for the link is between high and very high (4.40). All but a small section of this link -- between miles 13-17.4. which is in mountains -- is in hills adjacent to mountains. The first 9.1 miles have moderate topographic interest, but the remainder of the link is rated high. Also within the first 9 miles, there are many townscape views (the Peacham and Barnet areas), which enhance the landscape quality. Within the first 0.5 mile, however,

views of industrial towns like Monroe and McIndoe Falls are more likely. Also within this section, variety and contrast is high due to the large degree of agricultural activity. Water and wetlands interest is low for miles 3-9.1 due to the low influence of Harvey Lake and Mud and Forter's Ponds. For about the next eight miles, variety and contrast are low due to the more rugged nature of the terrain which diminishes the extent of agricultural land. Water and wetlands interest is high around Peacham Pond and low between miles 13-18 where Kettle, Laird and other small ponds are located. For the remainder of the link, variety and contrast are high as agricultural fields dominate the landscape and water and wetlands interest is low in the vicinity of Orange and lower Orange Reservoir, which supply the Barre, Vermont area with water. Between miles 26.7-29.5, townscape views of East Barre, Websterville, and Upper Graniteville are influential. There are no such views in the last mile; urban development here is rated low due to the proximity of an existing transmission line.

| | |
|---|---|
| Very Low | - |
| Low | - |
| Moderate | - 3.0 |
| High | - 53.9 |
| Very High | - 43.1 |
| Exceptional | - |

Absorption is mostly low. North-facing hillsides are rated moderate and unforested rolling terrain is rated high. Local peaks, crossed at miles 3.5 and 8, are rated very low for absorption.

Link 44: The average landscape quality value for this link is above high (4.07). The link begins and ends in hills adjacent to mountains and traverses mountains from miles 5.3-13.3. Topographic interest is high for the first four miles. Water and wetlands interest and variety and contrast are high, again owing to the make-up of the Connecticut River Valley. Views of the semi-industrial towns of McIndoe Falls, Vermont, and Monroe, New Hampshire are influencial Urban development in this portion is rated moderate. For the next 1.3 miles, water and wetlands interest is low as only Upper and Lower Hymes Ponds are present, and urban development is rated low with only the existing transmission line being of importance. In the mountain areas between miles 9-10, where the Wells River is crossed, water and wetlands interest is low. The subsequent two miles offer townscape views of Groton and, as everywhere else on the link, urban development is rated low here due to the existing parallel transmission line. Variety and contrast in this area is high. From miles 13.3-18.4, variety and contrast is rated low. This area is more hilly and has less agricultural activity. From here to the end of the link, however, variety and contrast are higher as the link is aligned away from the Knox Mountains. Water and wetlands interest is low between miles 19-20, where only Riddle Pond is of any consequence.

| | |
|---|---|
| Very Low | - |
| Low | - |
| Moderate | - 22.8 |
| High | - 47.8 |
| Very High | - 29.4 |
| Exceptional | |

Absorption is mixed. North-facing slopes are rated moderate, some unwooded, rolling terrain and the existing transmission right-of-way are rated high. All other areas are rated low, except for a hill crossing at the edge of the route (mile 1), and the crossing of the top of Fuller Hill (near mile 16).

Link 45: This link is rated moderate 3.00. The area is in hills adjacent to mountains with only moderate topographic interest. Variety and contrast are rated high due to numerous agricultural fields. Urban development is rated low because the existing transmission line is the only evidence of urban land use.

| | |
|---|---|
| Very Low | - |
| Low | - |
| Moderate | - 100.0 |
| High | - |
| Very High | - |
| Exceptional | - |

Absorption is predominantly high through the agricultural fields, particularly alongside the existing line. Small patches of moderate and low absorption are also present.

Segment 'E'

Link 45A: Link 45A is rated moderate (3.00), with characteristics identical to those described for the previous link.

| | |
|---|---|
| Very Low | - |
| Low | - |
| Moderate | - 100.0 |
| High | - |
| Very High | - |
| Exceptional | - |

Absorption is primarily high in the agricultural fields, and low in the wooded areas.

Link 45B: All of this link is rated moderate (3.00). The link is located in hills with high topographic interest. Variety and contrast is rated high and urban development is rated low because of the existing transmission line.

| | |
|---|---|
| Very Low | - |
| Low | - |
| Moderate | - 100.0 |
| High | - |
| Very High | - |
| Exceptional | - |

Absorption is moderate except for the crossing of the Stevens Branch Valley, which is rated low.

Link 45C: All of the link is rated moderate (3.00). The conditions are the same as those for link 45B.

| | |
|---|---|
| Very Low | - |
| Low | - |
| Moderate | - 100.0 |
| High | - |
| Very High | - |
| Exceptional | |

Absorption is identical to that for the previous link.

Link 46: The average landscape quality value for the link is low (2.01). The link is entirely in hills with high topographic interest and high variety and contrast. About the first two miles are rated moderate and have conditions identical to those for the previous two links. The next 3.8 miles, rated low, differ from the first part of the link in that views are oriented toward Barre City, with an associated high rating for urban development.

| | |
|---|---|
| Very Low | - |
| Low | - 56.7 |
| Moderate | - 28.4 |
| High | - 14.9 |
| Very High | - |
| Exceptional | - |

Absorption is mixed. North-facing slopes rate high. Very low absorpability is assigned to the crossing of West Hill near mile 4 and to ridgetops between miles 1-2.

Link 47: The average landscape quality value for the link is above moderate (3.29). The first third is in hills whereas the latter two thirds are in hills adjacent to mountains. Agricultural fields throughout provide high variety and contrast with adjacent woodlots. The last three miles have low water and wetlands interest due to the proximity of the Winooski River. The first two miles -- in the Barre-Montpelier industrial corridor -- have a low value for urban development, whereas, approximately the last two miles -- located nearer the Winooski Valley -- are rated moderate.

| | |
|---|---|
| Very Low | - |
| Low | - |
| Moderate | - 71.4 |
| High | - 28.6 |
| Very High | - |
| Exceptional | |

Absorption is mixed. The valley floor is rated low. North-facing slopes and the existing transmission right-of-way are rated high. Except for a hilltop traversed within the first mile, the remaining area is rated moderate.

Link 47A: The average landscape quality value for this link is below high (3.82). The entire link is in mountains with high topographic interest. The Winooski River provides low water and wetlands interest. Variety and contrast is moderate, and for about the last 0.5 mile, views of the town of Middlesex provide further interest.

| | |
|---|---|
| Very Low | - |
| Low | - |
| Moderate | - 17.6 |
| High | - 82.4 |
| Very High | - |
| Exceptional | - |

Absorption is low in the Winooski Valley and moderate along the north-facing slopes to the south.

Link 48: The average landscape quality value for this link is between moderate and high (3.60). The entire link is in mountains with high topographic interest. Depending upon the particular configuration of the Winooski River, water and wetlands interest may vary from low to moderate. Variety and contrast is predominantly moderate, but high in the vicinity of Waterbury. Urban development is also predominantly moderate, except around Waterbury where it is high. Waterbury is an industrial town visible from a large part of its surrounding area.

| | |
|---|---|
| Very Low | - |
| Low | - |
| Moderate | - 60.3 |
| High | - 19.2 |
| Very High | - 20.5 |
| Exceptional | - |

Absorption is mostly low, particularly in the valley. Moderate values are given to north-facing slopes, and low values to some open areas of rolling terrain and to the area within the existing parallel transmission right-of-way.

Link 49: The average landscape quality value for this link is above moderate (3.29). Approximately the first half is in mountains. The last half is in hills adjacent to mountains, with the final mile in rolling terrain adjacent to mountains. Topographic interest is high for

the entire link. Being situated in the Winooski Valley, water and wetlands are rated moderate. In the western half, however, views of industrial sections of Richmond and Jonesville are probable. The final 1.1 miles of this link are rated very low overall.

| | |
|---|---|
| Very Low | - 9.0 |
| Low | |
| Moderate | 44.3 |
| High | 46.7 |
| Very High | |
| Exceptional | |

Absorption is predominantly low for the first 10 miles. Small, unwooded pieces of land on rolling terrain and land occupied by the existing parallel transmission right-of-way, however, are rated high. The final two miles on the Winooski Valley floor are rated low except for a large area of rolling terrain, which is rated high.

Link 50: The average landscape quality value for this link is below high (3.87). The link traverses three physiographic categories: hills, hills adjacent to mountains, and mountains. Topographic interest is high throughout. Variety and contrast is high in the hills and moderate elsewhere. Water and wetlands interest for miles 1.2-2.1 is low due to the crossing of the Dog River Urban development is also rated low in the area traversing the valley. Water and wetlands and urban development are also factors within the last two miles, and are rated low and moderate, respectively.

| | |
|---|---|
| Very Low | |
| Low | |
| Moderate | 13.0 |
| High | - 87.0 |
| Very High | |
| Exceptional | - |

Absorption is mixed, but rated predominantly low. Very low ratings are assigned to hill crossings within the first mile and at mile 4.

Link 51: The link is rated high (4.00). It is located in mountains with high topographic interest, low water and wetlands interest, moderate variety and contrast, and moderate urban development, due to its proximity to the Winooski Valley.

| | |
|---|---|
| Very Low | - |
| Low | - |
| Moderate | - |
| High | - 100.0 |
| Very High | - |
| Exceptional | - |

Absorption is moderate due to location on north-facing slopes.

Link 52: The average landscape quality value for the link is between moderate and high (3.55). The conditions for the first 1.2 miles are identical to those for link 51. The remainder of the link, rated moderate, is located in mountains with high topographic interest, low water and wetlands interest, and moderate variety and contrast due to the presence of the Green Mountains and the Winooski River Valley. However, there are views of the industrial town of Middlesex and the moderate urban development in its vicinity.

| | |
|---|---|
| Very Low | - |
| Low | - |
| Moderate | - 45.5 |
| High | - 54.5 |
| Very High | |
| Exceptional | - |

Absorption is moderate.

Link 53: Link 53 is rated moderate. Located south of the town of Middlesex, it is in mountains with high topographic interest, low water and wetlands interest, moderate variety and contrast, and moderate urban development.

| | |
|---|---|
| Very Low | - |
| Low | - |
| Moderate | - 100.0 |
| High | - |
| Very High | |
| Exceptional | |

Absorption is low in the Winooski Valley and moderate elsewhere.

Link 54: The average landscape quality value for this link is below high (3.89). The link is situated entirely in mountains with high topographic interest. Its proximity to the Winooski Valley results in an urban development rating of moderate. Variety and contrast is also rated moderate throughout due to the influence of the remnant agricultural lands in the valley. Water and wetlands interest is low for the first 2.3 miles, zero for the next 3.5 miles, and moderate where the last part of the link again approaches the valley floor and the Winooski River

| | |
|---|---|
| Very Low | |
| Low | - |
| Moderate | - 10.7 |
| High | - 89.3 |
| Very High | - |
| Exceptional | - |

Absorption is mixed. It is moderate on north-facing slopes and high everywhere else except for unwooded patches of rolling terrain and for areas within the existing parallel transmission line right-of-way

Link 55: This link is rated very low (1.0). The area is entirely in rolling terrain, but the surrounding hills and distant mountains provide high topographic interest. Variety and contrast is high on this once highly-productive agricultural land, but water and wetlands interest is only moderate as the Winooski River winds in and out of the route. Views of industrial areas are prevalent and urban development is rated moderate, as one might expect in an area so close to the city of Burlington.

| | |
|---|---|
| Very Low | 100.0 |
| Low | - |
| Moderate | - |
| High | - |
| Very High | - |
| Exceptional | - |

Absorption is predominantly high in the rolling unwooded terrain. One hillside is rated moderate and the Winooski Valley is rated low.

Link 56: All of this link is rated very low (1.0), with conditions identical to those for link 55.

| | |
|---|---|
| Very Low | - 100.0 |
| Low | - |
| Moderate | - |
| High | |
| Very High | - |
| Exceptional | - |

Similar to the previous link, absorption is high except in the Winooski Valley where it is rated low.

Visually Sensitive Land Uses

Segment 'A'

Link 1: Numerous small residential clusters occur within the viewshed, especially along State Highway 161. The communities of St. Francis, Bradbury, St. John, Wheelock, Ledges, Pierre, and the southern part of Fort Kent Village are also within the viewshed. There are 1.5 miles of ADT 750-3000, primarily Highway 161, in the viewshed. The highway is crossed once by the route. The viewshed contains an additional 21.5 miles and two route crossings of ADT 0 - 750 roads. An historic site, the Villa D'Aigle House, in St. Francis is outside the corridor but within the viewshed.

Link 1A: The route should be visible from a few residences along a short stretch of State Highway 161 near Lincoln School

Link 1B: The line should be visible from a small residential cluster on Highway 161 northeast of Lincoln School.

Link 1C: Residences in and around Fort Kent Mills are within the viewshed. Additional residences are scattered along the Fish River. State Highways 11 and 161 (ADT 750-3000) traverse the viewshed for 2 miles. The link crosses Highway 161 near the Fish River Substation.

Link 2: The community of Violette Settlement is entirely within the viewshed. Other residences are scattered along Highway 11 east of Pinette Hill and south of Bossy Mountain. Within this viewshed, Highway 11 (ADT 750-3000; 2 miles) is crossed once; there are 4 miles of ADT 0-750 road.

Link 3: There are several residences within the viewshed, particularly along Highway 161, near McKinley and Lindberg Schools. About 8.4 miles of Highway 161 (ADT 0-750) transect the viewshed.

Segment 'B'

Link 4: The viewshed contains 6.5 miles of ADT 0-750 road, much of it private. There are no other visually sensitive land uses within the viewshed.

Link 5: One residence (Gannett Camp) is within the viewshed. There are also 15.5 miles of private road (ADT 0-750), much of which parallels the proposed line. The roads are crossed in three places.

Link 6: Within the viewshed, 7 5 miles of private road (ADT 0-750) is crossed once by the route. There are no other visually sensitive land uses.

Link 7: There are 4.5 miles of private road (ADT 0 - 750) and one crossing within the viewshed. No other visually sensitive land uses are present.

Link 8: The viewshed contains 11.5 miles of ADT 0-750 private road. There are seven route crossings. No other visually sensitive land uses are present.

Link 9: Gannett Camp on the west shore of Chemquasabamticook Lake is within the viewshed, along with 13.5 miles of mostly private road (ADT 0-750). The roads are crossed in seven places.

Link 9A: Within the viewshed are two residential clusters, west of the town of Long Pond, Maine on the south shore of Long Pond. The few residences comprising Blair, Maine are also included. 2.5 miles of ADT 0-750 road parallels the Moose River to its entrance into Long Pond.

Link 10: No visually sensitive land uses are present within the Link 10 viewshed.

Link 10A: No visually sensitive land uses are present within the Link 10A viewshed.

Link 11 (1st 7.2 miles): There are a few scattered residences along U.S. Highway 201 near the Moose River substation site. The highway (ADT 750-3000) transects the viewshed for 2 miles and is crossed near the substation site. 2.5 miles of ADT 0-750 roads are also within this viewshed.

Link 11A: No visually sensitive land uses occur within the viewshed.

Link 12 (1st 1.0 miles): The viewshed contains 0.2 miles of State Highway 15, which is crossed once. There are no other visually sensitive land uses.

Segment 'C'

Link 11 (Mile 7.2 to end): A single residence occurs on the eastern shore of Round Mountain Pond. There are 15.5 miles of ADT 0-750 roads and seven crossings within the viewshed. Additionally, a 0.5 mile stretch of Canadian Pacific Railroad (a passenger line) crosses the route between mile 20-21.

Link 12 (Mile 1.0 to end): Within the viewshed are residential clusters southeast of Jackman Station, Maine along U.S. Highway 201, northwest of Eustis Ridge, and north of Eustis, Maine on State Highway 27. Scattered residences occur in the Jackman Station vicinity. A 5.5 mile stretch of U.S. 201 (ADT 750-3000) runs across the viewshed, with one route-crossing. Tim Pond Road (ADT 0-750) weaves through the lower route for about 15 miles and is crossed nine times. A portion of State Highway 15 is also within the viewshed.

Link 12A: There are three miles of ADT 0-750 roads, one of which is crossed in three places. No other visually sensitive land uses are present in the viewshed.

Link 13: Except for a few miles of unimproved road, there are no visually sensitive land uses present in the viewshed.

Link 13A: Five miles of Tim Pond Road (ADT 0-750) traverse the viewshed, running generally parallel to the route. No other visually sensitive land uses are present.

Link 14A: No visually sensitive land uses occur within the viewshed.

Link 14: There are no visually sensitive land uses within the viewshed.

Link 15: No visually sensitive land uses are present in the viewshed.

Link 16: The route is within view of the Parmachenee Club and a few residences scattered along the shores of Lake Parmachenee.

Link 17: Along the northwest shore of First Connecticut Lake, Currier and Varney Camps and The Glen are within the viewshed. There are also 2.5 miles of ADT 0-750 road in this area.

Link 17A: Near the link terminus the viewshed contains two medium-density clusters of resort residences and a couple of single residences along the southwest shores of Diamond and Little Diamond Ponds. 1.2 miles of ADT 0-750 road connect the two lakes.

Link 17B: The communities of Kidderville and Upper Kidderville, NH are within the viewshed near the link terminus. There is also a small cluster near a State Fish Hatchery on the Mohawk River Scattered residences occur on secondary roads throughout the lower portion of the viewshed. 3.2 miles of State Highway 26 (ADT 750-3000) traverse the viewshed. There are 26.6 miles of ADT 0-750 roads, four of which are crossed.

Link 18: Residences are scattered evenly throughout the viewshed. Kidderville and Upper Kidderville, NH and a small residential cluster near the State Fish Hatchery are within the viewshed. A 3 mile portion of State Highway 26 (ADT 750-3000) transects the viewshed near its terminus. There are 15 miles and 4 crossings of ADT 0-750 roads.

Link 18A: Within the viewshed there is a small residential cluster along State Highway 26 just east of Mohawk School. Other residences are scattered throughout the western half of the viewshed. 2.9 miles of the highway (ADT 750-3000) traverse the viewshed west of Kidderville; the highway is crossed within the first mile of the link. There are an additional 5.5 miles and two crossings of ADT 0-750 road. An historic site -- a badly deteriorated 19th century barn -- is within the corridor, on a secondary road south of New Hampshire Route 26.

Link 19: Occurrences of visually sensitive land uses are virtually the same as for the link 18 viewshed and the lower portion of the link 17B

viewshed, except that the Link 19 viewshed extends south to include scattered residences around Bangy. Union, and Cleveland Schools, and Marshall and Cilley Hills. 24.8 miles, with three crossings, of ADT 0-750 roads traverse the viewshed, in addition to 4.1 miles and one crossing of State Highway 26 (ADT 750-3000).

Link 20: A small residential cluster occurs at the confluence of Long Mountain Brook and Nash Stream, with another on the south shore of Nash Pond Bog. There are no other visually sensitive land uses.

Link 21: Several residential clusters surrounding Groveton, New Hampshire are within the viewshed near the link terminus. There are also 1.6 miles and one route-crossing of ADT 750-3000 roads and 9 miles (including streets within Groveton), with two route-crossings, of ADT 0-750 roads.

Link 22: A residential cluster occurs in the viewshed east of Mile Swamp. Several other residences are scattered along the Upper Ammonoosuc River. Including a portion of State Highway 110, a total of 10.5 miles of ADT 0-750 roads traverse the viewshed. The route crosses these roads in three places.

Link 23: The link 23 viewshed contains a couple of residences along Nash Stream west of the route. No other visually sensitive land uses are present.

Link 24: Within the viewshed are two relatively dense residential clusters, one northeast of where the route crosses Jimmy Cole Brook and another on the northwest shore of Christine Lake. Scattered residences occur near the route along the road southeast of Emerson School. There are some mobile homes within the route near the link terminus.

Link 25: The communities of Kennebago and Grants, Maine are within the viewshed. Other residential clusters include Otter Camp, Grants Camp, Cupsuptic Sporting Camp, and Moocher's Home. Scattered residences occur along the shores of Kennebago and Little Kennebago Lakes. There are eight miles and one crossing of ADT 0-750 roads.

Link 26: 4.5 miles of State Highway 16 (ADT 0-750) cross the viewshed, intersecting the route between miles 6-7. There are no other visually sensitive land uses.

Link 27: Two miles of State Highway 16 (ADT 0-750) cross the viewshed. The road is crossed near mile 3. No other visually sensitive land uses are present.

Link 28: The community of Wilson's Mill is within the viewshed. There is a small residential cluster near the route, southwest of Diamond Peaks. Homes are scattered along State Highway 16 (ADT 0-750) which traverses the route for 4.5 miles and is crossed by mile 4.

Link 29: The viewshed contains a small residential cluster on the north shore of Greenough Pond. No other visually sensitive land uses are present.

Link 30: The viewshed contains a small residential cluster on the north shore of Greenough Pond. No other visually sensitive land uses are present.

Link 31: The viewshed contains residences scattered along State Highways 26 and 110. The towns of Errol, Stark, and Percy, New Hampshire, along with residential clusters on the east shore of Akers Pond and the south shore of Bragg Pond, are in the viewshed. 19 miles of ADT 0-750 roads, including portions of Highways 26 and 110, traverse the viewshed; the former is crossed near the 1.5 mile mark.

Link 32: There is a residential cluster within the viewshed southwest of Stark, New Hampshire and one just east of Mile Swamp. Other homes are scattered in the vicinities of Emerson and Blake schools. 6 miles of ADT 0-750 road traverse the viewshed. The route crosses two of these roads.

Link 33: The viewshed contains 6 scattered residences near Ames Creek in New Hampshire and 1.3 miles, with one route-crossing, of ADT 0-750 road.

Link 34: The viewshed contains the eastern portion of Groveton, New Hampshire, a few scattered homes near Moore Brook in New Hampshire, and 2 miles of ADT 0-750 roads.

Link 35: Communities inside the viewshed include the western portion of Groveton, New Hampshire, Stevens, Guildhall, and Guildhall Station, Vermont, and Northumberland, New Hampshire. Additional residential clusters in New Hampshire occur interspersed along U.S. Route 3 between Groveton and the Lincoln County Fairgrounds. In Vermont, there are homes scattered between the city of Guildhall and Central School. There are 8.5 miles of ADT 750-3000 road (Route 3; crossed once) and 20.5 miles of ADT 0-750 road (including Route 102) running through the viewshed. Within the corridor are two historic structures, both 19th century frame houses, near the link terminus. Historic sites outside the corridor but within the viewshed include the Guildhall Common area, the former Central School,and Old Home Crawford, all within Guildhall, Vermont.

Link 36: Residential clusters in the viewshed occur on the north shore of Miles Pond and the northeast shore of Shadow Lake. Other homes are unevenly scattered across the viewshed, with minor concentrations east of Mt. Tug, east of Halibut Mountain, and near the Connecticut River-Sheridan Brook confluence. 18.2 miles of ADT 0-750 roads run throughout the viewshed. The route crosses such roads in seven places.

Link 37: The viewshed contains the communities of Mill Village, Lunenburg, and the eastern edge of Gilman, Vermont, and most of Lancaster, New Hampshire. There are small clusters north of South Lunenburg, Vermont and in the vicinity of South Lunenburg School. Single residences are

scattered over the flanks of Baptist and Wallace Hills and Colby Mountain, and along the Connecticut River 8.3 miles of ADT 750-3000 road, primarily New Hampshire Route 135, occur within the viewshed, as do 43.7 miles of ADT 0-750 roads. The latter intersect the route in seven places. The Benton House and the former Riverside School, in Guildhall, are historic sites within the viewshed but outside the corridor.

Link 38: The viewshed contains the communities of Groveton, Jefferson, Whitefield, Hazens, and Cushman Union, New Hampshire, and Gilman, Vermont. Clusters occur east of Lancaster, New Hampshire; along New Hampshire route 135 between Bunker Hill and Elm Ridge; along the entire western base of Mt. Starr King; and near East Whitefield School, Mirror Lake, Obsurn School, and Barns Pond. A total of 13 miles of State Highways 135 and 116 and U.S. 2 (ADT 750-3000) traverse the viewshed. Each of the latter two crosses the route. There are also 55.8 miles and 13 route crossings of ADT 0 - 750 roads. Historic sites in the corridor include a number of 19th century frame houses along U.S. 2 in Whitefield, New Hampshire, and a two story red brick house. Sites outside the corridor but within the viewshed include a covered bridge (circa 1862), a brickyard, the Holton House Historical Museum, and the Thaddeus S.C. Lowe birthplace.

Link 39: There is a small cluster of homes on the northwestern shore of Shadow Lake. Most residences are distributed evenly across the viewshed, usually at a sizable distance from the route itself There are 16.1 miles of ADT 0-750 roads, including part of New Hampshire route 135. The route crosses such roads at both ends of the link. An historic cemetary lies within the last mile of the route.

Link 40: The eastern portion of Lower Waterford, Vermont, is within the viewshed. A small residential cluster occurs on Highway 18 southeast of Lower Waterford. Other homes are scattered throughout the viewshed on secondary roads. State Highway 18 (ADT 750-3000) traverses the viewshed for 3.4 miles and is crossed near Moore Dam. 9.6 miles of ADT 0-750 roads criss-cross the viewshed. The route crosses one of these.

Link 41: The link is within view of two residences. There are no other visually sensitive land uses.

Segment 'D'

Link 41: (see above)

Link 42: The viewshed contains the communities of Lower Waterford, East Barnet, and part of Barnet, Vermont. In New Hampshire, residences occur scattered along Highway 135. In Vermont, single residences are interspersed on secondary roads along the Connecticut River A portion of U.S. 5 (ADT 750-3000) traverses the viewshed for 4 miles, crossing route once. There are also 29.2 miles and 4 crossings of ADT 0-750 roads. Within the route are two historic sites near mile 8, including Overlook Cemetary.

Link 43: The viewshed contains the towns of Barnet Center, Peacham, South Peacham, Green Bay, Lonesboro and East Barre, Vermont. There are also numerous small residential clusters, particularly along the shores of Harvey Lake, Martins Pond, and Peacham Pond. Residences are scattered throughout the route area and the viewshed. State Highway 110 and U.S. 302 (ADT 750-3000) traverse the viewshed for a combined total of 3.5 miles; each is crossed southeast of East Barre. There are also 8 miles and one crossing of ADT 0-750 roads. Historic sites in the corridor are found in the vicinity of miles 5, 6, 8, and 20. Other historic sites within the viewshed include a blockade and stockade site, the Peacham Academy (1797), and a 19th century farmhouse.

Link 44: The communities of Barnet, McIindoe Falls, Groton, and Washington, Vermont, and Moore, New Hampshire are within the viewshed. Small residential clusters occur in New Hampshire between Stevens Island and Monroe; and, in Vermont, north of Haden Hill, north of Washington, and along U.S. Highway 302 near Lower Orange Reservoir. There are also numerous single residences throughout the viewshed. 13 miles of ADT 750-3000 roads (State Highways 110 and 135; U.S. Routes 5 and 302) are crossed in three places. More than 53 miles and 17 crossings of light-duty (ADT 0-750) roads intersect the viewshed. Within the corridor, there are historic sites near mile 12. Outside the corridor but within the viewshed are a 19th century farmhouse, the Washington Creamery. Catholic, Universalist and Baptist Churches, the Washington House and the E.P Parker Hotel, all in Washington, Vermont.

Link 45: Scattered residences are present in the route and surrounding viewshed in the first mile. 4.5 miles with 3 route-crossings, of ADT 0-750 roads traverse the viewshed.

Segment 'E'

Link 45A: A relatively dense cluster of residences lies north of Granite Substation and extends into the route. There are a few other residences scattered around the link terminus. 2 miles and 2 crossings of ADT 0-750 road occur in the viewshed.

Links 45B & C: These links comprise a localized routing alternative with little real difference in viewsheds between the two links. Therefore, they are treated as one. Within the viewshed, there are small residential clusters north of Williamstown, Vermont along Highway 34, with other homes scattered along secondary roads. There are 3 miles of ADT 0 - 750 roads, with two crossings by link 45C and one by 45B. There are also 1.5 miles of Highway 34 (ADT 750-3000) which would be crossed by either link.

Link 46: The viewshed contains the towns of Barre and South Barre, Vermont as well as outlying residential clusters along Interstate 89 west of Barre, around East Hill, and Cobble Hill school, and east of Barre. Other small clusters are found near Graniteville, along Stevens Brook, and south of South Barre. Interstate 89 (ADT 3000+) passes through the viewshed for 7.5 miles and is crossed once. Totals of 3.5 miles of ADT 750-3000 roads (Highways 34 and 110) and 29 miles of ADT 0-750 roads (not including the streets within Barre itself) traverse the

viewshed. There are two historic sites within the route (miles 3 and 4) and, among those outside, there is a 19th century brick foundation.

Link 47: Berlin, Vermont and several small residential clusters along the Dog River and on secondary roads are within the viewshed. Route I-89 (ADT 3000+) traverses the viewshed for 6 miles. Portions of State Highways 2 and 12 (ADT 750-3000) totaling 5 miles are within the viewshed, the latter being crossed once. 2.2 miles of passenger railroads (the Central Vermont rail line) cross the viewshed near the end of the link. There are two historic sites, one inside the route and one outside the route but within the viewshed.

Link 47A: There are scattered residences along the Winooski River through the center of the viewshed and a small cluster of homes in the route near the link terminus. Route I-89 (ADT 3000+) traverses the viewshed for a total of 3 miles, as do Routes 2 and 100 (ADT 750-3000). There are 4 miles and one crossing of ADT 0-750 roads. 3 miles of the Central Vermont passenger line traverse the viewshed. Two historic sites occur within the route at miles 1 and 1.5.

Link 48: The towns of Waterbury, Duxbury, and Middlesex, Vermont lie completely within the viewshed. There are residential clusters south of Duxbury along State route 100 and along the Winooski River State Highway 2 (ADT 750-3000) and Route I-89 run down the center of the viewshed, each for 9 miles. There are an additional 14 miles of ADT 0-750 road, including a portion of State Highway 100. 9 miles of Central Vermont passenger rail run through the viewshed. Among historic sites in the viewshed, there is one located in the route at the six mile mark.

Link 49: The communities of Richmond, Jonesville, Bolton, and North Duxbury are in the viewshed. Residential clusters are located throughout the viewshed, along Snipe Island Brook, near Edmund's Bridge and Fiddock School, and southwest of Huckleberry Hill. These include a large mobile home park near the junctions of Highways 116 and 117 and another immediately upstream from Bolton. Both parks overlap the route. Single homes are scattered across the viewshed, particularly along the Winooski River I-89 (ADT 3000+) and Route 2 (ADT 750-3000) traverse the viewshed close to the proposed line for 13 miles each. Both are crossed once. There are also 22 miles of ADT 0-750 road, primarily along the south bank of the Winooski River. 13 miles of Central Vermont passenger line runs parallel to I-89 and is crossed once. Within the route, there are 5 small historic sites located near miles 3, 11, and 12 and a large site south of mile 7 Outside the corridor but within the viewshed are several historic sites, including the North Main Street District of Richmond, Albert Town House, Gleason Farm-Peet residence, John Thompson House, Checkered House, Riverside Farm, and Conant Tenant House.

Link 50: The community of Berlin, Vermont is within the viewshed. Small residential clusters are scattered along Kelly Brook, Jones Brook, The Dog River, and several county roads. The mobile home court at the junction of Highways 116 and 117 is located near the viewshed's northern edge. 3.5 miles with one crossing of Route I-89 (ADT 3000+) and 3 miles of Route 12 (ADT 750-3000) traverse the viewshed.

Link 51: Within the viewshed are one residence near the route and a few scattered along the Winooski River. 1.5 miles each of I-89 (ADT 3000+), Route (2 ADT 750-3000), and the Central Vermont rail line (passenger) cross the viewshed. There are also 3 miles and one crossing of ADT 0-750 roads.

Link 52: The viewshed contains several homes along the Mad River Also in the viewshed are one mile of I-89 (ADT 3000+), 2 miles of Route 2 (ADT 750-3000), and 0.5 miles of ADT 0-750 roads.

Link 53: Middlesex, Vermont lies almost completely within the viewshed. Scattered residences occur to the north along State Highway 100B. The viewshed is crossed by one mile each of Highways 2 and 100B (ADT 750-3000), Route I-89 (ADT 3000+), light duty roads (ADT 0-750) and the Central Vermont passenger rail line.

Link 54: Waterbury and Duxbury, Vermont are within the viewshed. Clusters of residences are located both within and without the route along Highway 100 near Philipi School, near Crossett Hill, and along the Mad River. The viewshed contains portions of I-89 (ADT 3000+; 3.5 miles), State Highway 2 (ADT 750-3000; 5 miles, one crossing) and other roads (ADT 0-750; 13 miles, 5 crossings) including State Highway 100.

Link 55: There are clusters of residences along Highway 117 southeast of Essex Junction. Other homes occur throughout the viewshed. Highways 2 and 117 (ADT 750-3000) traverse the viewshed for a total of 5.5 miles. The latter crosses the route in one place. One mile of I-89 (ADT 3000+) cuts through the viewshed south of route 117. There are also 7 miles and 2 route crossings of ADT 0-750 roads. Approximately 5 miles of Central Vermont rail line (passenger) traverses the viewshed. The line is crossed within the first mile. Four historic sites occur within the route and another six are located outside of the corridor but within the viewshed.

Link 56: Three residential clusters along Highway 117 are located within the viewshed. The route can also be seen from the community of North Williston and several homes scattered throughout the viewshed. Eight total miles of Highways 117 and 2 (ADT 750-3000) and one mile of I-89 (ADT 3000+) traverse the viewshed. There are also 5.5 miles, with one route-crossing, of ADT 0-750 roads. Six miles, with one route-crossing, of Central Vermont rail line (passenger) traverse the viewshed. In the route there is a large historic site near mile three. There are five additional sites outside the corridor but within the viewshed.

Segment 'A'

Link 1: Link 1 crosses maintained and unmaintained snowmobile trails predominantly. There is a concentration of these crossings in the mid-portion of the link. Recreational features also crossed by the proposed right-of-way include a golf course and Route 11, a fall foliage and sightseeing route. The recreational features near the route include: a boat launch, a campsite, and a float plane base near the confluence of the St. John and St. Francis Rivers, which are canoe routes; Route 161, a fall foliage route; Bossy Mountain, a high elevation of local significance; the Ledges, a mixed-use recreation area; Stevens Hill, a ski area; and a seasonal residence.

Link 1A: There are no recreational resources within the route. The link, however, would be visible from Route 161, a fall foliage route, and from the St. John River, a canoe route.

Link 1B: There are no recreational resources within the route. Link 1B would be visible from Route 161, a fall foliage route.

Link 1C: Over its 0.9 mile length the link crosses snowmobile trails, Route 161, and the Fish River, a canoe route and recreational surface-water body.

Link 2: The recreational resources within the route include: maintained and unmaintained snowmobile trails; Hunnewell and Wheelock Lakes, great ponds noted for trout fishing; a public lot; Bossy Mountain and Pinette Hill, high elevations of local significance; and Route 11, a fall foliage and sightseeing route. The resources near the link include other maintained and unmaintained snowmobile trails, the Stevens Hill Ski Area in Fort Kent, and the Fish River

Link 3: The recreational activity areas within the route include: snowmobile trails; a public lot; a seasonal residence; the Allagash River, a National Wild and Scenic River and noted canoe route; and a proposed hiking trail and scenic lookout associated with the Dickey/Lincoln School Dam Recreation Plan. The features near the proposed alignment include: a picnic area and camping area along the St. John River; a canoe route; Route 161, a fall foliage route; a boat launch near the confluence of the Allagash and St. John Rivers; and, a picnic area along the Allagash River, east of the Dickey Substation.

Segment 'B'

Link 4: The recreational resources associated with the link 4 route are primarily camps and campsites maintained by North Maine Woods. At the beginning of the link is a proposed hiking trail associated with the Dickey/Lincoln School Dam Recreation Plan. The resources nearby and within the viewshed of the link include: the Allagash River, a National Wild and Scenic River and notable canoe route; the Allagash Wilderness Waterway; a Forest Service Ranger station near the origin of the link;

the proposed impoundment area of the Dickey/Lincoln School Dam; Blue Pond, a great pond with several camping areas nearby; and, Chemquasabamticook Stream which links two great ponds--Clayton Lake and Chemquasabamticook Lake (also known as Ross Lake).

Link 5: Over its entire length of approximately 39 miles, the route crosses only one recreational activity area. This crossing occurs over Baker Branch north of Baker Lake, a great pond. Baker Branch is a notable canoe route and is, at the time of this writing, a National Wild and Scenic River study candidate. The recreational resources within the viewshed of this link, however, are numerous. These include: a campsite, a game warden camp, and forest ranger station on the north end of Baker Lake; a Maine Forest Service (MFS) campsite on the southern end of Baker Lake; the lake itself, a great pond; Little Bog, a great pond; a MFS campsite at the southern end of Little Bog; the headwaters of North Branch Penobscot River, a National Wild and Scenic River candidate; and Big Bog, a great pond and noted Moose Observation area, through which the North Branch Penobscot River flows.

Link 6: The recreational feature crossed by the route is the North Branch Penobscot River. The lines would cross the river in two locations. The river is noted for canoeing and trout fishing and is a National Wild and Scenic River candidate. Other features within the viewshed of the link include: Truesdale Pond, a gread pond; a Maine Forest Service campsite; the proposed conservation area around Spencer Pond, a remote trout pond and a great pond; a lookout tower on Green Mountain; and, a hiking trail to the lookout tower from a former fire warden camp west of Little Lane Pond, a great pond.

Link 7: There are no recreational resources within the route. The resources within the viewshed of the link include: Long Pond and Spaulding Pond which are great ponds; a Maine Forest Service campsite on the eastern edge of Long Pond; the Green Mountain lookout tower; the hiking trail to the lookout tower; and, the North Branch Penobscot River.

Link 8: The recreational sites and areas within the route include: South Branch Penobscot River, a National Wild and Scenic River candidate and notable canoe route; and, several unmaintained snowmobile trails within the system emanating from the Jackman area. The resources beyond the right-of-way but within the viewsheds include: a campsite and seasonal residence on the northwestern edge of Canada Falls Lake; the lake itself, a great pond; a seasonal residence along South Branch Penobscot River; Beaver, Alder, and Trickey Ponds, all great ponds; seasonal residences at Alder Pond and Alder Brook; a public lot at Alder Pond; Boundary Bald Mountain, a high elevation of regional significance (zoned by LURC as a mountain area); a lookout tower on Boundary Bald Mountain; and the Boundary Mountain hiking trail which terminates at the lookout tower.

Link 9: The only recreational resource crossed by the route is West Branch Penobscot River, a National Wild and Scenic River candidate and notable canoe route. Other recreational features within the viewshed of the link include: Chemquasabamticook Lake, a great pond; a seasonal

residence along the pond; Wadleigh Pond and St. Francis Lake, both of which are great ponds; seasonal residences at the pond and lake; a camping area and Maine Forest Service campsite at Wadleigh Pond; a Maine Forest Service ranger station on Hurd Mountain; Big Hurd Pond, Little Hurd Pond, Loon Lake, Bear Pond, Little Mucalsea Pond, Big Mucalsea Pond, and Bean Pot Pond, all great ponds; the proposed conservation areas around Little Hurd Pond and Big and Little Mucalsea Ponds which represent setbacks from these remote trout ponds; a public lot near Withey Brook; a fire/lookout tower on Little Russell Mountain and a hiking trail to the lookout tower; Seboomook Lake and Moosehead Lake, great ponds used extensively for water-based recreation; seasonal residence complexes around Moosehead Lake and Seboomook Lake; public land west of Northeast Cove in Moosehead Lake; a Maine Forest Service ranger station along South Branch Carry Brook; several public lots northeast and northwest of Tomhegan Pond; and the pond itself, a great pond.

Link 9A: The recreational resources associated with this route include: two public lots, one at South Branch Brassua Stream and one east of Churchill Stream; and several maintained and unmaintained snowmobile trails. The resources nearby, within its viewshed, include: Long Pond, a great pond noted for salmon and Brook Trout fishing; the Moose River, a canoe route; Route 15, a sightseeing and fall foliage route; and the Canadian Pacific rail line, a passenger rail line utilized in part for sightseeing.

Link 10: The recreational resources within this link consist of maintained and unmaintained snowmobile trails. Beyond the route the line would be visible from Supply Pond, a great pond; and, similar to link 9A from Long Pond, Moose River, Route 15 and the Canadian Pacific rail line.

Link 10A: The only two recreational features crossed by the route include unmaintained snowmobile trails. Features within the the viewsheds of the link include: a public lot along South Branch Brassua Stream; Luther, Muskrat, Fish, and Mud Ponds, all great ponds; Boundary Bald Mountain, a high elevation of regional significance (zoned by LURC as a mountain area); and a lookout tower on the mountain.

Link 11 (First 5.9 miles): The first 5.9 miles of this link are in segment 'B' The recreational features within the route include: snowmobile trails, and Route 201, a fall foliage route. Features in the viewshed of this portion of link 11 include: Heald Pond, a great pond; seasonal residences on the eastern side of the pond; Heald Pond camps on the western side of the pond from which the Boundary Mountain Hiking Trail originates; Boundary Bald Mountain itself; the lookout tower on the mountain; public land north of the proposed Moose River substation; and a seasonal residence on the east side of Route 201, which was formerly the Customs Motor Inn.

Link 11A: Only one snowmobile trail occurs within the proposed 1.3 mile route. There are features within the viewshed located on Boundary Bald Mountain. As stated above, these include a hiking trail and a lookout tower

Link 12 (First 1.0 mile ): Only the first mile of link 12.3 is part of segment 'B' In this stretch, the route crosses the Moose River, a canoe route; Route 15, a fall foliage and sightseeing route; and the Canadian Pacific passenger railway, used in part for sightseeing. Features within the viewshed include Long Pond, a great pond with trout and salmon fishing, and a snowmobile trail.

Segment 'C'

Link 11 (Mile 5.9 to end): This link originates in segment 'C' at the proposed Moose River substation. The recreational features within the link's route include: numerous unmaintained snowmobile trails emanating from Jackman; Moose River, a National Wild and Scenic River study candidate and noted canoe route; the Canadian Pacific passenger railway, used in part for sightseeing; Twin Island Pond, a great pond; a hiking trail leading to Kibby Mountain; Kibby Stream, a National Wild and Scenic River candidate; public land northeast of North Branch Dead River; the river itself, a canoe route; Route 27, a scenic highway and fall foliage route; and the Arnold Trail, an historic hiking trail. The features in the link 11 viewshed include: Crocker Pond, a great pond along which is a seasonal residence and Crocker Pond camps; Little Big Wood Pond, a great Pond; Holeb Pond, a great pond and canoe route; a large parcel of public land ranging from Holeb Pond to Twin Island Pond; Long Pond, northwest of Holeb; portions of Wood Pond and Attean Pond near Jackman, both noted for intensive water-based recreation; and seasonal residences along Moose River In addition there are numerous high elevations of regional significance (zoned by LURC as mountain areas) between Moose River and North Branch Dead River including; Moose Mountain; Caribou Mountain; Kibby Mountain, atop of which is a fire/lookout tower, reached by a hiking trail along the proposed route; Sisk Mountain; and Kibby Range. Other features in the viewshed include: Lower Pond, a great pond with a canoe access point and seasonal residence nearby; Bag Pond Mountain; Snow Mountain, which has a lookout tower and hiking trail; Round Mountain; and Round Mountain Pond, a great pond with a seasonal residence on its eastern side.

Link 12 (Mile 1.0 to end): The recreational resources within the route include the following: Route 201, a sightseeing and fall foliage route; several unmaintained snowmobile trails within the Jackman area; and public lot near Catheart Mountain; a canoe route originating at the northern end of Fish Pond; Fish Pond itself, a great pond; public lots west of Baker Pond; Baker Stream and Spencer Stream, canoe routes; Kibby Stream, a National Wild and Scenic River study candidate; North Branch Dead River, a canoe route; the Arnold Trail; and Route 27, a designated Scenic Highway and fall foliage route. Other features within the link viewshed include: Route 15, a sightseeing and fall foliage route; Moore River; a canoe route; the Canadian Pacific railway; Long Pond; two picnic areas along Route 201; Attean Pond, a great pond for a variety of water-based recreational activities; Moose River (below Attean Pond). a canoe route and National Wild and Scenic River study candidate; Coburn Mountain, a high elevation of regional significance, atop which is a fire/lookout tower; Moose Pond, a great pond and remote trout pond; a proposed conservation area around Moose Pond; Chub Pond and Spencer

Lake, both great ponds with seasonal residences nearby; Baker Pond, a great pond--noted for brook trout--from which a white water canoe route originates; Three Slide Mountain, a high elevation of regional significance; public land on Spencer Mountain; Felker, Spectacle, Eversett, and Mud Ponds, all great ponds; Jim and Little Jim Ponds, great ponds with seasonal residences, and a boat launch at the former; the Eustis Ridge Landscape, a scenic spot of interest and a high elevation of local significance on which is a picnic site and hiking trail; and Bigelow Mountain, a high elevation of regional significance (zoned by LURC as a mountain area) upon which is a State Park and the Appalachian Trail

Link 12A: There are no recreational resources within the route. Resources within the viewshed include: public land north of Little Barnard Pond; Eustis Ridge (mentioned above); Tim Pond, around which are hiking trails and the Tim Pond Camps; and Black Mountain and East Kennebago Mountain, high elevations of regional significance (zoned by LURC as a mountain area).

Link 13: This link bisects a public lot. Outside the route the link would be visible from Boil Mountain, Cow Ridge, Black Mountain and, from a distance, East Kennebago Mountain. Each of these is a high elevation of regional significance.

Link 13A: This link bisects the same public land as link 13. The link would also be visible from Eustis Ridge; public land above Little Barnard Pond; and Boil Mountain, Cow Ridge and Black Mountain.

Link 14A: There are no recreational resources within the route. The link would be visible from Boil Mountain and Cow Ridge.

Link 14: There are no recreational resources within the route. Features within the viewshed include: Cow Ridge, Boil Mountain, Kennebago Divide, and Snow Mountain, all high elevations of regional significance.

Link 15: The resources within the route include: Magalloway River (a noted trout fishing stream), a hiking trail, and a proposed hiking trail north of Prospect Mountain. Other features which would view the link are: Kennebago Divide, Bottle Mountain, and Rump Mountain, high elevations of regional significance; public land north of Parmachenee Lake; Rump Pond, a great pond with a nearby seasonal residence; Rump Mountain in New Hampshire, a designated natural area which also contains the hiking trail leading to its peak in Maine; Deer Mountain, west of the Connecticut River, a designated natural area, which also supports a fire/lookout tower and a hiking trail; Second Connecticut Lake, popular for water-based recreation in the North Country, around which are a proposed recreation and conservation area (state protection area), a proposed campsite, and existing activity areas such as hiking trails, boat launches, a picnic area, islands in the lake, and a sporting lodge.

Link 16: The features within this route include: a hiking trail which originates along the Cupsuptic River; a hiking trail which leads to Rump Mountain and originates near West Branch Magalloway River; and a proposed hiking trail in the Connecticut Lakes Region system. Other features

within the viewshed include: Kennebago Divide, Bottle Mountain, and the peaks of Snow, Twin, and Bull Mountains; public land near Parmachenee Lake; the lake itself, a great pond around which are seasonal residences and upon which is a sporting club; public land at the north end of Azischohos Lake; the lake itself, a great pond noted for its recreational potential; Bosebuck Mountain, a high elevation of regional significance; Long Pond, a great pond north of Aziscohos Lake with nearby seasonal residences; Second Connecticut Lake and the features upon and around it (mentioned above); and Deer Mountain.

Link 17: The recreational features within the link include a snowmobile trail leading to First Connecticut Lake, proposed hiking trails, and a camplot leased from St. Regis Paper Company. Other features within the viewshed consist of: First Connecticut Lake, a notable recreational lake with canoeing, boating, camping, fishing, and picnic activities; islands on the lake; a proposed state protection area around the lake; other leased camplots; proposed hiking trails; and a Magalloway Mountain, a natural area.

Link 17A: Within the route, the existing recreational features include snowmobile trails along Gulf Brook, Alder Brook, Swift Diamond River and Coleman State Park. Other features within the viewshed include: leased camplots; the proposed hiking trail system in the Connecticut Lakes region; part of the Lake Francis Wildlife Management Area; Diamond Pond, noted for rainbow and lake trout, and the sportsman's lodge, boat launch, and seasonal residences along its edge; Little Diamond Pond, noted for brook and rainbow trout, and boat launches along it.

Link 17B: The recreational features crossed by this link include: a proposed hiking trail, snowmobile trails, and a fall foliage route running through the Stewartstown/Colebrook area. The features within the viewshed of the link include: the Lake Francis Wildlife Management Area; leased camplots; a proposed hiking trail; Mudget and Lovering Mountains and Harvey Swell, designated natural areas; the western part of Coleman State Park; Route 26 (a fall foliage and sightseeing route) from the Mohawk River, a state-designated Wild and Scenic River candidate, to Kidderville; and the Panorama Golf Course at the Balsams, a recreational resort.

Link 18: This link also penetrates Coleman State Park. The other feature it crosses is the fall foliage route which also provides access from Kidderville to the park. Other features include: a snowmobile trail; Harvey Swell, a natural area; and the Panorama Golf Course at the Balsams.

Link 18A: The first mile of this link crosses the Mohawk River, a state designated Wild and Scenic River candidate noted for brook and rainbow trout fishing and canoeing; and Route 26, a sightseeing and fall foliage route. The right-of-way also passes by a fall foliage route near Cilley Hill. Other features in the viewshed include: the Mohawk Valley Camping Area; a picnic area and a historic site near Route 26; and leased camplots near Bog and Uran Brooks.

Link 19: The features within the route include: Coleman State Park, the Panorama Golf Course at the Balsams, and the Mohawk River and Route 26, as mentioned above. Other features in the viewshed include: Harvey Swell, a designated natural area; a fall foliage route access road from Kidderville to Coleman State Park; snowmobile trails at the Balsams; parts of the Wilderness Ski Area at the Balsams; Table Rock, a scenic lookout above Dixville Notch; Dixville Peak; and the fall foliage route near Cilley Hill.

Link 20: The features in the route include: Nash Stream, a canoe route and state designated Wild and Scenic River candidate; and a hiking trail at Stide Brook, leading to Percy Peaks. The features in the viewshed of the link include: Nash Bog Pond, noted for brook trout fishing; a boat launch at the Pond; a hiking trail between Sugarloaf and Nash Streams; and Percy Peaks, a high elevation of local significance.

Link 21: The resources within the route include: Nash Stream, (as described above); Route 110, a sightseeing and bicycle route; the Upper Amonoosuc River, a canoe route and state designated Wild and Scenic River candidate; a proposed conservation district in Northumberland; and a fall foliage route near Ames Brook. The resources within the viewshed include: a playground and proposed picnic and scenic lookout sites along the Upper Ammonoosuc, and Beaver Falls, a waterfall.

Link 22: The resources within the route include: the Upper Ammonoosuc River, (as described above); a fall foliage route nearby; Route 110, (as described above); and a proclamation area of the White Mountain National Forest. The link would also be viewed from Nash Stream (as described above).

Link 23: There are no recreational features within the route. Features within its viewshed include Percy Peaks and Nash Stream.

Link 24: No recreational features are present within the route. Features in its viewshed include: The Upper Ammonoosuc River, the fall foliage route on the north side of the river; Nash Stream; Route 110; and the proclamation area of the White Mountain National Forest.

Link 25: The recreational resources along this link include: hiking trails from West Kennebago Mountain to the Kennebago River; the river itself, a canoe route; public land on each side of the river; the Cupsuptic River, a canoe route; and a snowmobile trail. Other features in the viewshed include: Cow Ridge; Kennebago Lake, a great pond; Grant campgrounds on the east side of the Lake; Little Kennebago Lake, with its picnic area and seasonal residences; West Kennebago Mountain and Burnt Mountain, high elevations of local significance with a fire/lookout tower at the former; and the upper portion of Cupsuptic Lake near Little Falls where there is a seasonal residence complex, scattered seasonal residence and two campsites; and the lake itself, a great pond with numerous recreational features and seasonal residences.

Link 26: The only designated recreational feature within the route is Route 16, a fall foliage route. Observatory Mountain, a prominent high

elevation, however, would provide views of recreational features within the viewshed of the route. These features include: Deer Mountain, a high elevation of regional significance; Richardson Pond and Aziscohos Lake, great ponds with numerous seasonal residences and campsites; public lands adjacent to both water bodies; and Aziscohos and Low Aziscohos Mountain, high elevations of regional significance with hiking trails and a fire/lookout tower.

Link 27: The route would cross Route 16, a fall foliage route; a hiking trail near East Richardson Ponds; and hiking trails and public land between Pepper Pot Pond and Upper Richardson Lake. Features in the viewshed include: Cupsuptic Lake, a great pond used extensively for water-based recreation and surrounded by seasonal residences; Deer Mountain and its fire/lookout tower; East Richardson Ponds, Richardson Pond, and Pepper Pot Ponds, great ponds with seasonal residences; Upper Richardson Lake, Beaver and Little Beaver Ponds, also great ponds with many seasonal residences; Aziscohos and Low Aziscohos Mountains; and scenic lookouts on Bald Mountain east of Mooselookmeguntic Lake.

Link 28: The features within the route include: the proposed conservation areas around Aziscohos Pond, a great pond and remote trout pond; Route 16, a fall foliage, sightseeing, and bicycle route; the Magalloway River, a canoe route; and the Dead Diamond and Diamond Rivers, canoe routes and state designated Wild and Scenic River candidates. Other features in the viewsheds include: Aziscohos Pond; Aziscohos and Low Aziscohos Mountains, a seasonal residence complex and covered bridge at Wilsons Mills; seasonal residences along the Magalloway River; natural areas at Diamond Peaks, and at the Fork of the Diamonds (Diamond and Dead Diamond Rivers); and a Dartmouth Outing Club Lodge east of the Fork of the Diamonds.

Link 29: The route crosses a snowmobile trail above Little Greenough Pond. Within the viewshed of the link are Greenough and Little Greenough Ponds, the former noted for brook and lake trout fishing and containing two islands, the latter noted for brook trout fishing.

Link 30: The link crosses snowmobile trails near Little Bear Brook and Bear Brook ponds. The link would be visible from Greenough, Little Bear Brook, and Akers Ponds, all noted for their fishing.

Link 31: The resources within the route include: Clear Stream, a canoe route and fishing stream; Route 26, a scenic highway and sightseeing route; snowmobile trails along Millsfield Pond Brook and Newell Brook, and near Long Pond; a hiking trail leading to Signal Mountain; Phillips Brook, a canoe route and state designated Wild and Scenic River candidate; and a fall foliage route north of the Upper Ammonoosuc River. Other features within the viewshed include: Akers Pond; the northern portion of the 13 Mile Woods scenic easement; Dummer Ponds, noted for brook trout fishing; a fire/lookout tower east of Phillips Brook; mineral collection sites north of Victor Head and northeast of Bald Mountain; the Upper Ammonoosuc River; the White Mountains National Forest; and Christine Lake, noted for brown trout fishing, swimming and boating, and designated as a scenic area.

Link 32: The route crosses the Upper Ammonoosuc River; the fall foliage route above it; route 110; and the proclamation area of the National Forest. Other features in the viewshed include: a hiking trail near Devils Slide and the White Mountains National Forest.

Link 33: The features within the route include the proclamation area of the White Mountains National Forest and a proposed conservation district in Northumberland. Other features within the viewshed include: the National Forest, the Beaver Falls Waterfall, and a foliage route.

Link 34: A proposed conservation district is the only recreational resource within the route.

Link 35: The route crosses the following recreation features: Route 3, a sightseeing route with a bicycle route along side; a proposed hiking trail; the Connecticut River, a canoe route and National Wild and Scenic River study candidate; and Route 102 in Vermont, a sightseeing and fall foliage route. Other features within the alignment's viewshed include: a variety of active recreation sites near Groveton and along the Connecticut River; Cape Horn, a designated natural area; historic sites along the river; tourist courts and motels along Route 3; proposed recreation and conservation lands along the Connecticut River Valley; and, a proposed town forest site at Flynn Hill in Guildhall, Vermont.

Link 36: The resources within the route include: a scenic road east of Halibut and Sheridan Mountains; proposed hiking trails; Neal Brook, a stream designated as having a high recreational potential; and Route 2, a scenic and fall foliage route. Other features within the viewshed include: the Connecticut River; a scenic lookout east of Halibut Mountain; hunting lodges; Miles Pond, used for swimming and canoeing; Moore Reservoir; the proposed Moore-Comerford state park; a proposed hiking and camping area in Littleton; scenic lookouts on Wheeler Hill and Fan Mountain; and boat launches and picnic areas around the Moore Reservoir

Link 37: The features within the route include: a sporting club; a proposed hiking trail; a snowmobile trail; and Route 2, a scenic and sightseeing route. Other features within the viewshed include: Routes 102 and 3; the Connecticut River; historic sites in the valley; and the Moore Reservoir and its environs (as mentioned above).

Link 38: The resources within the route include: a proposed conservation district in Northumberland and Lancaster; the Israel River, a fishing stream; Route 2,a scenic road and bicycle route; Route 116, a sightseeing and bicycle route; Johns River, noted for fishing and water-based recreation; a proposed conservation district in Dalton; Dalton Mountain, a high elevation of local significance; the panoramic scenic drive between Beede Mountain and Wallace Hill; Route 135, a fall foliage route; the Connecticut River, a noted canoe route; and, the proposed conservation district between Route 135 and the river Other features within the viewshed include: Cape Horn, a designated natural area; the northern portion of the White Mountains National Forest; a fall foliage route around Lancaster; features along Route 2 including tourist motels and campgrounds; Mt. Prospect State Park (Weeks State Park) which has a

lookout tower and scenic lookout; a scenic road north of Whitefield along which are recreational lodges/resorts and golf courses; the Airport Marsh Wildlife Management area; the White Mountains National Forest including Perry Range and Mt. Martha; a scenic lookout on Kimball Hill; Mirror Lake, noted for boating, and brook and rainbow trout fishing; tourist motels along Route 116 north of Whitefield; recreational sites along Johns River, including an ice skating area, playground, boat launch, sporting lodge, and tourist court; Burns Pond, noted for fishing, boating, and swimming; Forest Lake State Park; a mineral collection site along Cushman Brook; the Connecticut River Valley between Gilman, Vermont, and the Moore Reservoir; and the reservoir itself, noted for boating, canoeing, and fishing activities.

Link 39: The only recreational feature within the route is a portion of Moore Reservoir at Mink Brook. Other resources in the viewshed include: the reservoir itself, which features waterskiing, fishing, boating, canoeing, and picnicking; the scenic lookouts around the reservoir, some of which are used for duck watching; historic sites on either side of the Connecticut Rier Valley; Route 135, a fall foliage route; a proposed camping and hiking area in Littleton; and, a proposed recreational area along the east side of the reservoir.

Link 40: The recreational resources within the route are all located in the last mile. Here it crosses the Conneticut River, a canoe route and fishing river; a bicycle route; Route 93, a scenic highway; and Route 135, a fall foliage route. Other features in the viewshed include: the Moore Reservoir, (as mentioned above); historic sites on both sides of the Connecticut River Valley; designated natural areas along the river, including the Littleton Dam Wild Flower area just outside the route; and mineral collecting sites and scenic lookouts in Littleton.

Link 41: The only recreational resource within this 0.3 mile long route leading to the Moore Substation is land proposed for the Moore-Comerford Interstate Park. The features in the viewshed include those for link 40 (as mentioned above).

Segment 'D'

Link 41: (see above)

Link 42: The recreational resources within the route include: Route 135, a scenic road and fall foliage route; a bicycle route along route 135; the proposed Moore-Comerford Interstate Park; Route 91 in Vermont, a scenic highway; a bicycle route along Route 5 in Vermont; the Connecticut River; and an historic site in Barnet. Other features in the viewshed include: scenic lookouts and mineral collection sites in Littleton; boating, fishing, and canoeing sites above Comerford Dam on the Connecticut River; historic sites along the river in Barnet; and several active and passive recreation sites along the Connecticut, including picnic sites, playgrounds, and ski areas.

Link 43: The features within the route include: fishing sites at Hollow Brook; a fall foliage and bicycle route through Peacham; an historic site in Peacham; the Bailey-Hazen Military Road, a hiking trail; Groton State Forest and hiking and snowmobile trails within the forest. Potter Brook, a fishing stream; a proposed scenic road; an historic site; snowmobile trails; Barre City Forest, Orange Brook, noted for its fishing and recreational potential; a state park along the Memorial Highway; Route 110, a fall foliage route and a snowmobile route near it. Other features in the viewshed include: a scenic road from South Peacham to Barnet; a picnic ground/rest area near Morrison Hill; Peacham Village, a spot of scenic interest; historic sites in the village and west toward Martins Pond; the pond itself, noted for boating; Mud Pond, a Vermont Fish and Game site; Peacham Pond, noted for its boating and its role as a natural glacial area; a proposed conservation district west of Barre City Forest; Nelson Brook Gorge, a unique natural area; and historic sites in the town of Washington.

Link 44: The resources within the route include: Stevens River, a fishing and recreational stream; a bicycle route; the Bailey-Hazen Military Road; Wells River, a fishing and recreational stream; the Pine Mountain Wildlife Management Area, a fall foliage route west of Pine Mountain; a nearby historic site; Groton State Forest; Waits River, which has with high recreational potential; Jail Branch, a fishing and recreational stream; Route 110, a fall foliage route; and an historic site west of Route 110. Other features in the viewshed include: Route 91, a scenic highway; the Connecticut River; a bicycle route along Route 5; Route 135 in New Hampshire; the Roy Mountain Wildlife Management Area; lower Symes Pond, a natural area; hunting access areas at the Pine Mountain Wildlife Management area; high elevations of regional significance including Signal Burnt, Butterfield, and Knox Mountains; and historic sites in the town of Washington.

Link 45: A proposed scenic road is the only recreational resource located within the route. Features within the viewshed of the link include: historic sites in the town of Washington and Route 110, a fall foliage route.

Segment 'E'

Link 45A: There are no recreational resources within the route. It would be visible, however, from the proposed scenic road east of the Granite Substation.

Link 45B: The link crosses Stevens Branch, noted for its cold-water fishing and recreational potential, and a bicycle route along Route 14. Features in the link's viewshed include: Route 14, a scenic road below the link; snowmobile trails; and Barre City Forest.

Link 45C: This link's recreational resources are similar to those in link 45B, except for one historic site in the viewshed.

Link 46: Within the route are the following recreational features: Barre City Forest; a bicycle route; snowmobile trails; Pond Brook, a canoeing stream; and a unique geological area along Pond Brook. Features in the viewshed include: a bike route along Route 14; Barre City Forest; historic sites in Barre; multi-purpose recreational areas in Barre City and near Berlin Pond; a Visitors Center in Barre; Route 14, a sightseeing and bike route north of Barre; and Route 110, a fall foliage route south of Barre.

Link 47: The resources within this route are a bicycle route along Route 12 and the Dog River, noted for canoeing and fishing. Features within the viewshed include: Route 89, a scenic highway; the Winooski River, a canoe route and cold-water fishing habitat; and Route 2, a sightseeing route.

Link 47A: The features within the route are snowmobile trails in Moretown; Jones Brook, a stream with high recreational potential; the Winooski River, noted for canoeing and fishing; and Route 100B, a fall foliage route. Other features in the viewshed include: historic sites along the Winooski Valley; canoe access points along the river; snowmobile trails; Route 2, a sightseeing route; Route 89, a scenic highway; and Fast Hill, a high elevation of local significance in Middlesex.

Link 48: The route encompasses sections of the Winooski River, a snowmobile trail, Route 100, a scenic road and sightseeing route. Within the viewshed are the following sites: a picnic ground along the Winooski; proposed conservation land in Waterbury; a mineral collection site in Moretown; Route 89, a scenic highway; Route 2, a sightseeing route; a bicycle route in the valley; historic sites in Waterbury and a golf course in Waterbury.

Link 49: The resources crossed by the route include: Bolton Falls, a natural area; Route 89; the Winooski River; proposed conservation land in Waterbury; Route 2; a bicycle route along Route 2; historic sites and streams with high recreational potential in Bolton; and the Long Trail and a bicycle route above Richmond. Features in the viewshed include: Camels Hump State Park and hiking trails within it; a boat launch and picnic area near Bolton Falls; Woodward Mountain, a high elevation of

regional significance; the towns of Huntington, Jonesville, and Richmond; proposed conservation land in Jericho; and historic sites west of Richmond.

Link 50: The resources within the route include: the Dog River, a canoe route and fishing stream; Jones Brook, a stream with high recreational potential; and a snowmobile trail. Features in the viewshed include: Route 89, a scenic highway; a bicycle route in Berlin along which an historic site is located; Berlin Municipal Forest; the Winooski River; Route 2; canoe access points, and historic sites along the river; and East Hill in Middlesex.

Link 51: The route crosses snowmobile trails and Jones Brook, a stream with high recreational potential Within the viewshed are the Winooski River, Route 89, and Route 2.

Link 52: The resources affected by the route are a snowmobile trail, an historic site, and Route 100B, (a fall foliage route). Within the viewshed are the Mad River; a nearby bicycle route; the Winooski River; and Routes 89, 2, and 100B.

Link 53: Within this 0.6 mile link are the Winooski River, Route 100B, and an historic site. The Mad River crosses the viewshed.

Link 54: Recreational features within the route include: Route 100B; the Mad River, a canoeing and fishing stream; Route 100, a scenic road and fall foliage route; Crossett Brook, a stream with high recreational potential; and a snowmobile trail in Duxbury. Within the viewshed are the Winooski River; Routes 89 and 2; historic sites and proposed conservation land in Waterbury; and portions of Camels Hump State Park.

Link 55: The features within the route include: a bicycle route along Route 117; the Winooski River; and historic sites and a bicycle route north of Williston. Features in the viewshed include: an institutional forest, the University of Vermont Research Forest; a bicycle route and historic sites along Route 2; a golf course east of Williston; Route 89; a unique geological area; and multipurpose recreational areas in Williston.

Link 56: The existing recreational resources in the route include: a bicycle route along Route 117, the Winooski River, and the Tim Bradish Memorial Ski Jump and ski area. Features in the viewshed include: the University of Vermont Research Forest; Mill Brook, a fishing stream; canoe access points and historic sites along the Winooski; Essex Junction Village Forest; a Forest and Conservation area of the Town of Williston; and Routes 117 and 2 (alternate), both sightseeing routes.

# Appendix B
# Impact Assessments: Links

APPENDIX B
IMPACT ASSESSMENTS: LINKS

## Table of Contents

## Impacts On Visual Site Attractiveness

Segment 'A'

Link 1: The average site attractiveness impact value for this link is moderate (1.95). The proposed alignment passes through mature woodlands for approximately half of its length, resulting in moderate impacts. The remainder is composed of almost equal extents of regenerating woodland (low impact) and abandoned and active agricultural fields (high impact).

| | |
|---|---|
| None | |
| Low | 27.2 |
| Moderate | - 50.9 |
| High | - 21.9 |
| Severe | - |

Link 1A: Because this link passes through active agricultural fields, the site attractiveness impact is high (3.0).

| | |
|---|---|
| None | - |
| Low | |
| Moderate | |
| High | 100.0 |
| Severe | - |

Link 1B: This link is located in both an active agricultural field (high impact), and a small stand of regenerating woodland (low impact), a combination which yields an average site attractiveness impact value of below moderate (1.67).

| | |
|---|---|
| None | - |
| Low | - 66.7 |
| Moderate | - |
| High | - 33.3 |
| Severe | - |

Link 1C: The average site attractiveness impact value for this link is high (3.11). The proposed alignment traverses active agricultural fields, a small stand of mature hardwoods, and, most significantly. the Fish River.

| | |
|---|---|
| None | - |
| Low | - |
| Moderate | - 11.1 |
| High | - 77.8 |
| Very High | - 11.1 |

Link 2: The average site attractiveness impact value for this link is approximately moderate (2.08). The western half of the link traverses an extensive area of mature woodlands, whereas the eastern half crosses

a more agrarian landscape of active and regenerating abandoned fields. Of particular significance is an area of mature woodlands east of Wheelock Lake, where the Bureau of Public Lands has a land holding for which they have retained the timber and grass rights. This enhances the site attractiveness value of the woods. Thus, construction of the transmission facility through this area will result in a high impact.

| | |
|---|---|
| None | - |
| Low | - 18.6 |
| Moderate | 54.8 |
| High | - 26.6 |
| Severe | - |

Link 3: The average site attractiveness value for this link is just below moderate (1.84). The only severe impact forecasted results from crossing the Allagash River within the first mile. For the most part, the alignment traverses mature woodlands (moderate impact). However, there will be a high impact on one stand (miles 3.5 - 5) due to its location on public land for which the timber and grass rights have been retained.

| | |
|---|---|
| None | |
| Low | 27.9 |
| Moderate | 62.2 |
| High | - 9.0 |
| Very High | - .9 |

Segment 'B'

Link 4: The average site attractiveness impact value for this link is between low and moderate (1.52). The proposed alignment traverses almost equal extents of regenerating (low impact) and mature (moderate impact) woodlands. In addition, the crossing of an occasional attractive swamp or marsh results in a high impact. The few active sand and gravel extraction areas along the alignment represent scattered small areas of no significant impact.

| | |
|---|---|
| None | - .4 |
| Low | 48.1 |
| Moderate | - 51.2 |
| High | .2 |
| Severe | |

Link 5: The average site attractiveness impact value for this link is between low and moderate (1.60). The impacts are approximately the same as those for link 4.

| | |
|---|---|
| None | .3 |
| Low | 42.7 |
| Moderate | - 54.4 |
| High | - 2.3 |
| Severe | - .3 |

Link 6: The average site attractiveness impact value for this link is below moderate (1.85). Most of the link traverses mature woodlands, particularly to the south, resulting in moderate impacts. A high impact is predicted for parts of miles 10 and 11 where the line passes through a beaver dam swamp. At mile 6, a severe impact results from crossing the North Branch of the Penobscot River

None
Low 24.5
Moderate - 67.3
High - 7.5
Severe - 7

Link 7: The average site attractiveness impact value for this link is below moderate (1.77). The alignment passes through regenerating (low impact) and mature (moderate impact) woodland. A severe impact results from crossing Dole Brook along mile 8.

None -
Low - 23.2
Moderate - 76.1
High -
Severe - 7

Link 8: The average site attractiveness impact value for this link is moderate (2.02). Traversing the mature woodlands which cover most of the link will result in moderate impacts. A few low impacts result from traversing regenerating woodlands. High impacts are caused by crossing some beaver dams, cedar swamps, and abandoned fields. Most importantly, severe consequences are foreseen along mile 4 where the alignment crosses the South Branch of the Penobscot River as it enters Canada Falls Lake.

None -
Low - 5.8
Moderate - 88.3
High - 4.9
Severe - 1.0

Link 9: The average site attractiveness impact value for this link is below moderate (1.81). A severe impact has been identified along mile 47 at the crossing of the West Branch of the Penobscot River Infrequent high impacts are foreseen in scattered locations. Moderate impacts predominate because the alignment passes primarily through mature hardwoods.

None -
Low - 24.4
Moderate - 70.3
High - 5.2
Severe - 1

Link 9A: The average site attractiveness impact value for this link is below moderate (1.72). Moderate impacts are most prevalent as mature woodlands predominate the route area.

None
Low - 28.2
Moderate - 71.8
High -
Severe

Link 10: The average site attractiveness impact value for this link is below moderate (1 71). Moderate impacts on mature woodlands predominate. An active sand and gravel mine along mile 5 will not be affected. However, a small lake along the alignment (mile 8) will be severely impacted.

None - 1.3
Low - 34.2
Moderate - 59.5
High - 3.8
Severe - 1.3

Link 10A: The average site attractiveness impact value for this link is just below moderate (1.94). Moderate impacts are the rule as the proposed alignment traverses large areas of mature woodland. One severe impact occurs along mile 8 where the alignment runs along the north shore of Mud Pond.

None -
Low - 7.2
Moderate - 91.8
High -
Severe - 1.0

Link 11A: The average site attractiveness impact value for this link is just above moderate (2.15). Moderate impacts are the rule, except for a small high impact area in a beaver dam swamp.

None -
Low -
Moderate - 84.6
High - 15.4
Severe -

Link 11 (First 5.9 miles): The average site attractiveness value for this portion of link 11 is below moderate (1.79). Woodlands, especially mature stands, predominate, resulting in primarily moderate impacts. There are high impacts at the end of this portion of the link where the alignment penetrates an extensive area of marshland.

None
Low 25.4
Moderate - 67.8
High - 6.8
Severe -

Link 12 (First 1.0 mile): The average site attractiveness impact value for this portion of link 12 is below moderate (1.8). Crossing the Moose River results in a severe impact. The remainder of the mile is a mix of regenerating and mature woodland, resulting in low and moderate impacts, respectively.

| | |
|---|---|
| None | - |
| Low | - 50.0 |
| Moderate | - 40.0 |
| High | - |
| Severe | - 10.0 |

Segment 'C'

Link 11 (Mile 5.9 to end): The average site attractiveness impact value for this portion of the link is below moderate (1.93). Impacts are almost exclusively moderate as the route area, particularly to the south, is mature woodland. Low impacts result from crossing scattered small patches of regenerating woodland and two abandoned mines. Crossing some areas of attractive marshland results in high impacts, particularly at the beginning of the link and near mile 23 in an area of wetlands and water

| | |
|---|---|
| None | - |
| Low | - 10.6 |
| Moderate | - 86.3 |
| High | - 3.1 |
| Severe | - |

Link 12 (Mile 1.0 to end): The average site attractiveness impact value for the rest of link 12 is below moderate (1.83). Moderate impacts on areas of mature woodland are most prevalent, although low impacts predominate for the last six or seven miles where there are areas of regenerating woodland. Small areas of marshland scattered along the alignment will experience high impacts. A severe impact is foreseen at the crossing of the North Branch of the Dead River, at approximately mile 33. Here, the river, is designated an 'unusual area' (LURC) and is paralleled by the Arnold Trail. A sand and gravel extraction area will not be affected.

| | |
|---|---|
| None | - .3 |
| Low | - 19.3 |
| Moderate | - 78.2 |
| High | - 1.9 |
| Severe | .3 |

Link 12A: The average site attractiveness impact value for this link is above low (1.32), as the line traverses regenerating woodlands (low impact) primarily, with some mature stands (moderate impact).

None -
Low - 67.7
Moderate - 32.3
High -
Severe -

Link 13: The average site attractiveness impact value for this link is between low and moderate (1.6). Moderate impacts predominate in areas of mature woodland, whereas low impacts predominate on the areas of regenerating woodland which make up the remainder of the link.

None -
Low - 40.0
Moderate - 60.0
High
Severe

Link 13A: The average site attractiveness impact value for this link is also between low and moderate (1.66). The land cover is similar to that of the previous link. Moderate impacts predominate in the western half of the link, whereas the eastern half is mixed between moderate and low.

None -
Low - 34.4
Moderate 65.6
High
Severe

Link 14A: The site attractiveness value for this link is moderate (2.0), as the entire alignment traverses mature woodland.

None -
Low -
Moderate - 100.0
High -
Severe -

Link 14: The average site attractiveness impact value for this link is between low and moderate (1.54), as the link crosses both mature woodlands (moderate impact) and regenerating woodlands (low impact).

None -
Low 45.9
Moderate - 54.1
High -
Severe -

Link 15: The average site attractiveness impact value for this link is just below moderate (1.92). Mature woodlands cover most of the route area, resulting in a high percentage of moderate impacts. The few areas of regeneration should experience low impacts. Traversing a small marsh within the first mile should yield a high impact, and a severe impact results from crossing the Magalloway River along mile 7.

None -
Low - 10.8
Moderate - 88.0
High - .6
Severe - .6

Link 16: The average site attractiveness impact value for this link is between low and moderate (1.50). Except for a severe impact along mile 8, where the Magalloway River is crossed, the link is almost equally divided between low impacts on regenerating woodlands and moderate impacts on mature woodlands.

None -
Low - 51.6
Moderate - 47.8
High
Severe .6

Link 17: Almost all of the impacts for this link are moderate, as the route area is primarily mature woodland. The result is an average site attractiveness impact value close to moderate (1.97). No impact is expected between miles 4 - 5 where the alignment passes over a sand and gravel extraction area.

None - 1.4
Low -
Moderate - 98.6
High -
Severe -

Link 17A: The average site attractiveness impact value for this link is moderate (2.06). The entire alignment passes through mature woodland, yielding primarily moderate impacts. However, locating the last 0.5 mile of the alignment within Coleman State Park--where the site attractiveness value of the woodlands is enhanced--yields a high impact value.

None -
Low -
Moderate - 93.8
High - 6.2
Severe -

Link 17B: The average site attractiveness impact value for this link is just below moderate (1.91). Mature woodlands with moderate impacts predominate. The alignment also crosses significant extents of regenerating woods (low impact), and abandoned agricultural fields (high impact) in the area north of Kidderville.

None -
Low - 29.1
Moderate 50.7
High 20.2
Severe

Link 18: The average site attractiveness impact value for this link is between low and moderate (1.69). Low impacts are most prevalent as much of the proposed alignment traverses softwood regeneration areas. High impacts are predicted where the alignment crosses abandoned agricultural fields, and mature hardwood stands within Coleman State Park. There is a severe impact where the route traverses an abandoned field situated on a local peak along mile 8.

None -
Low 65.4
Moderate
High 28.8
Severe 5.8

Link 18A: This link has a land cover pattern similar to that of the previous link. Half of the link traverses regenerating woodlands, yielding low impacts. The remaining half is divided between mature woodlands (moderate impact) and abandoned agricultural fields (high impact). The average site attractiveness impact value is between low and moderate (1.62).

None -
Low - 56.7
Moderate - 25.0
High - 18.3
Severe -

Link 19: The average site attractiveness impact value for this link is moderate (2.05). The land cover pattern is one of alternating woodlots (low impact) and abandoned agricultural fields (high impact), with some mature hardwoods (moderate impact) near the end of the link. High impacts are also expected at the beginning of the link where the proposed alignment passes through mature woodlands in Coleman State Park. Severe impacts are expected along mile 3 where the line traverses some unvegetated local peaks.

None -
Low - 38.2
Moderate - 24.5
High - 34.5
Severe - 2.8

Link 20: The average site attractiveness impact value for this link is below moderate (1.90). Land cover in the route area is primarily mature woodland with some regenerating woodland. A severe impact occurs where the route intersects Nash Stream along mile 7 No impact on the active and inactive extraction areas scattered along the proposed alignment is expected.

None 1.0
Low - 10.5
Moderate - 87.5
High -
Severe -

Link 21: The average site attractiveness impact value for this link is just below moderate (1.95). The link is primarily woodland. However, a severe impact results from crossing Nash Stream within the first mile. High impacts may result from crossing wetlands scattered about the route. There will be low impacts at the intersection of the Boston and Maine 'Grand Trunk' and an existing transmission line right-of-way along the final 0.25 mile.

None -
Low - 17.2
Moderate - 75.0
High - 6.1
Severe - 1.7

Link 22: The average site attractiveness impact value for this link is moderate (2.0). Along the first mile, high impacts occur where the line crosses some abandoned agricultural fields. However, this stretch is mostly mature woodland (moderate impact) except for where a sand and gravel extraction area is crossed (no significant impact). Within the last 0.5 mile, the Boston and Maine 'Grand Trunk' is crossed, resulting in a low impact.

None - 4.2
Low - 4.2
Moderate - 81.2
High - 10.4
Severe -

Link 23: The average site attractiveness impact value for this link is just above moderate (2.07). Impacts are primarily moderate, owing to the predominance of land cover in mature woodlands. However, there is one area of high impact where the proposed alignment traverses a large regenerating abandoned field.

None -
Low -
Moderate 92.9
High - 7.1
Severe -

Link 24: Because the proposed alignment traverses mature woodlands, primarily, the average site attractiveness impact value is just above moderate (2.11). Crossing some large abandoned fields will cause high impacts. There will be no particular impact on the homes scattered throughout the route area.

None -
Low -
Moderate - 92.1
High - 7.9
Severe

Link 25: The average site attractiveness impact value for this link is below moderate (1.87). Impacts are primarily moderate, as the line traverses mature woodlands. However, there are large patches of regeneration (low impacts) and some wetlands (high impacts). Most significantly, crossing the Cupsuptic River between miles 11 - 12 will cause a severe impact.

None -
Low - 21.7
Moderate - 72.3
High - 5.3
Severe 7

Link 26: The average site attractiveness impact value for this link is below moderate (1.89). Impacts are primarily moderate, as the line traverses mature woodlands, except for a large area of regeneration on the north side of Observatory Mountain, where impacts will be low.

None
Low - 12.0
Moderate - 88.0
High -
Severe -

Link 27: The average site attractiveness impact value for this link is below moderate (1.76). This is due to the significant extent of regenerating woodland covering the first third of the link, where impacts will be low. The remainder of the link passes through mature woodland primarily (mostly softwoods), where impacts will be moderate. Small ponds at mile 9 will experience severe impacts.

None -
Low - 28.9
Moderate - 69.3
High -
Severe - 1.8

Link 28: The average site attractiveness impact value for this link is just above moderate (2.09). The link is entirely in mature woodlands (moderate impact) but also crosses three rivers (severe impacts) including the Magalloway River (mile 4), the Dead Diamond River (mile 6), and the Swift Diamond River (mile 7).

None -
Low -
Moderate - 96.1
High -
Severe -

Link 29: The average site attractiveness impact value for this link is just below moderate (1.92). Land cover is primarily mature woodland, making impacts predominantly moderate. However, there will be low impacts where there are few regenerating stands and high impacts where there is a bog along mile 2 and a large marsh along mile 4.

None -
Low - 16.4
Moderate - 76.9
High - 6.7
Severe -

Link 30: The average site attractiveness impact value for this link is between low and moderate (1 7). The link is composed primarily of mature woodland (softwoods) and some regenerating stands, resulting in moderate and low impacts respectively.

None -
Low - 30.2
Moderate 69.8
High -
Severe -

Link 31: The average site attractiveness impact value for this link is below moderate (1.80). Land cover is predominantly mature woodland, except for the first three miles which are characterized by regenerating woodland, abandoned agricultural fields, and scattered residences. Thus, low and high impacts predominate for this stretch of the link. The final three miles parallel an existing right-of-way and some homes are concentrated alongside the alignment along mile 18. Impacts here will be low.

None -
Low - 9.6
Moderate - 85.2
High - 5.2
Severe -

Link 32: This link is composed of both mature woodland and abandoned agricultural fields and entirely parallels an existing transmission right-of-way, resulting, primarily, in low and moderate impacts. The most severe impact occurs at the 0.2 mile mark, where the Upper Ammonoosuc River is crossed. The 'Grand Trunk' is crossed near the end of the link, but no significant impact is predicted here. The average site attractiveness impact value is above low for this link (1.17).

None 5.5
Low - 83.3
Moderate - 5.6
High -
Severe - 5.6

Link 33: The average site attractiveness impact value for this link is above low (1.2). The entire link shares an existing right-of-way, reducing impact ratings on mature woodland areas to low, and on marshland and regenerating abandoned cultivated fields to moderate.

None -
Low - 82.5
Moderate - 17 5
High -
Severe -

Link 34: The average site attractiveness impact value for the link is low (1.0). The land cover is entirely mature woodlands and an existing transmission right-of-way is paralleled for the entire length.

None
Low - 100.0
Moderate
High
Severe

Link 35: The average site attractiveness impact value for this link is moderate (2.0), as land cover is predominantly mature woods. Other areas include agricultural fields as along mile 6 (high impact) and other man-made features such as an existing transmission right-of-way crossed at mile 4, the 'Grand Trunk' crossed at mile 5, and a mobile home park alongside the proposed alignment near mile 3, none of which should experience significant impact. The stretch of link between miles 0.5 - 2.5 deserves special consideration. Here the alignment traverses the foot of Cape Horn, a designated unique natural area. However, since the boundaries of this area were not determinable, it was impossible to predict, absolutely. a severe impact on this area.

None 5.6
Low
Moderate 83.3
High 11 1
Severe

Link 36: This link is mostly in mature woodlands and thus has an average site attractiveness impact value of moderate (1.98). Some regenerating stands (low impacts) are present at miles 4 and 7 There is another low impact where the Maine Central rail line is crossed at mile 12. Scattered residences and some abandoned agricultural fields, particularly between miles 10 - 15, will experience high impacts. Finally, there will be a severe impact along mile 2 where the proposed alignment traverses an abandoned agricultural field on a secondary hilltop.

None -
Low - 8.6
Moderate - 85.3
High - 5.6
Severe - .5

Link 37: The average site attractiveness impact value for this link is above moderate (2.15). Land cover is mostly mature woodland. However, a severe impact is predicted at mile 6, where the line crosses an abandoned agricultural field situated along a relatively prominent ridge. Low impacts are predicted for mile 3, where some pipelines are crossed, and at mile 11, where the Maine Central rail line is crossed.

None -
Low - 3.8
Moderate - 84.3
High - 8.5
Severe - 3.4

Link 38: The average site attractiveness impact value for this link is below low (0.92). Almost the entire link parallels an existing transmission right-of-way, reducing impacts accordingly. The Maine Central rail line is crossed at miles 8, 18.2, and 18.4, and pipelines are crossed between miles 9 - 10. However, these crossings will not result in significant impacts. There is a severe impact at mile 24.8 where the Connecticut River is crossed.

None - 4
Low - 32.0
Moderate - 53.3
High - 11.2
Severe - 3.1

Link 39: As the entire link traverses mature woodlands, and parallels an existing transmission right-of-way, the visual site attractiveness impact values are all low (1.0).

None -
Low - 100.0
Moderate -
High -
Severe -

Link 40: The average site attractiveness impact value for this link is below moderate (1.83). The first 2.25 miles traverse mature woodland, where impacts will be low to moderate, depending upon the extent of right-of-way sharing. Along the final mile, some high impacts will result in areas of abandoned agricultural fields. A severe impact is predicted along the last mile where the alignment crosses the Connecticut River.

None -
Low - 66.7
Moderate 8.3
High - 13.3
Severe - 11.7

Link 41: This link is all mature woodlands with an average site attractiveness value of moderate (2.0).

None -
Low -
Moderate 100.0
High
Severe -

Segment 'D'

Link 41: (see above)

Link 42: Most of this link parallels an existing transmission right-of-way, reducing the average site attractiveness impact value to above low (1.31). Land cover is predominantly mature woodland, yielding low impact values. But, the numerous abandoned agricultural fields throughout the western half of the route will experience moderate impacts. The only severe impacts result from crossing the Connecticut River along miles 2, 3, and 8.

None
Low 75.8
Moderate - 20.9
High -
Severe - 3.3

Link 43: The average site attractiveness impact value for this link is above moderate (2.35). Land cover is primarily mature hardwoods, resulting in moderate impact values. One section of mature woods, traversed between miles 9.5 14, will experience high impacts due to its location within Groton State Forest. Areas of regenerating woodlands (low impact) are infrequent. Residences are scattered throughout the route area but have no effect on impact values. Finally, a low impact at mile 14 is attributable to crossing the Montpelier and Wells River rail line.

None -
Low 8.2
Moderate - 50.5
High - 41.3
Severe -

Link 44: Almost all of this link parallels an existing transmission right-of-way, reducing the average site attractiveness impact value to above low (1.24). Low impacts are predicted for the areas of mature woodland, the predominant land cover type. However, one such stand

within Groton State Forest at mile 18 will experience high impacts. Residences and abandoned agricultural fields are scattered throughout, although, only moderate impacts on them are predicted.

| | |
|---|---|
| None | - 7 7 |
| Low | - 66.4 |
| Moderate | - 21.9 |
| High | - 2.9 |
| Severe | - 1.1 |

Link 45: The average site attractiveness impact value for this link is below moderate (1.73). The route is primarily in abandoned agricultural fields, with scattered residences along the first mile. However, only moderate impacts are predicted in these areas because the entire link parallels an existing transmission right-of-way.

| | |
|---|---|
| None | - |
| Low | - 26.7 |
| Moderate | - 73.3 |
| High | - |
| Severe | - |

Segment 'E'

Link 45A: The average site attractiveness impact value for this link is between low and moderate (1.5). Land cover is predominantly abandoned agricultural fields with some mixed mature woodlands. As the entire proposed alignment parallels an existing transmission right-of-way, the resulting impacts are moderate and low, respectively.

| | |
|---|---|
| None | - |
| Low | - 50.0 |
| Moderate | - 50.0 |
| High | - |
| Severe | - |

Link 45B: The average site attractiveness impact value for this link is above low (1.27). Land cover is abandoned agricultural fields, mixed regenerating woodland, and mature woodland, in order of decreasing coverage. As the entire link parallels an existing transmission right-of-way, the resultant impacts are moderate in the agricultural areas and low in the mature woodlands. Other areas are not significantly affected.

| | |
|---|---|
| None | - 30.0 |
| Low | - 16.7 |
| Moderate | - 53.3 |
| High | - |
| Severe | - |

Link 45C: The average site attractiveness impact value for this link is above moderate (2.35). Land coverage is mixed between mature woodlands (moderate impacts) and abandoned agricultural fields (high impacts).

None -
Low -
Moderate - 65.2
High - 34.8

Link 46: The average site attractiveness impact value for this link is between low and moderate (1.64). The entire link parallels an existing transmission right-of-way. As such, traversing the abandoned agricultural fields, which dominate cover for the first half of the link, will result in moderate impacts. No impact will result from crossing an abandoned mining area along the last mile, although a severe impact is predicted for the crossing of a unique geologic area at the link terminus.

None - 6.0
Low - 33.5
Moderate 56.0
High -
Severe - 4.5

Link 47: The average site attractiveness impact value for this link is between low and moderate (1.50), as the entire link parallels an existing transmission right-of-way. Most impacts are either low, where the line crosses mature woods, or moderate, where it traverses abandoned agricultural fields. No significant impact will result from crossing Route I-89 or State Highway 12 along mile 2, or from crossing the Central Vermont rail line at mile 2.3. However, severe impacts are expected at about the one mile mark, where the line crosses agricultural fields on a hilltop and, at the very beginning of the link, where it crosses a 'unique geologic area'

None - 2.4
Low - 59.5
Moderate - 31.0
High - 7.1
Severe -

Link 47A: The average site attractiveness impact value for this link is above low (1.32). The entire link is a right-of-way sharing alternative and the land cover is mixed between abandoned agricultural fields (moderate impacts) and mature hardwoods (low impacts).

None -
Low - 67.6
Moderate - 32.4
High -
Severe -

Link 48: The average site attractiveness impact value for this link is between low and moderate (1.62). Much of the proposed alignment parallels an existing transmission right-of-way and it traverses either abandoned agricultural fields or mature woodland, resulting in moderate and low impacts, respectively. There are severe impacts along the first miles where both the Winooski and Mad Rivers are crossed.

None -
Low - 41.8
Moderate - 54.4
High - 2.5
Severe - 1.3

Link 49: The average site attractiveness impact value for this link is above low (1.30). Land cover is predominantly mature hardwoods. As the link almost entirely parallels an existing transmission right-of-way. these areas will experience only low impacts. No significant impacts are expected where the proposed alignment crosses an existing right-of-way (mile 3), an abandoned mining area (miles 3 - 4), and an active mine (miles). However, severe impacts are expected near mile 3 where the alignment impinges on an historic site, and along mile 1 where the Winooski River is crossed.

None - 5.3
Low - 68.
Moderate - 25.0
High -
Severe - 1.7

Link 50: The average site attractiveness impact value for this link is above moderate (2.13). The primary land cover type is mature woodland and the predominant impacts are moderate. Small extents of regenerating woods and abandoned agricultural fields should experience low and high impacts, respectively. Along mile 2 no impact is predicted where the proposed alignment crosses Route I-89. Most significantly, severe impacts are expected along the first mile, where an abandoned field on a secondary hilltop is traversed, and, along mile 2 where the Dog River is crossed.

None - 1.5
Low - 5.8
Moderate - 85.5
High - 2.9
Severe - 4.3

Link 51: The average site attractiveness impact value for this link is above moderate (2.19). Land cover is mostly mature hardwoods, resulting in moderate impacts. Some abandoned agricultural fields will experience high impacts.

None -
Low -
Moderate - 83.3
High - 16.7
Severe -

Link 52: As this link is covered exclusively by mature hardwoods, its average site attractiveness impact value is moderate (2.0).

None -
Low -
Moderate - 100.0
High -
Severe -

Link 53: As the entire link parallels an existing right-of-way and is entirely covered by mature hardwoods, its average site attractiveness impact value is low (1.0).

None -
Low - 100.0
Moderate -
High -
Severe -

Link 54: The average site attractiveness impact value for this link is between low and moderate (1.37). Most of the link passes through mature hardwoods, resulting in low impacts where this cover type coincides with the existing transmission right-of-way. Similarly, impacts are moderate where abandoned agricultural fields are crossed. Most significant is the severe impact from crossing the Mad River along the first mile.

None -
Low - 66.0
Moderate - 32.7
High -
Severe - 1.3

Link 55: The average site attractiveness impact value for this link is below moderate (1.82). The first four miles of the link are proposed for right-of-way sharing. Thus, as much of the link traverses abandoned agricultural fields, impacts are mostly moderate. Areas of mature hardwoods are predicted to undergo low impacts. No impact is expected from crossing the Central Vermont rail line along the first mile, but a severe impact is expected in the same area where the Winooski River is crossed.

None - 4.1
Low - 28.6
Moderate 51.0
High 14.3
Severe 2.0

Link 56: The average site attractiveness impact value for this link is between low and moderate (2.31). Only the first mile is proposed for right-of-way sharing. Thus, no impacts are expected from crossing either Route I-89 or the Central Vermont rail line between miles 1 2. However, crossing the Winooski River, in the same area, is predicted to have a severe impact.

| | |
|---|---|
| None | - 2.0 |
| Low | - |
| Moderate | - 47.0 |
| High | - 49.0 |
| Severe | - 2.0 |

Impacts on Visual Landscape Quality

Segment 'A'

Link 1: The average landscape quality impact value for this link is moderate (1.99). All impacts are moderate except within the last mile. Here, high impacts are foreseen where the link traverses Stevens Hill.

None -
Low - 2.4
Moderate - 96.4
High - 1.2
Severe -

Link 1A: Link 1A should cause only moderate impact (2.0).

None -
Low -
Moderate - 100.0
High -
Severe -

Link 1B: Same as 1A above.

Link 1C: The average site attractiveness value for this link is low (1.22), primarily owing to the low existing quality rating.

None -
Low - 88.9
Moderate -
High - 11.1
Severe -

Link 2: The average site attractiveness value for this link is moderate (1.97). All but the last half mile should have a moderate impact, as the existing quality rating for this area is low and absorption is moderate.

None -
Low - 2.8
Moderate - 97.2
High -
Severe -

Link 3: All of link 3 is assigned moderate landscape quality impact values (2.0). Although much of the link has a high existing quality rating, absorption values are either high or moderate, thus reducing impacts.

None -
Low -
Moderate - 100.0
High -
Severe -

Segment 'B'

Link 4: The average landscape quality impact value for this link is above low (1.24), and although most of the link's existing quality ratings are low, some scattered high impacts are expected in areas of very low absorbability. There are primarily hilltops and unforested secondary hilltops and ridges along miles 4, 11, 14, 19, 21, 23, 24, 30 - 32, and 37 - 39.

None -
Low - 85.3
Moderate - 5.3
High - 9.4
Severe -

Link 5: The average landscape quality impact value for this link is low (1.03), because the existing landscape quality along most of the link is very low. Only miles 6 and 7 are assigned a high rating, the result of locating the alignment on a hilltop.

None -
Low - 98.7
Moderate -
High - 1.3
Severe -

Link 6: The average landscape quality impact value for this link is moderate (1.95). The impact values generally reflect the existing landscape quality conditions, except in the mountainous area between miles 8 - 10 where only mountainside locations have high impacts.

None -
Low - 19.0
Moderate - 67.4
High - 13.6
Severe -

Link 7: The average landscape quality impact value for this link is moderate (1.99). Impact values again generally reflect the existing quality conditions with the exception of some ridgetop locations along miles 6 and 7, where, although of moderate existing quality. high impacts will result.

None -
Low - 22.6
Moderate - 55.5
High - 21.9
Severe -

Link 8: As absorption values are low, primarily, throughout the link, impact values generally reflect the existing quality conditions. Thus, impacts are high from miles 3.8 to the end, an area with a predominantly very high existing quality rating. The average landscape quality impact value is between moderate and high (2.63).

None -
Low -
Moderate - 36.9
High - 63.1
Severe -

Link 9: The average landscape quality impact value for this link is below moderate (1.84). Impact values vary primarily according to the existing landscape quality values. However, in the vicinity of mile 48, location of the proposed alignment on the hilltop bridging Seboomook and Moosehead Lakes would result in severe impact.

None -
Low - 39.9
Moderate - 39.0
High - 19.7
Severe - 1.4

Link 9A: The average landscape quality impact value for this link is above moderate (2.26). Impact values directly reflect the existing landscape quality conditions.

None -
Low -
Moderate - 74.1
High - 25.9
Severe -

Link 10: As all values for existing landscape quality are very high and absorption is fairly uniform, the entire link is rated high for landscape quality impact (3.0).

None -
Low -
Moderate -
High - 100.0
Severe -

Link 10A: The average landscape quality impact value for this link is just above moderate (2.12). As most of the existing quality for the link is moderate or high, and absorption values are almost uniformly

moderate, impacts are predominantly moderate. However, the final 1.3 miles are rated high due primarily to very high existing landscape quality ratings.

None -
Low - 1.0
Moderate - 85.7
High - 13.3
Severe -

Link 11 (First 5.9 miles): As all of this part of the link is rated very high for existing landscape quality, the impact rating is high (3.0).

None -
Low -
Moderate -
High - 100.0
Severe -

Link 11A: All of link 11A is rated high (3.0) for impact on landscape quality, as absorption is uniformly low and existing quality is uniformly very high.

None -
Low -
Moderate -
High - 100.0
Severe -

Link 12 (First 1.0 mile): Located in the Moose River Valley where the existing landscape quality is very high, the landscape quality impact for this portion of the link is also high (3.0).

None -
Low -
Moderate -
High - 100.0
Severe -

Segment 'C'

Link 11 (Mile 5.9 to end): The average landscape quality impact value for this link is high (3.0). The impact values are generally the result of the existing quality conditions. The impacts are high in all areas except between miles 21 - 25, where high existing quality ratings and areas of high and moderate absorbability result in moderate impacts, and along mile 11 and between miles 16 - 18, where the alignment traverses hilltops and ridges in areas of very high existing landscape quality.

None -
Low -
Moderate - 4.5
High - 93.5
Severe - 2.0

Link 12 (Mile 1.0 to end): The average landscape quality impact value for this link is extremely high (3.59). This is due primarily to the exceptional existing landscape quality of the area around miles 1.5 - 17 and portions of the Eustis landscape between miles 34 - 36, where there will be severe impacts from the proposed alignment.

None -
Low -
Moderate -
High - 70.4
Severe - 29.6

Link 12A: All of link 12A is rated high (3.0) for impacts on landscape quality. This is primarily due to the very high existing landscape quality rating for the entire link.

None -
Low -
Moderate -
High - 100.0
Severe -

Link 13: Same as 12A above.

Link 13A: Same as 12A above.

Link 14A: Same as 12A above.

Link 14: All of link 14 is rated high (3.0) for impacts on landscape quality. Existing landscape quality is mixed between very high and high values, however, absorbability is low only in areas of high quality.

None -
Low -
Moderate -
High 100.0
Severe -

Link 15: The average landscape quality impact value for this link is high (3.04). All of the link is rated severe except where 0.3 miles of mile 10 traverse one of the foothills of Rump Mountain. This stretch is rated high. Existing quality varies between high and exceptional.

None -
Low -
Moderate -
High - 98.1
Severe - 1.9

Link 16: The average landscape quality impact value for this link is below high (2.79). As existing quality is mixed between high and exceptional, the sizable number of moderate impacts are attributed to high and moderate absorbability in unwooded and north-facing locations. Severe impacts are predicted along miles 8 - 9 due to the combination of exceptional quality of the views across Parmachenee and Aziscohos Lakes and low absorption conditions.

None -
Low -
Moderate - 32.3
High - 61.9
Severe - 5.8

Link 17: Almost all of link 17 is rated severe for impact on landscape quality, resulting in an extremely high average value (4.57). As all but the final mile of the link has exceptional landscape quality, the few high impact areas are due to moderate absorption conditions, primarily along north-facing slopes. These high impacts are found along miles 1, 4, 7, and 8.

None -
Low -
Moderate -
High - 21.6
Severe - 78.4

Link 17A: All of link 17A is rated high (3.0) for impact on existing landscape quality. Although almost half of the link has only a high existing landscape quality rating, these areas have low absorbability, thus raising impact values.

None -
Low -
Moderate -
High - 100.0
Severe -

Link 17B: The average landscape quality impact value for this link is high (3.06). Few areas are designated for other than high impacts. Along miles 5 and 7, an area of high existing landscape quality, high and moderate absorption areas result in only moderate impacts. However, where the line is located on hillsides with low absorption (miles 11, 13, and 14), there are severe impacts.

None -
Low -
Moderate - 6.2
High - 87.7
Severe - 6.2

Link 18: The average landscape quality impact value for this link is very high (4.15). Although the existing landscape quality is exceptional for the entire link, all but the first htree miles traverse areas of high absorbability. Impact for these first three miles is severe, and high impacts are predicted for the remainder

None -
Low -
Moderate -
High - 42.3
Severe - 57 7

Link 18A: The average landscape quality impact value for this link is above high (3.37). Again, although existing landscape quality is exceptional throughout, high and moderate absorption conditions over much of the link cause impacts to be primarily high rather than severe. Some severe impacts are predicted along miles 1 and 5 in areas of low absorbability.

None -
Low -
Moderate -
High - 81.7
Severe - 18.3

Link 19: As the existing landscape quality is uniformly exceptional, absorption is the factor influencing impact values. As such, areas of moderate and high absorbability will experience high impacts. The remainder (miles 1-3, 8 and 9) will experience severe impacts. The average landscape quality impact value is between high and severe (3.85).

None -
Low -
Moderate -
High - 57.3
Severe - 42.7

Link 20: All of this link is rated high (3.0) for impact on visual landscape quality. Only the first 2.2 miles are not rated very high for landscape quality (they are rated high). However, this stretch has low absorbability, thus resulting in high impact.

None -
Low -
Moderate -
High - 100.0
Severe -

Link 21: All impacts for this link are high (3.0). High to exceptional existing visual quality and overall low absorbability are responsible for the impact values.

None -
Low -
Moderate -
High - 100.0
Severe -

Link 22: All of this link is rated high (3.0) for impacts on existing visual quality. A combination of low absorption values and uniformly very high existing landscape quality ratings is responsible for the impact values.

None -
Low -
Moderate
High - 100.0
Severe -

Link 23: Same as link 22 above.

Link 24: Same as link 22 above.

Link 25: The average landscape quality impact value for this link is between high and severe (3.7). Almost all of the areas rated exceptional for landscape quality (miles 3.4 - 7.6, near the Kennebago Lakes, and from mile 12.8 through the end of the link, northwest of Cupsuptic Lake), are rated severe for impact. The rest of the link is rated high.

None -
Low -
Moderate -
High - 65.0
Severe - 35.0

Link 26: The average landscape quality impact value for this link is below severe (4.83). Although the entire link is rated exceptional for landscape quality, north-facing slopes (high absorption) have reduced impact values to high along parts of miles 2, 3, and 4. Most notable among the many severe impacts is where the pinnacle of Observatory Mountain is skirted along mile 7.

None
Low -
Moderate -
High - 8.3
Severe - 91.7

Link 27: The average landscape quality impact value for this link is extremely high (4.42) due to an existing landscape quality rating of exceptional for the entire link. However, north-facing mountainsides and unforested patches of land reduce impacts to high in some areas.

None -
Low -
Moderate -
High 28.9
Severe - 71.1

Link 28: The average landscape quality impact value for this link is below high (2.87). The first part of the link has 0.2 miles of severe impact where it is affected by conditions along links 26 and 27 Thereafter, most of the link is rated high, except for the final 1.4 miles, which are subject to only moderate impacts as the line traverses the northwestern slopes of Mount Dustan.

None -
Low -
Moderate - 18.2
High - 79.2
Severe - 2.6

Link 29: All but the first 0.3 miles of this link are rated high for impact on visual landscape quality. The first 0.3 miles are rated moderate due to their location on the northwestern slopes of Mount Dustan. Thereafter, the very high existing landscape quality rating is the prime determinant of the high impact values.

None -
Low -
Moderate - 5.8
High - 94.2
Severe -

Link 30: The average landscape quality impact value for this link is below high (2.87). However, most of the link except for 0.3 miles of mile 1 and 0.4 miles of mile 3 is rated high. These two stretches of link are rated moderate due to their location on north-facing slopes in areas of moderate absorbability.

None -
Low -
Moderate - 13.2
High - 86.8
Severe -

Link 31: The average landscape quality impact value for this link is below high (2.9). All of the link is rated high, except for the portion between miles 2.9 - 4.9, which is rated moderate due to its location on the northwestern slopes of Signal Mountain.

None -
Low -
Moderate - 9.9
High - 90.1
Severe -

Link 32: All of this link is rated high (3.0) for impact on existing landscape quality, as existing quality ratings are all very high and absorption is predominantly low.

None -
Low -
Moderate -
High - 100.0
Severe -

Link 33: Same as link 32 above.

Link 34: Same as link 32 above.

Link 35: The average landscape quality impact value for this link is between high and severe (3.98). Impacts approximately parallel existing quality ratings, with very high and exceptional areas rated high and severe, respectively. The one exception occurs along mile 4 where the line traverses the northern slopes of Beach Hill.

None -
Low -
Moderate -
High - 50.8
Severe - 49.2

Link 36: The average landscape quality impact value for this link is above high (3.43). Again, the link's impact scores are primarily a function of the existing landscape quality values. Many very high and exceptional quality areas are subject to high and severe impacts, respectively, except for some small stretches between miles 1.5 - 4.0. Here, otherwise severe impacts are reduced to high as the line traverses the northern slopes of Sheridan Mountain and a couple of unforested areas.

None -
Low -
Moderate -
High - 78.6
Severe - 21.4

Link 37: The average landscape quality impact value for this link is above high. The existing landscape quality of this area is primarily responsible for the impact values assigned. Having spectacular views of the White Mountains, most of the first 9.7 miles of the link is rated exceptional for existing landscape quality and, accordingly, severe for impact. Values for both existing quality and impacts decrease to moderate or high for the remainder of the link south-southwest of Baptist Hill.

None -
Low -
Moderate - 15.3
High - 8.4
Severe - 76.3

Link 38: The average site attractiveness impact value for this link is above moderate (2.16). As much of this link traverses areas of moderate and high absorbability, impacts are reduced. Moreover, existing landscape quality is very high only for the first 1.3 miles, in the vicinity of Cape Horn.

None -
Low -
Moderate - 83.7
High - 16.3
Severe -

Link 39: The average landscape quality impact value for this link is high (2.98). Although the first 0.1 mile is rated moderate, predominantly low absorption results in uniformly high impacts for the rest of the link.

None -
Low -
Moderate - 1.8
High - 98.2
Severe -

Link 40: The average landscape quality impact value for this link is below high (2.7). Only the last 0.9 miles are rated moderate, where there is higher absorbability.

Nsone -
Low -
Moderate - 30.0
High - 70.0
Severe -

Link 41: All of this link is rated high for impact on existing landscape quality owing to both high existing quality and uniformly low absorbability.

None -
Low -
Moderate -
High - 100.0
Severe -

Segment 'D'

Link 41: (see above)

Link 42: The average landscape quality impact value for this link is above moderate (2.23). This is due to a uniformly high existing landscape quality rating and a substantial number of north-facing slopes and unforested areas having high and moderate absorption conditions.

None -
Low -
Moderate - 76.9
High - 23.1
Severe -

Link 43: The average landscape quality impact value for this link is below high (2.82). However, most of the impacts are high, and severe impacts are only encountered along 0.1 mile of miles 5 and 6 (on some local hilltops southeast of Peacham), and along mile 8 (on the unforested upper slopes of a hill northeast of Martins Pond). There are moderate impacts where the line crosses small extents of unforested areas and north-facing slopes.

None -
Low -
Moderate - 16.1
High - 82.9
Severe - 1.0

Link 44: The average landscape quality impact value for this link is between moderate and high (2.59). Impact values approximately parallel existing quality ratings, with reduced impacts where the line is located on north-facing slopes, particularly between miles 21 - 25.7 east of Barre.

None -
Low -
Moderate - 52.9
High - 47.1
Severe -

Link 45: All of this link is rated moderate (2.0) for impact on existing landscape quality. This is primarily due to a moderate existing quality rating.

None -
Low -
Moderate - 100.0
High -
Severe -

Segment 'E'

Link 45A: Same as link 45 above.

Link 45B: Same as link 45 above.

Link 45C: Same as link 45 above.

Link 46: The average landscape quality impact value for this link is between low and moderate (1.55). Impacts are primarily a function of the existing quality ratings: areas of very low and moderate quality are subject to low and moderate impacts, respectively. However, at mile 5 approximately, there are high impacts where the proposed alignment passes over West Hill.

None -
Low - 50.7
Moderate - 43.3
High - 6.0
Severe -

Link 47: The average landscape quality value for this link is above moderate (2.29). All impacts are moderate, except where a 0.4 mile stretch of mile 1 traverses a prominent hilltop. This stretch is rated severe.

None -
Low -
Moderate - 90.5
High -
Severe - 9.5

Link 47A: The average landscape quality impact value for this link is moderate (2.06). All but the first 0.2 miles (rated high) is rated moderate. The high impact stretch traverses a portion of the narrow valley floor of the Winooski River

None -
Low -
Moderate - 94.1
High - 5.9
Severe -

Link 48: The average landscape quality impact value for this link is above moderate (2.26). High impacts are only experienced along mile 3 and from mile 6.3 to the end. Both impacts occur where the lines would affect the very high existing quality of the Winooski River Valley floor.

None -
Low -
Moderate - 74.4
High - 25.6
Severe -

Link 49: The average landscape quality impact value for this link is above moderate (2.25). Impacts generally reflect the existing quality ratings, although traversing occasional unforested areas reduces the impact values.

None -
Low - 9.8
Moderate - 54.9
High - 35.3
Severe -

Link 50: The average landscape quality impact value for this link is between moderate and high (2.62). The impacts are varied, as the full range of absorbability is represented along the link. The most significant impact occurs where the alignment traverses a prominent ridge near mile 1.

None -
Low - 14.5
Moderate - 17.4
High - 63.8
Severe - 4.3

Link 51: The average landscape quality impact value for this link is between moderate and high (2.57). As the existing landscape quality for the entire link is high, differences in absorbability are responsible for different impact values. Traversing north-facing mountainsides reduces impacts to moderate along much of mile 1, and 0.1 miles of mile 2.

None -
Low -
Moderate - 42.9
High - 57.1
Severe -

Link 52: The average landscape quality impact value for this link is moderate (2.05). All but 0.1 miles of mile 1 are rated moderate. This stretch is rated high due to low absorbability, whereas the remainder of the link traverses the north-facing slopes of the Northfield Mountains, rated moderate for absorption.

None -
Low -
Moderate - 95.5
High - 4.5
Severe -

Link 53: All of link 53 is rated moderate (2.0) for impact on existing landscape quality.

None -
Low -
Moderate - 100.0
High -
Severe -

Link 54: The average landscape quality impact value for this link is between moderate and high (2.57). Impacts are primarily influenced by absorption conditions. Moderate impacts are assigned to the first three miles, and to short stretches of the next two miles where north-facing slopes and unforested areas (both moderate absorbability) are traversed, respectively. The remainder of the link is rated high because it passes through areas of low absorbability.

None
Low
Moderate - 42.7
High - 57.3
Severe

Link 55: All of this link is rated low (1.0) for impact on existing landscape quality primarily because of very low existing quality conditions. Also, absorption is high along much of the link.

None -
Low - 100.0
Moderate -
High -
Severe -

Link 56: Same as link 55 above.

Recreational Resource Viewer Impacts

Segment 'A'

Link 1: Most recreational viewer impacts along the link are either low or moderate. A high impact is assigned to the Route 11 crossing, where sightseeing or fall foliage viewers would be impacted.

Link 1A: As link 1A is only 0.2 miles in length, only one recreational viewer impact is assigned. A moderate impact would be experienced by motorists using Route 161 for fall foliage tours, and by canoeists using the St. John River.

Link 1B: Recreational viewer impact along the link is moderate due to link visibility from Route 161.

Link 1C: There will be moderate impacts on viewers who would observe the proposed facilities from Route 161 and from the Fish River, a canoe route.

Link 2: The majority of recreational viewer impacts should be low or moderate because the link is visible from many places on various snowmobile trails. High impacts are assigned where the line infringes upon Wheelock Lake, a great pond noted for trout fishing; a public lot on Bossy Mountain; and to the crossing of route 11, a sightseeing and fall foliage route.

Link 3: A severe impact on recreational viewers is assigned at the crossing of the Allagash River, a scenic wilderness waterway and notable canoe route. Other viewer impacts assigned are moderate or low and are associated with viewing from public land; snowmobile trails; a proposed hiking trail and scenic lookout; a seasonal residence; a public area and boat launch along the Allagash River; a camping area and picnic area along the St. John River; and Route 161, a fall foliage route.

Segment 'B'

Link 4: The recreational viewer impacts along link 4 should be low or moderate. The most direct views of the link are from camping areas. Because the Allagash River and the Allagash wilderness waterway are a great distance from the proposed facilities, views of the link from these places will result in moderate or low impacts.

Link 5: There are several high and moderate impacts on recreational viewers along the link. There are high impacts in the vicinity of Baker Lake, where views of the proposed facilities from the lake are possible; at Baker Branch, a canoe route and National Wild and Scenic River study candidate; at Maine Forest Service scenic campsites; and at a forest ranger station. High impacts are also recorded near the terminus of the link where views from Big Bog, a noted moose observation area, are possible. Between Big Bog and Little Bog, viewers in a few areas along the North Branch Penobscot River, a National Wild and Scenic River candidate, are able to observe the facilities.

Link 6: Numerous high impacts are assigned along this link due both to views from the crossings of the North Branch Penobscot River and to direct line-of-sight views from the lookout tower and hiking trail on Green Mountain. The river is a National Wild and Scenic River candidate and is also noted for canoeing and trout fishing activities.

Link 7: The major recreational viewer impacts for this link are moderate. These are assigned along several consecutive mileposts where there are possible views from the North Branch Penobscot River; Spaulding Pond and Long Pond, both great ponds; a Maine Forest Service campsite; the lookout tower on Green Mountain; and the hiking trail to the tower

Link 8: A high impact is assigned to viewers at the crossing of the South Branch Penobscot River, a National Wild and Scenic River candidate and canoeing route. Moderate recreational viewer impacts are assigned where the link would be viewed from Canada Falls Lake and a nearby seasonal residence and campsite.

Link 9: High recreational viewer impacts are assigned along several consecutive miles where there are views from Moosehead and Seboomook Lakes and their associated seasonal residences. A number of moderate impacts are also assigned where there would be views of the proposed facilities from the following: Chemquasabamticook Lake and its associated seasonal residences; great ponds such as Allagash, Wadleigh, St. Francis Lake, Big Hurd, Little Hurd, Loon Lake, Bear, Little Mucalsea, Big Mucalsea and Bean Pot; the seasonal residences and camping areas near these; the fire/lookout tower on Little Russell Mountain; and Tomhegan Pond.

Link 9A: High and moderate recreational viewer impacts are assigned where the link bisects two public lots. High impacts are also recorded where the facilities would be viewed from Long Pond, a great pond noted for salmon and trout fishing; Moose River, a canoe route; and from the Canadian Pacific passenger rail line, used in part for sightseeing.

Link 10: Recreational viewer impacts along this link should be low, except for the last mile of the link, where moderate impact would be experienced by viewers at Supply Pond, a great pond; Long Pond; Moose River; Route 15; and the Canadian Pacific rail line.

Link 10A: A high impact is assigned where the link would be visible from Luther, Muskrat, Fish and Mud Ponds, great ponds; Boundary Bald Mountain, a high elevation of regional significance; and from the lookout tower on the mountain. Moderate impacts are also assigned where nearby sections of link would also be visible from the above features.

Link 11 (First 5.9 miles): Recreational viewers at Heald Pond and its associated camp and seasonal residences should be moderately impacted by the proposed right-of-way. Views from the Boundary Mountain hiking trail, the mountain itself, and the lookout tower should also result in moderate viewer impact. Views from the vicinity of Route 201, a fall foliage route, should result in high viewer impact.

Link 11A: Impacts along this link are associated with views from Boundary Bald Mountain and its hiking trail and lookout tower, and the snowmobile trail along the route. The impacts assigned are moderate.

Link 12 (First 1.0 mile): Viewer impacts assigned for the first mile of this link are high. This is due to visibility from Moose River, a canoe route; route 15, a fall foliage and sightseeing route; the Canadian Pacific passenger rail Line; and Long Pond, a great pond noted for fishing.

Segment 'C'

Link 11 (Mile 5.9 to end): High impacts are assigned along this portion of the link where recreational resource viewers could observe the proposed alignment from the following: Moose River, a National Wild and Scenic River study candidate; Twin Island Pond, a great pond; North Branch Dead River, a canoe route; Route 27, a scenic highway and fall foliage route; and the Arnold Trail Moderate impacts are assigned to viewers from a variety of high elevations of regional significance, including Kibby Mountain.

Link 12 (Mile 1.0 to end): Several high impacts are assigned along this link where the proposed facilities are visible from the following recreational resources: Moose River (between Jackman and Long Pond), a canoeing and fishing stream; Routes 15 and 201, fall foliage and sightseeing routes; the Canadian Pacific Railway; Long Pond and Attean Pond, both great ponds noted for their recreational potential; public lots on either side of Baker Pond; Baker Pond itself, a great pond; and the crossings of Kibby Stream (a National Wild and Scenic study candidate), the Arnold Trail, Route 27 (a scenic highway and fall foliage route), and the North Branch Dead River (a canoe route). In the vicinity of the crossings, the proposed facilities would also be visible from Bigelow Mountain where there is a State Park and the Appalachian Trail; and from Eustis Ridge, a scenic spot of interest with a hiking trail and picnic area.

Link 12A: Low impacts are assigned where there are possible distant views of the proposed facilities from Eustis Ridge, and Black and East Kennebago Mountains, high elevations of local and regional significance.

Link 13A: High impact is assigned to the link where it penetrates public land below Alder Stream. Moderate impacts are assigned based on visibility from Boil Mountain, Cow Ridge, and Black Mountain.

Link 14A: No recreational viewer impacts are assigned along this 3.8 mile link.

Link 14: Recreational viewer impacts are assigned where views of the proposed alignment could be made from Low Ridge, Boil Mountain, Kennebago Divide, and Snow Mountain, high elevations of regional significance.

Link 15: Moderate viewer impacts are assigned along the link where it would be visible from an existing hiking trail to Rump Mountain; the mountain itself, a high elevation of regional significance in Maine and a natural area in New Hampshire; Deer Mountain, a natural area which

supports a fire/lookout tower; and Second Connecticut Lake and its immediate environs including hiking trails, boat launches, a picnic area, a sporting lodge, and islands in the lake.

Link 16: Viewer impacts assigned along the link include: moderate impacts at the crossing of the hiking trail by Cupsuptic River and where views are possible from Kennebago Divide, and Bottle, Snow, Twin, and Bull Mountains; and high impacts based on views from the Second Connecticut Lake and its recreational sites and areas nearby.

Link 17: High impacts are assigned to the first seven miles of this 7.4 mile link. In this area the proposed alignment would be visible from Magalloway Mountain, a designated natural area, and from First Connecticut Lake which features canoeing, boating, camping, picnic, and fishing activities.

Link 17A: Recreational viewer impacts should be severe where this link approaches and penetrates Coleman State Park. In this area the link would also be visible from Diamond and Little Diamond Ponds, noted for fishing and boating activities.

Link 17B: Moderate recreational viewer impacts are assigned where the proposed alignment would be visible from the Lake Francis Wildlife Management area; leased camplots natural areas, such as Mudget Mountain, Lovering Mountain and Harvey Swell; the western part of Coleman State Park; the Panorama Golf Course at the Balsams; and Route 26, a sightseeing and fall foliage route.

Link 18: There will be severe impact on recreational viewers who would observe the proposed lines from Coleman State Park. Moderate impacts are assigned where the lines and towers would be visible from the park, the Harvey Swell natural area, a nearby fall foliage route, and the Panorama Golf Course at the Balsams.

Link 18A: A high recreational viewer impact was assigned at the crossing of the Mohawk River, a state designated Wild and Scenic River candidate, canoe route, and fishing river; and, at the crossing of Route 26, a fall foliage and sightseeing route.

Link 19: High impact or recreational viewers is assigned at mile 5 where the lines and towers would be visible from the Panorama Golf Course at the Balsams, the Mohawk River, and Route 26. Moderate impacts are assigned where visibility is possible from the edge of Coleman State Park; Harvey Swell; the fall foliage route above Upper Kidderville and near Cilley Hill; snowmobile trails and the Wilderness Ski Area at the Balsams; and from Table Rock, a scenic lookout above Dixville Notch.

Link 20: A high impact is assigned where the proposed right-of-way would be visible from Percy Peaks, a high elevation of local significance, and from the hiking trail leading to them. Moderate impacts are assigned where views would be possible from Nash Bog Pond and boat launch and the hiking trail near the pond.

Link 21: High impacts are assigned where recreational viewers would observe the lines at the crossings of Nash Stream; Route 110, a sightseeing and bicycle route; and the Upper Ammonoosuc River, a canoe route and state designated Wild and Scenic River candidate.

Link 22: High viewer impacts are assigned where the link would be visible from the Upper Ammonoosuc River; a fall foliage route nearby; Nash Stream, Route 110; and the proclamation area of the White Mountains National Forest.

Link 23: Low viewer impacts are assigned to the link based on potential views from Percy Peaks and Nash Stream.

Link 24: High viewer impacts are assigned where the link would be visible from the Upper Ammonoosuc River; a nearby fall foliage route, which would parallel the route; Route 110; Nash Stream; and the proclamation area of the National Forest.

Link 25: High impacts are assigned where the proposed facilities would be visible from Kennebago River, a canoe route; Little Kennebago and Kennebago Lakes, great ponds with seasonal residences; West Kennebago Lakes and Burnt Mountain, high elevations of regional significance; the Cupsuptic River, a canoe route; and Cupsuptic Lake, around which are numerous recreational resources including campsites and seasonal residences.

Link 26: Severe recreational viewer impacts are recorded where views of the proposed alignment are possible, in the vicinity of Observatory Mountain, from Richardson Pond and Aziscohos Lake, both great ponds with numerous seasonal residences and campsites; public lands around the pond and lake; and from Aziscohos and Low Aziscohos Mountain and the fire/lookout tower on the latter.

Link 27: High viewer impacts are assigned where the proposed facilities would be visible from Cupsuptic Lake; Deer Mountain; Route 16, a fall foliage route; East Richardson, Richardson, Pepper Pot, Beaver and Little Beaver Ponds and Upper Richardson Lakes, all of which have seasonal residences nearby; and from scenic lookouts on Bald Mountain and a fire/lookout tower on Low Aziscohos Mountain.

Link 28: High viewer impacts are assigned where the route would be visible from the following recreational resources: Aziscohos Pond, a remote trout pond; Low Aziscohos Mountain; Route 16, a fall foliage, sightseeing, and bicycle route; Dead Diamond and Diamond Rivers, canoe routes, and state designated Wild and Scenic River candidates; and Diamond Peaks and Fork of the Diamonds, both designated natural areas.

Link 29: Moderate viewer impacts are assigned where the proposed facilities would be visible from Little Greenough and Greenough Ponds, noted for their fishing potential.

Link 30: Moderate impacts are assigned where the proposed alignment would be visible from Greenough and Bear Brook ponds.

Link 31: High viewer impacts are assigned where the proposed link crosses Clear Stream, a canoe route; Route 26, a scenic road and sightseeing route; the 13 Mile Woods scenic easement; Phillips Brook, a canoe route and state designated Wild and Scenic River candidate; and where it would be visible from Christine Lake, a notable water-based recreation area and designated scenic area. Severe impacts are assigned where the proposed right-of-way parallels a fall foliage route north of the Upper Ammonoosuc River and where it would be visible from the river and the White Mountains National Forest.

Link 32: Severe and high impacts are assigned where the proposed right-of-way would be visible from the Upper Ammonoosuc River; the fall foliage route above it; Route 110; and the White Mountain National Forest.

Link 33: High viewer impacts are assigned where the proposed facilities would be visible from the White Mountains National Forest; its proclamation area; and a fall foliage route near the terminus of the link.

Link 34: Low viewer impact is assigned where the link would be visible from a proposed conservation district in Northumberland.

Link 35: Severe impacts were assigned where the link would be visible from the Connecticut River, a canoe route and National Wild and Scenic River study candidate, and from Routes 3 and 201, sightseeing and fall foliage routes. High impacts are assigned where the link would be visible from a variety of active and passive recreation sites along the Connecticut River, Routes 3 and 102; from Cape Horn, a designated natural area; and from the Connecticut River.

Link 36: High recreational viewer impacts are assigned at the crossing of a scenic road east of Halibut and Sheridan Mountains, and to the areas where the facilities would be visible from Moore Reservoir and from the scenic lookouts and boat launching and picnic sites in its general area.

Link 37: High impacts are assigned where the link would be visible from Routes 102 and 3, the Connecticut River; Route 2, a scenic and sightseeing route; and from the Moore Reservoir and its environs.

Link 38: Severe recreational viewer impacts are assigned where the link would be visible from Prospect Mountain State Park and its lookout tower/scenic lookout site; from Route 2, a scenic road and bicycle route; from the Perry Range of the White Mountains National Forest; from Dalton Mountain, a high elevation of local significance and from a scenic road nearby; and from Forest Lake State Park. High viewer impacts are assigned where the alignment would be visible from: Cape Horn, a designated natural area; a fall foliage route east of the link around miles 3 and 4; the northern portion of the White Mountains National Forest; the crossing of the Israel River, a fishing stream; recreational sites along the river; Airport Marsh, a wildlife management area; where the proposed facilities would be closest to the Mt. Martha portion of the White Mountains (at miles 14 and 16); recreational features north of

Whitefield, along Route 116 and along Johns River; Route 135, a fall foliage route; the Connecticut River, noted for fishing and canoeing; and Moore Reservoir, with its boating, canoeing, and fishing activities.

Link 39: Severe and high impacts are assigned to the places where the proposed alignment would be most visible from: Route 135; a proposed recreational area along the east side of Moore Reservoir; and scenic lookouts in Littleton.

Link 40: Severe and high impacts are assigned along the entire link. Along the second and third miles, severe impacts are assigned based on line visibility from: the Connecticut River; Route 93, a scenic highway; Route 135, a fall foliage route; the Moore Reservoir; historic sites; mineral collecting sites; scenic lookouts; and natural areas, including the Littleton Dam Wildflower Area.

Link 41: A moderate viewer impact is assigned along the link where it would be visible from land proposed for the Moore-Comerford Interstate park. In addition, the 0.3 mile link would also be visible from many of the places within the link 40 viewshed.

Segment 'D'

Link 41: (see above)

Link 42: Eight of the 9.1 miles of this link should have severe and high recreational viewer impacts. The impacts involve link visibility from Route 135, a scenic road and fall foliage route; the Connecticut River; Route 91, a scenic highway in Vermont; and active and passive recreational features along the Connecticut River

Link 43: Severe recreational viewer impacts are assigned where the proposed right-of-way would be visible from: Groton State Forest, Barre City Forest, and State Parkland below the forest. High impacts are assigned where the facilities would be visible from the scenic road between South Peacham and Barnet; the fall foliage route, bicycle route, Bailey-Hazen Military Road (a hiking trail), and historic sites, all near Peacham Village; Martins Pond, noted for boating; the proposed scenic road near Maple Hill; the Upper Orange Reservoir; Nelson Brook Gorge, a unique natural area; and Route 110, a fall foliage route.

Link 44: Severe recreational viewer impacts are assigned where the proposed right-of-way would be visible from: Stevens River, a fishing and recreational stream; the Pine Mountain Wildlife Management Area; and Groton State Forest. High impacts are assigned where the facilities would be visible from: the Connecticut River Valley and its recreational sites and routes; the Bailey-Hazen Military Road, a hiking trail; Wells River, a fishing and recreational stream; high elevations of regional significance including Signal, Burnt, Butterfield, and Knox Mountains; Jail Branch, a fishing and recreational stream; and Route 110, a fall foliage route.

Link 45: A high recreational viewer impact is assigned as the proposed facilities would be visible from a proposed scenic road.

Segment 'E'

Link 45A: No recreational viewer impacts are assigned along this link.

Link 45B: Low recreational viewer impact is assigned along this link where it would be visible from Stevens Branch, (a fishing stream), and a bicycle route along Route 14.

Link 45C: High and moderate impacts are assigned where the link would be visible from Stevens Branch, the Route 14 scenic road, and Barre City Forest.

Link 46: Severe viewer impacts are assigned where the proposed alignment penetrates Barre City Forest and a unique geological area at Pond Brook, a canoeing stream. A high impact is assigned where the facilities would be visible from historic sites, a bicycle route, snowmobile trails, multipurpose recreational areas, and sightseeing routes within both the town and city of Barre.

Link 47: A high viewer impact is assigned at the crossing of the Dog River where canoeists and fisherman could view the proposed facilities; and along Route 12 where bicyclists would view them.

Link 47A: Three severe and one high viewer impacts are assigned to this link where it would be visible, in the Winooski Valley, from the river itself; Routes I-89, 2, and 100B, (the last a fall foliage route); historic sites; canoe access points; and East Hill, a high elevation of local significance in Middlesex.

Link 48: One severe and seven high impacts were assigned to the link. Link visibility is possible from the Winooski River; Route 100, a scenic road and sightseeing route; Routes I-89 and 2; picnic and historic sites along the river; historic sites in Waterbury; and proposed conservation land in Waterbury and a nearby golf course.

Link 49: One severe and nine high impacts are assigned along this 12.2 mile link based on visibility from: Bolton Falls; Routes I-89 and 2; the Winooski River; a bicycle route in the valley; historic sites in Bolton, Jonesville and Richmond; Camels Hump State Park, including a boat launch and picnic area near Bolton Falls; Woodward Mountain, a high elevation of regional significance; the Long Trail; and Huntingdon River, noted for its canoeing and fishing potential.

Link 50: High viewer impacts are assigned where the facilities would be viewed from: the unique geological area at Pond Brook; Route I-89, and the Dog River. Moderate impacts are assigned where the link would be visible from the Winooski Valley.

Link 51: A high impact is assigned where the link would be visible from the Winooski River and Routes I-89 and 2.

Link 52: High impacts are assigned based on visibility from: an historic site; Routes 100B, I-89, and 2; and the Mad River and a nearby bicycle route.

Link 53: A severe viewer impact is assigned to the link based on visibility from the Winooski and Mad Rivers, Route 100B, and an historic site.

Link 54: High impacts are assigned where the proposed facilities would be viewed from the Mad River and Route 100B, and from Route 100, a scenic road and fall foliage route.

Link 55: A high viewer impact is predicted where the proposed facilities would be visible from the Winooski River and Routes I-89, 2, and 117. Moderate impacts are assigned along the remainder of the link which would be visible from: the University of Vermont Research Forest; a golf course east of Williston; and historic sites and multipurpose recreational areas around Williston.

Link 56: High viewer impacts are assigned along 4.1 miles of this 5.1 mile link. Visibility of the proposed facilities along this stretch would be from the following: the University of Vermont Research Forest; the Winooski River; canoe access points and historic sites along the river; Essex Junction Village Forest; the Tim Bradish Memorial Ski Area and Ski Jump; the town of Williston Forest and Conservation area; and Routes 117 and 2 (alternate), both sightseeing routes.

Visually Sensitive Land Use Viewer Impacts

Segment 'A'

Link 1: The average viewer impact on visually sensitive land uses is between moderate and low. There are, however, high impacts on residential and transportation viewers where the line crosses Route 11 (mile 17) south of Fort Kent Mills.

Link 1A: The average viewer impact is low.

Link 1B: The average viewer impact is low.

Link 1C: The average viewer impact is moderate.

Link 2: The impacts are the same as for link 1.

Link 3: Most of the link will not impact viewers at visually sensitive land use locations. There are, however, some low impacts on transportation and residential viewers along the last few miles of the link.

Segment 'B'

Link 4: Except for a low transportation viewer impact associated with mile 1, there are no land use viewer impacts along the link.

Link 5: Other than a few low impacts on transportation and residential viewers scattered throughout the viewshed, there are no land use viewer impacts associated with the link.

Link 6: There are a few low transportation viewer impacts along the first five miles of the link. Other than these, there are no impacts.

Link 7: There are no land use viewer impacts within the link 7 viewshed.

Link 8: There is a low transportation viewer impact associated with each of seven ADT 0-750 road crossings in the link. No other impacts occur

Link 9: Low impacts are associated with crossings of ADT 0-750 roads by the link. Gannett Camp will experience a low impact.

Link 9A: There will be primarily moderate impacts on the small residential clusters and ADT 0-750 road within this viewshed.

Link 10: Because there are no visually sensitive land uses in this viewshed, there are no viewer impacts.

Link 10A: Because there are no visually sensitive land uses in this viewshed, there are no viewer impacts.

transportation and residential viewers within the viewshed of the last 6.6 miles of the link.

Link 18: There is a high transportation viewer impact where mile 5 crosses Route 26 (ADT 750-3000). The rest of the route will have predominantly moderate transportation and residential impacts.

Link 18A: There are high viewer impacts on transportation viewers where mile 2 of the link crosses Route 26 (ADT 750-3000) and on residential viewers where a house is adjacent to the line at the highway crossing. There are also high impacts on residential viewers where two residences are located adjacent to the right-of-way along mile 3. An historic site in view of mile 2 will also experience high impact. Remaining transportation and residential viewer impacts within the viewshed are moderate or low.

Link 19: There are high residential viewer impacts on single residences adjacent to or within the route along miles 4, 5, 8, 9, and 10. There is also a high transportation viewer impact where Route 26 is crossed by mile 5. Other residential and transportation land uses in the viewshed will experience low or moderate viewer impacts.

Link 20: There are no land use viewer impacts within this viewshed, except for a low impact on a single residence in the route along mile 9.

Link 21: There is a high impact on transportation viewers where U.S. 3 (ADT 750-3000) is crossed by mile 5.

Link 22: Viewers at a residence near the right-of-way (mile 1) will experience high impact. There are moderate impacts on transportation viewers where three ADT 0-750 roads are crossed.

Link 23: There are no impacts, except for a low impact on residential viewers near the link terminus.

Link 24: Transportation and residential viewers will experience low impact (mile 1) and moderate impact (last 0.9 miles).

Link 25: Residential viewers within view of mile 5 (around Otter Camp) and mile 6 (in Kennebago, Maine) will experience high viewer impacts.

Link 26: Transportation viewers on Route 16 (ADT 0-750) will experience a low impact where it is crossed by mile 8. There are no other impacts.

Link 27: Except for a low viewer impact where Route 16 is crossed (mile 4), there are no impacts in this viewshed.

Link 28: Although most of the link will result in no viewer impacts, there are a few moderate impacts on residential (miles 3 and 4) and transportation (mile 4) viewers within the viewshed.

Link 29: The residential cluster along Greenough Pond will view the link from mile 3 to its end, constituting a primarily low impact.

Link 45C: Viewers at single residences near the right-of-way will experience high impacts. Transportation viewer impacts, where Route 34 is crossed, are high.

Link 46: Where I-89 (ADT 3000+) is crossed between miles 6-7, transportation viewer impacts are severe. Within the route (miles 3 and 4), residential viewer impacts are high and historic site viewer impacts are moderate.

Link 47: There are high residential viewer impacts on single residences (mile 1) and severe impacts on dense residential clusters (mile 2), including a large mobile home park near the right-of-way. Transportation viewer impacts are high where I-89 is crossed between miles 1-2. Historic site viewers (mile 3) will experience a high impact.

Link 47A: Impacts on residential viewers near the right-of-way are severe. Viewers at historic sites (miles 1 and 1.5) will experience high impacts. Other transportation and residential viewer impacts within the viewshed are predominately moderate.

Link 48: Impacts are high on residential viewers in Middlesex, Vermont (mile 1) and along the right-of-way (mile 4). Impacts on transportation viewers are high where the right-of-way is located close to Routes 100 and I-89, and the Central Vermont rail line (mile 1).

Link 49: Residential viewer impacts are severe on the mobile home park upstream from Bolton, Vermont, which is crossed by the link (mile 4). There are high impacts on the towns of Jonesville (mile 7) and Richmond (miles 10-11), and on small clusters and single residences close to the proposed right-of-way (miles 7, 8, 10, and 11). Transportation viewer impacts are severe where Routes I-89 and 2, and the Central Vermont passenger rail line are all crossed by mile 1. Impacts on viewers are high where these same routes closely parallel miles 2-11 of the link. Viewers at historic sites within the route will experience impacts resulting from visibility of miles 4 (severe impacts), and 8, 12, and 13 (high impacts). All of the above impact assignments reflect the ameliorating influence of an existing transmission right-of-way.

Link 50: Medium-density residential clusters and single residences near the right-of-way (miles 1 and 2) will experience high residential viewer impacts. Transportation viewer impacts are high where Routes I-89 (mile 1) and 12 (between miles 1-2) are crossed.

Link 51: Land use viewer impacts are predominately low, except for a moderate transportation viewer impact (mile 1).

Link 52: For the last 1.5 miles of this link, transportation viewer impacts are high where Route 100B runs close to the link. Residential viewers in Middlesex, Vermont -- which is within close viewing distance of the link--will experience high impacts.

Link 53: Impacts are the same as for the last 1.5 miles of link 52.

Link 54: There are high residential viewer impacts where single residences are located close to the proposed right-of-way along mile 3. Impact is high on transportation viewers where Route 100 is crossed (mile 1).

Link 55: Residential viewer impact is high where small clusters and single residences are located close to the right-of-way along the last mile of the link. Impacts on transportation viewers are high where the Central Vermont rail line and Route 117 are crossed (mile 1). Viewers at historic sites in the first and last mile of the route will experience high impacts. The transportation viewer impacts are ameliorated somewhat by the existence of a parallel transmission right-of-way.

Link 56: Land use viewer impacts are predominately low for this link. There are, however, high transportation viewer impacts where the Central Vermont Passenger rail line and Route 117 are crossed (mile 1).

Viewer Route Impacts

Segment 'A'

Link 1: The average value for impact on viewers for this link is just above moderate (2.11). High values are assigned to miles 1, 2, 14, and 17 Recreation, land use, and transportation viewers are subject only to low and moderate impacts. Except for historic site viewers, who are not affected at all, most viewers are moderately affected at the first three locations, whereas high impacts resulting from the facility location at mile 17, in the vicinity of the Fish River and the State Highway 161 and 158 corridors, are experienced by these viewers.

| | |
|---|---|
| None | - |
| Low | - |
| Moderate | - 76.9 |
| High | - 23.1 |
| Severe | - |

Link 1A: Impacts on viewers for this link are low. Recreation viewers are moderately affected. No historic site impacts are reported and all others are low.

| | |
|---|---|
| None | - |
| Low | - 100.0 |
| Moderate | - |
| High | - |
| Severe | - |

Link 1B: Since the link is located in approximately the same area as link 1A, all viewer impacts are similar to those for link 1A.

| | |
|---|---|
| None | - |
| Low | - 100.0 |
| Moderate | - |
| High | - |
| Severe | - |

Link 1C: Link 1C is rated high for impact on viewers. Moderate impacts are expected for recreation, land use, and transportation viewers. Historic site viewers are not affected.

| | |
|---|---|
| None | - |
| Low | - |
| Moderate | - |
| High | - 100.0 |
| Severe | - |

Link 2: The average value for impact on viewers for this link is between low and moderate (1.36). However, the last 0.7 mile is predicted to cause high impacts on all except historic sites viewers. This is primarily

due to its location in the Fish River Valley. Mile 12 should also have a high impact on recreation viewers.

None - 11.3
Low - 45.2
Moderate - 39.5
High - .4
Severe -

Link 3: The average value for impact on viewers for this link is just above low (1.19). Most impacts are low or moderate. No historic site impacts will occur. The first mile will cause high impacts on recreation viewers due to the crossing of the Allagash River.

None - 9.
Low - 63.1
Moderate - 27.9
High -
Severe -

Segment 'B'

Link 4: Because it traverses the heart of Maine's northern wilderness, impacts on viewers from this link are extremely low (0.13), with most of the link causing no impact at all. The highest impact predicted is on recreation viewers at mile 3. Miles 1, 2, 3, 12, 22 and 23 received low scores for impact on viewers.

None - 86.9
Low - 13.1
Moderate -
High -
Severe -

Link 5: Link 5, also located in an area of relative wilderness, has an average impact on viewers of less than low (0.63). The miles most significant in causing impacts are miles 22, 23, 24, 25, 26, 37 and 38. Impacts on all viewers are rated moderate, except on recreation viewers which are rated high. No historic site viewer impacts are predicted.

None - 57.0
Low - 23.3
Moderate - 19.7
High -
Severe -

Link 6: The average value for impact on viewers for this link is just above low (1.20). Most seriously affected are recreation viewers, with high impacts at miles 3, 4, and 7-13. No land use or historic site viewers are affected.

None -
Low - 79.6
Moderate - 20.4
High -
Severe -

Link 7: Impacts on viewers caused by this link are very low (0.52). There are moderate impacts on recreation viewers at miles 4 and 5 and at miles 9, 10, and 11 in the vicinity of Long Pond. No historic site or land use impacts are predicted. There will be no impact from most of the link.

None - 54.8
Low - 38.7
Moderate - 6.5
High -
Severe -

Link 8: The average value for impact on viewers for this link is above low (1.29). All impacts are either low or moderate, with a high impact on recreation viewers at mile 3 where the South Branch of the Penobscot River is crossed. No historic site viewer impacts are predicted.

None -
Low - 70.9
Moderate - 29.1
High -
Severe -

Link 9: Passing primarily through wilderness areas in Maine, this link has a very low average impact on viewers (0.47). Most of the link causes no impact on viewers; low impacts far outnumber the few moderate impacts. Most significant are the high impacts on recreation viewers between miles 46-49, where the line passes between Moosehead and Seboomook Lakes, and at mile 58 in the vicinity of Tomhegan Pond. Again, no historic site viewer impacts are predicted.

None - 63.8
Low - 25.2
Moderate - 11.0
High -
Severe -

Link 9A: The average value for impact on viewers for the link is above low (1.33). Recreation viewers, however, are rather seriously affected, particularly at miles 3 and 4, 6 and 7, and 12-13.5, near Long Pond and the Moose River. Between miles 12-13.5, there are also moderate impacts on land use and transportation viewers. No historic site viewer impacts are predicted.

None -
Low -
Moderate - 55.5
High - 22.2
Severe 22.3

Link 10: The average viewer impact for this link is below low (0.87). Only recreation viewers are affected, and these impacts are low.

None - 12.7
Low - 87.3
Moderate -
High -
Severe

Link 10A: The average viewer impact value for the link is below low (0.71). Again only recreation viewers are affected. Significantly, a high impact on recreation viewers has been predicted at mile 7 due to the proximity of the proposed alignment to Muskrat Pond. Moderate impacts are forecast at miles 5, 6, and 8 due to the proximity of a number of small ponds, including Fish, Mud, and Luther Ponds.

None - 40.8
Low - 49.0
Moderate - 10.2
High -
Severe -

Link 11 (First 5.9 miles): The average viewer impact value for the first 5.2 miles of the link is just above low (1.14). Recreation viewers particularly are moderately affected at miles 1, 3, and 4. Mile 6 has a high viewer impact rating for recreation and transportation viewers where it crosses Route 201, a well traveled scenic highway, and a moderate score for land use viewers due to residences along the highway. No historic site viewer impacts are predicted.

None - 33.9
Low - 33.9
Moderate - 16.9
High - 15.3
Severe -

Link 11A: The entire link is rated low (1.0). Some moderate impacts on recreation viewers are predicted.

None -
Low
Moderate - 100.0
High -
Severe -

Link 12 (First 1.0 mile): This mile is rated moderate for viewer impacts. Recreation viewer impacts are high due to the crossing of the Moose

River and the Canadian Pacific rail line by the alignment. Generally low impacts are projected for land use and transportation viewers. No historic site viewer impacts are reported.

None -
Low -
Moderate -
High -
Severe -

Segment 'C'

Link 11 (Mile 5.9 to end): The average value for impact on viewers for this portion of the link is low (0.98). Only 0.1 mile, at the beginning of this portion of link 11, is rated high due to high impacts on recreation and transportation viewers and a moderate impact on land use viewers. Most notable impacts along the link are on recreation viewers. They occur in mile 24, where the alignment traverses Twin Island Pond, and within mile 40 due to the proximity of Lower Pond and the crossing of the North Branch of Dead River No impacts on historic site viewers are reported.

None -
Low - 66.2
Moderate - 15.5
High - .3
Severe - 18.0

Link 12 (Mile 1.0 to end): The average value for impact on viewers for the remainder of link 12 is low (1.05). Again, the most significant effects are on recreation viewers. High impacts occur at miles 3, 4, 5 and 8 due to a reduction in the quality of views from the recreational water bodies to the west, and at miles 24 and 25, and mile 34 near Eustis where the North Branch of the Dead River and the Arnold Trail are crossed. (This area has been designated by the Maine Land Use Regulation Commission as an 'unusual area'). There are very few areas of impact on either transportation and land use viewers, all of which impacts are moderate or low. There are no impacts on historic site viewers.

None - 21.7
Low - 51.1
Moderate - 27.2
High -
Severe -

Link 12A: The average value for impact on viewers for this link is below low (0.85). No significant impacts occur. There is no impact at mile 3, and no impact on either land use or historic site viewers. All impacts reported are low.

None - 15.4
Low - 84.6
Moderate -
High -
Severe -

Link 13: Four out of six miles of link 13 are rated low for impact on viewers yielding an average value well below low (0.67). The only impacts are on recreation viewers. Moderate impacts are reported for miles 2 and 3, and low impacts for miles 4 and 5.

None - 33.3
Low - 66.7
Moderate -
High -
Severe -

Link 13A: The average viewer impact value for the link is below low (0.86). The only impacts predicted are on recreation viewers. Most notable among these is a high impact at mile 3 as it traverses some prominent slopes of Sawyer Hill Ridge disrupting high quality views from Eustis Ridge.

None - 24.7
Low - 64.5
Moderate - 10.8
High -
Severe -

Link 14A: No viewer impact is predicted to result from this link.

None - 100.0
Low -
Moderate -
High -
Severe -

Link 14: The average viewer impact for this link is very low (0.49). Only recreation viewers are affected, with low impacts at miles 3.4 and 5. No other impacts are reported.

None - 50.8
Low - 49.2
Moderate -
High -
Severe -

Link 15: The average viewer impact for this link is very low (0.68). Only recreation viewers are affected, except for a low impact on land use viewers at mile 7. Moderate impacts occur between miles 12-15.8 where the line is placed along a prominent mountainside facing Second Connecticut Lake.

None - 31.6
Low - 68.4
Moderate -
High -
Severe -

Link 16: This link is very similar to link 15 with an average viewer impact value of low (0.97). All impacts are on recreation viewers, with high values for the last 1.5 miles.

None - 12.9
Low - 77.4
Moderate - 9.7
High -
Severe -

Link 17: The average view impact value for this link is moderate (1.95). Impacts are primarily on recreation viewers with high values reported for all but the first mile. This is due to the location of the alignment on the lower slopes of Magalloway Mountain and Diamond Ridge.

None -
Low - 5.4
Moderate - 94.6
High -
Severe -

Link 17A: The average viewer impact for this link is just above low. However, two miles of high impact on land use viewers and 2.1 miles of severe impact on recreation viewers are predicted. These viewers are situated on or near Diamond and Little Diamond Ponds with the line perched on prominent slopes of Black Bluff Hill and Tumble Dick Mountain from mile 7 to the end of the link. No impacts are reported on transportation or historic site viewers.

None - 24.7
Low - 49.4
Moderate -
High - 25.9
Severe -

Link 17B: The average viewer impact value for this link is above low (1.32). For the first 8 miles, only recreation impacts are reported and for 4 miles there is no impact at all. No historic site impacts are predicted. From mile 9 through the end of the link land use, transportation, and recreation viewers are affected. Impacts are mostly moderate. However, at mile 14, a high impact on land use viewers is identified where the alignment is located in open fields close to residential areas north of Upper Kidderville.

None - 27 4
Low - 34.3
Moderate - 17.8
High - 20.5
Severe -

Link 18: The average viewer impact value for this link is high (2.96). Impact is high except for the final 0.2 mile. No historic site viewer impacts are predicted and most impacts on other viewers are moderate and low. However, a severe impact on recreation viewers results at mile 1 where the alignment passes through Coleman State Park, and a high impact on transportation viewers will occur at mile 5.

None -
Low -
Moderate - 3.8
High - 96.2
Severe -

Link 18A: The average viewer impact value for this link is below moderate (1.67). The first two miles are rated high and the next two moderate. The remainder of the link causes no significant impact. The first mile, located just west of Kidderville, will cause high impacts to all recreation, transportation, and land use viewers. Impacts on the last also occur within mile 3. There is a high impact on historic site viewers at mile 2.

None - 33.3
Low -
Moderate - 33.3
High - 33.4
Severe -

Link 19: The average viewer impact value for this link is moderate (2.1). Most significant are the high values assigned to miles 4, 5, 6, 8, and 9. In particular, mile 5 reflects high impacts on recreation, transportation, and land use viewers. Mile 5 is located near residential areas east of Kidderville and crosses highway 26, a highly traveled sightseeing and fall foliage route. No historic site viewer impacts are predicted.

None - 9.1
Low - 18.2
Moderate - 27.3
High - 45.4
Severe -

Link 20: Viewer impacts for this link are primarily low, yielding a low average viewer impact value (1.10). Recreation viewers primarily are affected, with a high impact occurring at mile 9, where the link crosses a hiking trail and closely parallels Nash Stream. One low impact is reported on land use viewers at mile 9. There are no impacts on transportation or historic site viewers.

None -
Low - 90.5
Moderate - 9.5
High -
Severe -

Link 21: The average viewer impact value for the link is between low and moderate (1.66). High impact is predicted at mile 5 due to high impacts on recreation and transportation viewers and moderate impact on land use viewers. Here the route crosses the Upper Ammonoosuc River, Route 3, and the Boston and Maine Grand Trunk within 0.5 mile of the town of Groveton. High impacts on recreation viewers are also identified for miles 1 and 6. There are no historic site viewer impacts.

None -
Low - 51.7
Moderate - 31.1
High - 17.2
Severe -

Link 22: The average viewer impact value for this link is between moderate and high (2.58). Mile 2 is rated moderate, whereas the remainder of the link is rated high. High impacts are reported on recreation viewers at miles 1 and 3, and on land use viewers at mile 1 as some residential areas in the Upper Ammonoosuc River Valley are affected. No historic site viewer impacts are reported.

None -
Low -
Moderate - 41.7
High - 58.3
Severe -

Link 23: All of this link is rated low (1.0). No transportation or historic site viewer impacts are predicted.

None -
Low - 100.0
Moderate -
High -
Severe -

Link 24: This link is rated moderate (2.0) for viewer impacts. However, high impacts on recreation viewers are reported for the entire link due to the proximity of the line to the recreational waters of the Upper Ammonoosuc River No historic site viewer impacts are predicted.

None -
Low -
Moderate - 100.0
High -
Severe -

Link 25: The average viewer impact value for this link is above low (1.22). High impacts are reported for miles 5 and 6 due to the effects on recreation and land use viewers around Kennebago and Little Kennebago Lakes. Mile 12 is also rated high for impact on recreation viewers where the Cupsuptic River is crossed. No historic site viewer impacts are reported.

None - 21.4
Low - 42.9
Moderate -
High -
Severe -

Link 26: The average viewer impact value for this link is above moderate (2.21). The most critical impacts are at miles 6, 7, and 8, which are rated severe. In this area, recreation viewer impacts are severe, and transporation and land use viewer impacts are primarily high. This is due to placement of the proposed alignment on the upper slopes of Observatory Mountain, facing Aziscohos Lake. Miles 1 and 2 show no impact and the remaining impacts are primarily moderate. No historic site viewer impacts are identified.

None - 20.8
Low - 31.3
Moderate - 16.6
High -
Severe - 31.3

Link 27: The average viewer impact value for this link is above low (1.35). Recreation viewer impacts are most serious with high values reported at mile 2, due to proximity to Cupsuptic Lake, and miles 8, 9, and 10 due to the effects on Richardson, Upper Richardson, East Richardson, Pepperpot, Beaver, and Little Beaver Ponds. Other impacts reported are minimal, being either low or moderate. No historic site viewer impacts are likely.

None - 17.6
Low - 29.8
Moderate - 52.6
High -
Severe -

Link 28: The average viewer impact value for this link is nearly moderate (1.74). A high impact is identified at mile 4, where impacts predicted include moderate impacts on transportation and land use viewers and a high impact on recreation viewers, primarily due to the crossing of the Magalloway River. High recreation viewer impacts are also predicted for miles 1, 2, 6, and 7. No historic site viewer impacts are identified.

None - 13.0
Low -
Moderate - 74.0
High - 13.0
Severe -

Link 29: No impact is predicted for the first 2 miles of this link. The remaining 3.2 miles are rated moderate, yielding an average viewer impact above low (1.23). All recreation impacts are moderate. Land use viewers are moderately affected at mile 3, with the remainder of the link rated low. No transportation or historic site viewer impacts are reported.

None - 38.5
Low -
Moderate - 61.5
High -
Severe -

Link 30: The average viewer impact value for this link is low (1.0). No impacts are reported for the first mile and the remainder of the link, with the exception of mile 4 which is rated moderate. No impacts on transportation and historic site viewers are reported and only a low impact at mile 4 is reported for land use viewers. Moderate impacts on recreation viewers are predicted at miles 3 and 4 due to the proximity of Greenough and Little Greenough Pond.

None - 18.9
Low - 62.2
Moderate - 18.9
High -
Severe -

Link 31: The average viewer impact value for this link is just below moderate (1.92). However, severe impacts are recorded at miles 18 and 19, due to severe recreation viewer impacts along the Upper Ammonoosuc River, and high transportation and land use viewer impacts in the river valley. High impacts on these latter two viewer types are also reported for miles 16 and 17 and high impacts on recreation viewers are identified for miles 2, 3, 13, and 20. No historic site viewer impacts are predicted.

None - 4.9
Low - 39.4
Moderate - 19.7
High - 21.2
Severe - 9.8

Link 32: All of this link is rated high (3.0). A severe impact on recreation viewers is predicted within mile 1 where the proposed alignment crosses the Upper Ammonoosuc River In the second mile, high impacts are reported for all viewers, except possible historic site viewers.

None -
Low -
Moderate -
High - 100.0
Severe -

Link 33: All of link 33 is rated moderate (2.0). There should be high impacts on recreation viewers along both miles because the proposed alignment passes through the proclamation area of the White Mountains National Forest. No historic site viewer impacts are identified.

None -
Low -
Moderate - 100.0
High -
Severe -

Link 34: Link 34 is rated moderate (2.0) with low impacts predicted for recreation, land use, and transportation viewers. No historic site viewer impacts are identified.

None -
Low -
Moderate - 100.0
High -
Severe -

Link 35: The average viewer impact value for this link is between high and severe (4.05). Severe impacts on land use viewers, and high impacts on transportation and recreation viewers, are reported for mile 1, which is rated severe overall. In this area, the alignment is situated on the foothills of Cape Horn, facing the town of Groveton and the Connecticut River Valley. Severe impacts on recreation viewers are reported at miles 5 and 6, along with high impacts on transportation and land use viewers. In this area the alignment traverses the relatively settled Connecticut River Valley, crossing the river itself as well as two well-traveled highways (U.S. 3 and State 102). Remaining impacts are primarily high, except for moderate impact on historic site viewers within the last mile.

None -
Low -
Moderate -
High - 47.6
Severe - 52.4

Link 36: The average viewer impact value for this link is below moderate (1.79). However, a high viewer impact is predicted at mile 12. Here, a high impact on land use viewers is predicted because the proposed alignment passes extremely close to some residences on Oregon Road, northwest of East Concord, Vermont. High land use viewer impacts are also reported for miles 8 and 15. High impacts on recreation viewers are reported at mile 2, where a scenic road is crossed, and at miles 17,

18 and 19, due to the proximity to the Moore Reservoir. The moderate impact on historic site viewers from the previous link will carry over for the first mile.

None -
Low - 26.7
Moderate - 68.0
High - 5.3
Severe -

Link 37: The average viewer impact value for this link is between moderate and high (2.68). Most impacts, however, are high. Recreation viewer impacts are most significant, with high values reported for miles 1, 6, and 12. Historic site viewer impacts are reported for miles 7 (low) and 10 (moderate).

None -
Low -
Moderate - 32.2
High - 67.8
Severe -

Link 38: The average viewer impact value for this link is between moderate and high (2.43). However, severe impacts have been identified for historic site viewers and recreation viewers, where the line passes within 0.5 mile of Mount Prospect State Park. High impacts on recreation and land use viewers are predicted for mile 18, just north of Whitefield. Moderate impact or transportation viewers and a severe impact on historic viewers are also predicted. A severe impact on recreation viewers is reported at mile 22, where a scenic road is crossed twice by the proposed alignment.

None -
Low - 15.5
Moderate - 41.9
High - 34.8
Severe - 7.8

Link 39: The average viewer impact value for this link is above moderate (2.18). The most serious impacts are on recreation viewers, with values of high reported at miles 2 and 3, due to the effect upon viewers at Moore Reservoir, and a value of severe reported for mile 4 where the proposed alignment becomes more prominent in the surrounding landscape. No historic site impacts are reported.

None -
Low -
Moderate - 81.8
High - 18.2
Severe -

Link 40: The average viewer impact value for this link is between moderate and high (2.67). Recreation viewers are again the most seriously

affected. A high recreation viewer impact is predicted for the first mile, due to the proximity to the Moore Reservoir. However, severe impact values are assigned to the subsequent two miles where the alignment crosses scenic roads and the Connecticut River itself. A high impact on transportation viewers is reported for the last mile where a well-traveled highway is crossed. No historic site viewer impacts are predicted.

None -
Low -
Moderate - 33.3
High - 66.7
Severe -

Link 41: All of this link is rated moderate (2.0). Only historic site viewers (high impact) are affected.

None -
Low -
Moderate - 100.0
High -
Severe -

Segment 'D'

Link 41: (see above)

Link 42: The average viewer impact value for this link is above high (3.13). The worst impacts occur from mile 8 to the end of the link, with recreation viewers the most seriously affected. Severe impacts on recreation viewers are reported at miles 3, 5, 8, where the link crosses the Connecticut River, and 9, where it crosses a well-traveled scenic highway. Impacts at mile 9, due to proximity to the town of Barnet, are most serious, being severe on recreation viewers and high on all other viewers. No viewer impacts are reported for mile 1.

None - 11.0
Low -
Moderate -
High - 65.9
Severe - 23.1

Link 43: The average viewer impact value for this link is below high (2.82). Impacts at miles 6, 7, 8, and 28 are rated severe overall, due to high and moderate impacts on most viewers, and severe impacts at miles 6 and 8 on historic site viewers in the vicinity of Peacham. Recreation viewers are also seriously affected, with severe impacts between miles 10-15, where the link passes through Groton State Forest, and miles 25-28, where it passes through Barre City Forest and State Park lands.

None -
Low - 13.2
Moderate - 17.4
High - 55.9
Severe - 13.2

Link 44: The average viewer impact value for this link is between moderate and high (2.59). Again recreation viewers are most seriously affected with severe impacts reported for the mile 1, where the link crosses a scenic highway; mile 12, where it passes through a wildlife management area; and miles 17 and 18, where it traverses the Groton State forest. As the first mile passes through the town of Barnet, impacts on residential viewers are also severe. Miles 1 and 25 are rated severe overall. Along the former, in addition to severe impacts on recreation and land use viewers, there will be a high impact on transportation viewers; along the latter, there will be high impacts on all viewers except historic site viewers (low impact). Historic site viewers at mile 13, however, are subject to high impacts.

None - 3.6
Low - 3.7
Moderate - 37.5
High - 47.8
Severe - 7.4

Link 45: The average viewer impact value for this link is between moderate and high. Mile 1 is rated high, with a high impact on land use viewers next to the proposed alignment and moderate and low impacts on transportation and recreation viewers, respectively. In the next mile recreation viewer impacts are high, as a proposed scenic highway is crossed. Impacts on transportation and land use viewers here are low. No historic site viewers are affected.

None -
Low -
Moderate - 33.3
High - 66.7
Severe -

Segment ' E'

Link 45A: All of this link is rated moderate (2.0). Within the first mile, the proximity of a cluster of residences to the proposed alignment causes a high impact for land use viewers. All other viewers except recreation and historic site viewers, who are not affected, are only moderately affected.

None -
Low -
Moderate - 100.0
High -
Severe -

Link 45B: The average viewer impact value for this link is between moderate and high (2.33). A severe impact on transportation viewers is reported for the second mile where Route 14 is crossed. No historic site viewer impacts are predicted.

None -
Low -
Moderate - 66.7
High - 33.3
Severe -

Link 45C: The average viewer impact value for this link is between high and severe (3.87). The single most severe impact is predicted for transportation viewers within the second mile where Route 14 is crossed. The second mile is rated severe overall, with moderate impact predicted for land use viewers and high impact for recreation viewers as Route 14 is a scenic highway in this area. No historic site viewer impacts are reported.

None -
Low -
Moderate
High - 56.5
Severe - 43.5

Link 46: The average viewer impact value for this link is above high (3.21). Severe impacts are reported for recreation viewers at mile 1, where Barre City Forest is traversed, and at mile 7, where the line is located near a unique natural (geologic) area. Severe impacts on transportation viewers are predicted for miles 6 and 7 where Route 302 is paralleled and crossed. At miles 3 and 4 there are high impacts on land uses viewers and moderate impacts on historic site viewers.

None -
Low -
Moderate - 29.8
High - 44.8
Severe - 25.4

Link 47: The average viewer impact value for this link is above high (3.19). Mile 2 is rated severe overall, with moderate impact predicted for recreation viewers, high impacts for transportation viewers along Route I-89, and severe impacts for land use viewers where some residences are located alongside the proposed alignment. There is a high impact on recreation viewers at mile 3 where the Dog River is crossed. A high impact on historic site viewers is also predicted for mile 3.

None -
Low -
Moderate - 28.6
High - 47.6
Severe - 23.8

Link 47A: The average viewer impact value for this link is between high and severe (4.41). Recreation viewers are most seriously affected, with severe impacts reported for miles 1, 2, and 4 where the line is close to the Winooski River A severe impact is also predicted for the final 0.4 miles of the link due to its proximity to the town of Middlesex. High impacts on historic site viewers are reported for the first two miles.

None -
Low -
Moderate -
High - 29.4
Severe - 70.6

Link 48: The average viewer impact value for this link is between high and severe (3.55). Recreation viewers are most seriously affected, with a severe impact reported for mile 1 and high impacts for the remainder of the link. This is because the alignment runs through the Winooski Valley close to both the Winooski River and Routes 2 and I-89. Thus, a high impact on transportation viewers at mile 1 is predicted. Further, because the line is adjacent to the town of Middlesex at mile 1, there will be high impact on urban land use viewers here. A moderate impact on historic site viewers is reported at mile 5.

None -
Low -
Moderate -
High - 74.4
Severe - 25.6

Link 49: The average viewer impact value for this link is between high and severe (4.31). Severe impacts are experienced by all viewer types. Recreation and transportation viewers are severely affected at mile 1 where the line crosses the Winooski River and Route 2 and I-89. Residential and historic site viewers are severely affected at mile 4 due to proximity of the line to the town of Bolton. Because this link runs longitudinally through the Winooski River Valley, almost entirely paralleling the river and the major roads (2, I-89), there are high impacts on both recreation and transportation viewers for many miles. Overall, severe impacts are recorded for miles 1, 3, 4, 7, 8, 10, 11, and 12.

None -
Low -
Moderate -
High - 34.4
Severe - 65.6

Link 50: The average viewer impact value for this link is above moderate. No historic site viewer impacts are reported, but all other viewers are subject to high impacts at miles 1 and 2. A high impact on transportation viewers is reported for mile 3. All other impacts are either moderate or low.

None -
Low - 14.5
Moderate - 42.0
High - 43.5
Severe -

Link 51: The average viewer impact value for this link is between moderate and high (2.48). Only one high impact--on recreation viewers at mile 1--is recorded. No historic site viewer impacts are reported.

None -
Low -
Moderate - 52.4
High - 47.6
Severe -

Link 52: The average viewer impact value for this link is also between moderate and high (2.55). Mile 1 is rated moderate for impact, whereas the remainder of the link is rated high for all viewers, except historic site viewers, for whom no impacts are reported.

None -
Low -
Moderate - 45.5
High - 54.5
Severe -

Link 53: The entire link is rated severe (5.0). Recreation viewers are severly affected as the entire line closely parallels the Winooski River and Route 100a from Middlesex. Because the line is positioned on a mountainside facing and close to the Winooski Valley, the town of Middlesex, and routes 100A, 2, and I-89, there will be high impacts on transportation and land use viewers. No historic site viewer impacts are reported.

None -
Low -
Moderate -
High -
Severe - 100.0

Link 54: The average viewer impact value for this link is below moderate (1.93). However, high impact values are reported for miles 1, 4, 5, and 8. The first mile, where the line crosses the Mad River and a sightseeing route (route 100a), is rated high for impact on recreation and transportation viewers. At mile 3, the line passes right over a couple residences, resulting in a rating of high for impact on land use viewers. No historic site viewer impacts have been identified.

None - 13.3
Low - 26.7
Moderate - 13.3
High - 46.7
Severe -

Link 55: This link is rated high for viewer impact (4.0). Impacts at miles 1 and 5 are most serious, with potential high impacts on recreation and historic site viewers at the former and on land use and historic site viewers at the latter, where a number of residences and historic structures are situated alongside the proposed alignment. Historic site viewer impacts are reported for the entire link, with moderate values assigned to miles 2, 3 and 4.

None -
Low -
Moderate -
High - 100.0
Severe -

Link 56: All of this link is rated high for viewer impact (3.0). All viewer types are affected. Recreation viewers are most seriously affected, with a moderate impact reported for mile 1, and high impacts for the remainder. Low impacts on historic site viewers are predicted for the entire link.

None -
Low -
Moderate -
High - 100.0
Severe -

## Pre-Emptive Impacts on Recreational Resources

Segment 'A'

Link 1: The majority of pre-emptive impacts along the link are rated low and associated with snowmobile trail crossings. A moderate impact is assigned where the proposed line passes by a seasonal residence. High impacts are assigned where the line crosses Route 11, as this could affect the experience of motorists on the route who are sightseeing or on fall foliage trips.

Link 1A: There are no pre-emptive impacts on recreational resources along this link.

Link 1B: There are no pre-emptive impacts along this link.

Link 1C: Crossings of the Fish River, a canoe route, and of Route 161, a fall foliage route, are assigned high impacts. Low impacts are assigned to the snowmobile trail crossings.

Link 2: The majority of pre-emptive impacts assigned to the link are low, due to the numerous snowmobile crossings. A moderate impact is assigned where the link impinges on Hunnewell Lake, a great pond noted for trout fishing. High impacts are assigned at Wheelock Lake, also a great pond noted for trout fishing; at Bossy Mountain, a high elevation of local significance; and to the crossing of Route 11, a fall foliage and sightseeing route. Two severe impacts are assigned where the link would disrupt public land.

Link 3: Severe impacts are assigned where the route impinges upon public land and at the crossing of the Allagash River, a National Wild and Scenic River and notable canoe route. Other impacts assigned along the route are moderate or low. These are associated with the proposed scenic lookout above the Allagash River; at a proposed hiking trail; where the lines cross snowmobile routes; and where they impinge upon a seasonal residence.

Segment 'B'

Link 4: The predominant impacts assigned to this link are moderate due to potential disruption of camping areas. A high impact is predicted for one camping area in the direct path of the proposed right-of-way.

Link 5: The only pre-emptive impact on recreational resources is assigned to the crossing of Baker Branch. A high impact is recorded here due to the nature of stream, a National Wild and Scenic River study candidate and a noted canoe route.

Link 6: Severe pre-emptive impacts are assigned to the crossing of the North Branch Penobscot Rier The river is a National Wild and Scenic River candidate, and a notable canoe route and trout fishing river

Link 7: There are no pre-emptive impacts along this link.

Link 8: The majority of pre-emptive impacts along this link are low due to the crossings of unmaintained snowmobile trails. A severe impact is assigned to the crossing of South Branch Penobscot River, a canoe route and National Wild and Scenic River candidate.

Link 9: The only pre-emptive impact--rated severe--is assigned to the crossing of West Branch Penobscot River, a National Wild and Scenic River candidate and canoe route.

Link 9A: Within the proposed right-of-way, impacts are assigned to public lands and snowmobile trails. A severe impact is recorded for the disruption of public lands and low impacts are recorded for crossing the snowmobile trails, except in one area where the impact should be moderate because of the way the proposed alignment parallels the trail.

Link 10: All pre-emptive impacts along the proposed link are predicted to be low. The only recreational features crossed include maintained and unmaintained snowmobile trails.

Link 10A: The impacts assigned along this link are low because only unmaintained snowmobile trails are affected.

Link 11 (First 5.9 miles): The pre-emptive impacts assigned for the link are low at the snowmobile trail crossings and high at the crossing of Route 201, a fall foliage route.

Link 11A: The only feature crossed by the link is 0.3 mile of a snowmobile trail, assigned a low impact for pre-emption.

Link 12 (First 1.0 mile): A high impact is assigned to the first mile of this link where the Moose River, (a canoe route), Route 15, (a fall foliage and sightseeing route), and the Canadian Pacific Railway (a passenger line used at times for sightseeing) are all crossed.

Segment 'C'

Link 11 (Mile 5.9 to end): The pre-emptive impacts on recreational resources along this link include: numerous low impacts at snowmobile trail crossings; high impacts at the crossing of the Moose River, a National Wild and Scenic River study candidate, and at the nearby crossing of the Canadian Pacific Railway, a passenger sightseeing rail line; a severe impact at the crossing of Twin Island Pond, a great pond; a high impact at the crossing of Kibby Stream, also a National Wild and Scenic River candidate; severe impacts where there would be disruption of public land northeast of North Branch Dead River; and high impacts at the crossings of North Branch Dead River, the Arnold Trail, and Route 27, a scenic highway and fall foliage route.

Link 12 (Mile 1.0 to end): The pre-emptive impacts along this route include: severe impacts on public lands; and high impacts at the crossing of Route 201 (a sightseeing and fall foliage route), at the crossing of Fish Pond, (a great pond noted for canoeing and water-based recreation),

at the crossings of Baker and Spencer Streams (both canoe routes), at the crossing of the North Branch Dead River (a canoe route), and, in the same area, Route 27 (a scenic highway and fall foliage route), and the Arnold Trail.

Link 12A: There are no pre-emptive impacts along this link.

Link 13: Severe impacts are assigned where two miles of this link bisect public land.

Link 13A: Severe impacts are assigned where two miles of this link cross public land.

Link 14A: There are no pre-emptive impacts along this link.

Link 14: There are no pre-emptive impacts along this link.

Link 15: Moderate pre-emptive impacts are assigned where the link crosses the hiking trail from West Branch Magalloway River to Rump Mountain. Low impacts are assigned where the link crosses a proposed hiking trail which is part of an overall trail system in the Connecticut Lakes region.

Link 16: Pre-emptive impacts assigned here include: a moderate impact for the disruption of a hiking trail which parallels the Cupsuptic River; a moderate impact at the crossing of the Rump Mountain hiking trail; and a low impact at the crossing of a trail which is part of the proposed Connecticut Lake Region hiking trail system.

Link 17: Low impacts are assigned at the crossings of a snowmobile trail and proposed hiking trails, and where the proposed right-of-way passes near a leased camplot on St. Regis Paper Company land.

Link 17A: The pre-emptive impacts assigned to the link are severe where it crosses Coleman State Park and low where it crosses snowmobile trails northeast of the park.

Link 17B: Most of the pre-emptive impacts assigned to the link are low due to the crossings of snowmobile trails and a proposed hiking trail. A high impact is assigned at the crossing of the fall foliage route around the Lovering Mountain and Harvey Swell Natural areas.

Link 18: The pre-emptive impacts assigned include: a severe impact where the link penetrates Coleman State Park and a high impact where it crosses the fall foliage route near Harvey Swell, a natural area.

Link 18A: High impacts are assigned at the crossing of the Mowhawk River, a fishing and canoeing river and state designated Wild and Scenic River candidate; Route 26, a sightseeing and fall foliage route; and at the crossing of a fall foliage route near Cilley Hill

Link 19: Severe impacts are assigned along the link where the proposed right-of-way crosses Coleman State Park and the Panorama Golf Course at

the Balsams. High impacts are assigned to the crossings of the Mohawk River and Route 26.

Link 20: A high impact is assigned where the proposed right-of-way is tangent to Nash Stream, a canoe route and state designated Wild and Scenic River candidate. A moderate impact is assigned to the crossing of the hiking trail from Nash Stream to Percy Points.

Link 21: The pre-emptive impacts assigned to the route include high impacts at the following crossings: Nash Stream; Route 110, a sightseeing and bicycle route; and the Upper Ammonoosuc River, a canoe route and state designated Wild and Scenic River candidate.

Link 22: High impacts are assigned where the link crosses the Upper Ammonoosuc River, a nearby fall foliage route, and Route 110. High impact is also assigned where the link penetrates the proclamation area of the White Mountains National Forest.

Link 23: There are no pre-emptive impact within this link.

Link 24: There are no pre-emptive impacts within this link.

Link 25: A severe impact is assigned where the route crosses public land between Little Kennebago and Kennebago Lakes. High impacts are assigned to the crossings of Kennebago and Cupsuptic Rivers, both canoe routes. Moderate impacts are assigned to the crossings of hiking trails between West Kennebago Mountain and the Kennebago River

Link 26: A high impact is recorded at the crossing of Route 16, a fall foliage route.

Link 27: Severe impacts are assigned where the link penetrates public land around Richardson and Pepper Pot Ponds. A high impact is assigned to the Route 16 crossing. Moderate impacts are assigned to hiking trail crossings near Pepper Pot and East Richardson Ponds.

Link 28: High impacts are assigned where the proposed route crosses the setback conservation area of Aziscohos Pond, a great pond and remote trout pond; Route 16, a sightseeing, fall foliage, and bicycle route; the Magalloway River, a canoe route; and the Dead Diamond and Diamond Rivers, both canoe routes and state designated Wild and Scenic River candidates.

Link 29: A low pre-emptive impact is assigned to the crossing of a snowmobile trail above Little Greenough Pond.

Link 30: A moderate impact is assigned where the link parallels a snowmobile trail near Bear Brook Pond. Where the link crosses a snowmobile trail near Little Bear Brook Pond, a low impact is assigned.

Link 31: Severe impacts are assigned to the crossings of Route 26, a scenic highway and sightseeing route, and Clear Stream, a canoe route. High impacts are assigned to the crossing of Phillips Brook, a canoe

route and state designated Wild and Scenic River candidate, and where the route parallels the fall foliage route north of the Upper Ammonoosuc River

Link 32: High impacts are assigned where the proposed right-of-way crosses the Upper Ammonoosuc River, the fall foliage route above it, and Route 110.

Link 33: High and moderate impacts are assigned where the link penetrates the proclamation area of the National Forest and a proposed conservation district in Northumberland.

Link 34: A moderate impact is assigned where the link penetrates a proposed conservation district in Northumberland.

Link 35: High impacts are assigned where the link crosses Routes 3 in New Hampshire and 102 in Vermont, both fall foliage and sightseeing routes; and the Connecticut River, a canoe route and National Wild and Scenic River study candidate.

Link 36: A high pre-emptive impact is assigned to the crossing of the scenic road east of Halibut and Sheridan Mountains.

Link 37: A severe impact is assigned to the possible disruption of a sporting camp by the proposed link. A high impact is assigned to the crossing of Route 2, a scenic and sightseeing route.

Link 38: High impacts are assigned to the following recreational resources within the link right-of-way: Route 2, a scenic road and bicycle route; Route 116 a sightseeing route; Dalton Mountain, a high elevation of local significance; a scenic road between Beede Mountain and Wallace Hill; and at the crossings of Route 135, a fall foliage route, and the Connecticut River, noted for canoeing and fishing.

Link 39: A moderate impact is assigned along the link at the crossing of a portion of the Moore Reservoir near Mink Brook.

Link 40: High pre-emptive impacts are assigned along the last mile of the link where it crosses the Connecticut River; Route 93, a scenic highway; Route 135; and a bicycle route.

Link 41: A moderate impact is assigned where the proposed right-of-way penetrates land proposed for the Moore-Comerford Interstate Park.

Segment 'D'

Link 41: (see above)

Link 42: High impacts are assigned along the proposed right-of-way at the crossings of Route 135, a fall foliage route and scenic road; the Connecticut River; and in Vermont, Route 5, a bicycle route, and Route 91, a scenic highway.

Link 43: Severe pre-emptive impacts are assigned where the proposed right-of-way penetrates Groton State Forest, hiking and snowmobile trails within the forest, and Barre City Forest and State Parkland near Upper Orange and Lower Orange Reservoirs. High impacts are assigned to the crossings of a fall foliage and bicycle route in Peacham; the Baley-Hazen Military Road, a hiking trail; and an historic site near the proposed scenic road at Maple Hill.

Link 44: Severe impacts are assigned where the proposed facilities would disrupt the Pine Mountain Wildlife Management Area and Groton State Forest. High impacts are assigned to the crossings of the Baley-Hazen Military Road, a hiking trail; the fall foliage route and historic site west of Pine Mountain; and Route 11, a fall foliage route.

Link 45: A moderate impact is assigned where the link crosses a proposed scenic road.

Segment 'E'

Link 45A: There are no pre-emptive impacts along this link.

Link 45B: A moderate impact is assigned where the link crosses Stevens Branch, a fishing and recreational stream, and a bicycle route along Route 14.

Link 45C: Resources and their impacts are the same as for the previous link.

Link 46: Severe impacts are assigned where the link would disrupt Barre City Forest and a unique Geological area at Pond Brook.

Link 47: Moderate impacts are assigned to the crossing of the Dog River, noted for canoeing and fishing, and a bicycle route along Route 12.

Link 47A: A high impact is assigned where the right-of-way impinges upon the Winooski River.

Link 48: High impacts are assigned where the right-of-way overlaps the Winooski River and crosses Route 100, a scenic road and sightseeing route.

Link 49: A severe impact is assigned to the crossings of Bolton Falls; the Winooski River; Route 89 and Route 2, all at the same milepost. High impacts are assigned to the crossings of historic sites in Bolton, and to the crossing of Long Trail.

Link 50: Moderate impacts are assigned to the crossings of Dog River and Jones Brook.

Link 51: A moderate impact is assigned along the first mile to the crossings of a snowmobile trail and a stream with high recreational potential.

Link 52: High impacts are assigned at the crossing of Route 100B, a fall foliage route, and at a historic site.

Link 53: High impacts are assigned due to impingement upon the Winooski River and Route 100B.

Link 54: High pre-emptive impacts are assigned to the crossings of the Mad River and Route 100B, and Route 100, a scenic road and fall foliage route.

Link 55: High impacts are assigned where the link crosses historic sites. Moderate impacts are assigned to the crossing of the Winooski River and the bicycle route above Williston.

Link 56: A severe impact is assigned where the proposed sight-of-way impinges upon the Tim Bradish Memorial Ski Area.