

# *MOUNT WASHINGTON*

## *A Ten Year Master Plan*

MOUNT WASHINGTON COMMISSION 1969 - 1970

January 1, 1971

His Excellency The Governor and the Honorable Council,  
The President of the Senate,  
The Speaker of the House of Representatives

Gentlemen:

Pursuant to the provisions of Chapter 724, Laws of 1969, I have the honor to transmit the report of the Mt. Washington Commission together with a master plan for the development of the summit and recommendations for the operation of the public property as directed by the General Court.

The Commission has given diligent attention to the public and private interests involved, conducting open meetings at which representatives of appropriate State agencies, related private business, science and education have been consulted. The membership of the Commission has provided diverse areas of experience in the legislature, the law, recreation industry, forestry, meteorological science, mountaineering, finance and government.

The conclusions and recommendations set forth in the body of this report are the result of deliberations extending over the last year and a half and reflect the unanimous judgment of the members of the Commission.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read "Sherman Adams", is written over the printed name.

Sherman Adams,  
Chairman  
Mt. Washington Commission

MT. WASHINGTON COMMISSION

Members

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Lincoln, New Hampshire Ex-Governor

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Representing the Recreation Industry

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Jack B. Middleton  
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Representing Mt. Washington Auto Road  
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Concord, New Hampshire  
Banker  
Representing the Appalachian Mountain Club

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Laconia, New Hampshire  
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MT. WASHINGTON COMMISSION

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## **CHAPTER 427.**

### **AN ACT CREATING A MOUNT WASHINGTON COMMISSION.**

*Be it Enacted by the Senate and House of Representatives in General Court convened:*

**427:1 Creation of Mount Washington Commission.** Amend RSA by inserting after chapter 227-A the following new chapter:

#### **Chapter 227-B**

##### **Mount Washington Commission**

**227-B:1 Commission Established.** There is hereby established a Mount Washington Commission consisting of nine members to manage the summit of Mount Washington property owned by the state of New Hampshire.

**227-B:2 Definitions:** As used in this chapter:

I. "Commission" shall mean the Mount Washington Commission;

II. "Summit" shall mean the Mount Washington summit property owned by the state.

**227-B:3 Commission Members, Appointment, Term.** The nine members of the commission shall be appointed as follows:

I. Five members shall be appointed by the governor with the consent of the council, one of whom shall be a member of the house of representatives and one a member of the senate.

II. Two members shall be appointed through the concurrence of the boards of directors of the following groups: the Mount Washington Auto Road; the Mount Washington Observatory; Mount Washington TV. Inc.; and the Mount Washington Cog Railway.

III. One member shall be appointed by the supervisor of the White Mountain National Forest to represent the same, ex officio.

IV. One member shall be appointed by the president of the Appalachian Mountain Club to represent said club, ex officio.

V. All such members so appointed shall serve a term of three years commencing with the effective date of this act. Vacancies shall be filled for the unexpired term in the same manner and by the same body as the original appointment was made.

**227-B:4 Removal.** Any member of the commission may be removed for just cause through a majority vote of the governor and council.

**227-B:5 Officers and Compensation.** The commission shall annually elect one of its members as chairman, one as vice chairman, and one as secretary-treasurer. The members of the commission shall receive no compensation for their services, but their reasonable expenses, incurred in the performance of their duties, shall be paid from the summit operation.

**227-B:6 Powers and duties.** The commission shall:

I. Prepare a master plan for the summit including but not limited to:

(a) capital improvements to be made by the state over a 10-year period;

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(b) the proposed operation of the summit by the commission including fees to be charged for the facilities operated by the commission, the method of collection of such fees, employment of personnel, franchises to be granted to concessionaires, and any other items deemed necessary to the proper operation of the summit by said commission;

(c) promotion of the use of the summit by the public as a recreational, historic or scientific attraction;

(d) protection of the summit as to its unique flora and other natural resources;

(e) the negotiation of public rights-of-way to the summit over private lands which benefit from the improvement of facilities on the summit;

(f) cooperative arrangements between private interests and the commission relative to the collection of fees, joint personnel, and any like subject.

II. Submit the said master plan to the governor on or before January 1, 1971 for approval and for enabling legislation in the 1971 session of the New Hampshire Legislature.

III. Collect all fees now being paid to the state for the use or lease of state-owned facilities on the summit, such fees to be used by the commission in its duties and for its expenses. Such accounts shall be subject to yearly audit by the comptroller.

IV. Supervise the work done on capital improvements authorized by the 1969 legislature for Mount Washington in order that said improvements are carried out in a manner consistent with the future plans for the summit as may be recommended by the commission.

V. Cooperate and consult with the division of parks of the department of resources and economic development concerning the daily operation of the summit as carried on by the division of parks.

**227-B:7 Mount Washington Planning Committee.** As of the effective date of this act, the Mount Washington planning committee shall be discharged and shall turn over to the commission all records, reports, data or other information relative to the summit in its possession.

**427:2 Appropriation.** Notwithstanding any other provisions of law to the contrary for the biennium ending June 30, 1971, the commission established by section 1 of this act shall collect the fees provided for by RSA 227-B:6, III and said monies are hereby appropriated for the purposes of RSA 227-B:5.

**427:3 Effective Date.** This act shall take effect July 2, 1969.

[Approved July 3, 1969.]

[Effective date July 2, 1969.]

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## SUMMARY OF RECOMMENDATIONS

The powers and duties of the Commission are divided into five categories. In summary, the principal recommendations follow, in the subdivisions as provided in the statute.

### I. MASTER PLAN

#### A. Capital improvements to be made by the State over a 10-year period.

##### 1. Summit Building

Construct a new summit building to replace the present structure with 22,000 square feet of floor space to accommodate a visitor population of four hundred people at one time, substantially in accordance with the preliminary plans and specifications contained herein, at an estimated cost of one million eight hundred ninety thousand dollars (\$1,890,000). Furnishings to include all furniture, counter and food preparation equipment, but not furnishings for observatory personnel, at an estimated cost of eighty-five thousand dollars (\$85,000).

##### 2. Tip Top House

Remodel the present structure, restoring the flat roof of the original design for use as an observation deck, using the interior as an historical and scientific museum, at an estimated cost of one hundred fifty-two thousand dollars (\$152,000).

##### 3. Other Existing Structures at the Summit

The plans for the new summit building make provision for adequate quarters for the Mt. Washington Observatory.

The present observatory building, after completion of the new summit building, should be demolished at nominal cost to the State.

In longer range, the land owned by Dartmouth College leased to Yankee Network should be acquired by the State. The buildings owned and occupied by WMTW-TV now standing upon these premises eventually should be replaced by structures in keeping with the natural characteristics of the summit.

The stage office has both historic and sentimental significance and should be preserved.

4. The Summit and Its Environs

The summit and surrounding area should be preserved in their natural state, restoring and maintaining the surface insofar as possible in its original aspects. Places of historic interest, old foundations and walls should be preserved, identified and appropriately signed.

5. Electric Power

The State should negotiate a long-term contract with Public Service Company for supplying electric current at the summit. This will require the State to install high voltage transmission lines and transforming equipment at an estimated cost of two hundred five thousand dollars (\$205,000).

The capital cost can be amortized in 20 years with a substantial savings in the cost of electric energy.

6. Water

The State should ultimately own and operate its water supply system. This will require a pumping station at the Marshfield base station and piping to the new distribution system at the summit at an estimated cost of one hundred sixty-eight thousand dollars (\$168,000). This estimated cost is included in the total capital budget as summarized below.

7. Cost Summary - Proposed Capital Expenditures

Building (Including Architects' Fee, Auxiliary Power Generators, Site Work, Demolition)	\$2,163,000
Furnishings (New Building)	85,000
Tip Top House	152,000
Electric Power System	205,000
Water System	<u>168,000</u>
	\$2,773,000
Estimated Contingencies	<u>200,000</u>
Total Cost--Capital Improvements	\$2,973,000

B. Operation of the Summit

The Commission has prepared a plan for the operation of the new facilities, the number of employees required in the various categories, the amount of wages to be paid, the cost of supplies and maintenance, power and water, management and certain overhead and general expenses. The annual cost of operation is estimated to be ninety-eight thousand eight hundred twelve dollars (\$98,812).

Income from the operation of the summit may be derived from

user fees, certain franchises and concessions. Annual income from these operational sources is estimated to be one hundred ninety five thousand dollars (\$195,000). Additional sources of current income may be derived from special promotional programs, special events, and possibly from Federal programs.

C. Summit Promotion

A program of aggressive promotion should be pursued to interest and involve the increasing population of visitors in the opportunities to be found on the mountain for observation, education, historical research and exposure to a unique meteorological environment.

D. Mountain Flora

The rare flora indigenous to the alpine climate of the mountain should be protected both by the State and the National Forest, as well as exhibited in the museum space within the summit buildings and, to the extent practicable, in plots adjacent to the new summit house. Lectures in mountain conservation, both auditory and audio-visual, should be provided.

E. Public Rights-of-Way

Negotiations for public rights-of-way have been conducted and provided for.

F. Agreements with Private Interest Groups

Cooperative agreements between private interests and the Commission have been the subject of lengthy negotiations. They have been partially successful and are continuing.

## II. SUBMISSION OF MASTER PLAN

In submitting the master plan herewith, the Commission, in the interest of the approval of enabling legislation, offers its services and testimony to the Governor and the General Court as the opportunity is provided.

## III. FEEES

All fees due the State for the lease and occupancy of State-owned facilities are being collected through the Office of the Comptroller, and amount during the tenure of the Commission to \$1,403.00.

## IV. CAPITAL IMPROVEMENTS

Capital improvements authorized by the General Court have been supervised by the Commission and coordinated by the Special Services Engineer and staff of the Department of Public Works and Highways. Consulting in this work were the Commissioner of the Department of Resources and Economic Development, the Director of Parks and staff. The amount of money made available for this work was two hundred thirteen thousand five hundred thirty-one dollars (\$213,531). Cost of the work completed to date amounts to one hundred sixty-two thousand five hundred dollars (\$162,500).

## V. COORDINATION WITH STATE AGENCIES

Consultation has been held from time to time with the Director of Parks and his staff concerning the operation of the State facilities at the summit. The Director and the Commission have worked constructively to improve existing facilities through the expenditure of appropriated funds for sewer, water and related projects.

The conclusions and recommendations of the Commission are set forth in the format as provided in the statute. The argument and the detail of the findings of this and, to some extent, three preceding committees whose work has covered a period of fifteen years are found in the body of the report which follows.

Members of the Commission have valued the opportunity to deliberate together over these eighteen months and to have been able to agree upon the policies which they believe the State should pursue in the development and operation of the public property at the summit of Mt. Washington. The Commission hopes that its efforts may be rewarded by timely action that will afford every citizen the opportunity for a mountain experience unequalled in the eastern regions of our country.

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This Commission has conceived its responsibility to develop a master plan in the context of creating a State park that will reflect the preeminence of New Hampshire in the field of outdoor recreation. This development will have the effect of lifting the level of every sound recreational enterprise in the State, both public and private.

The three northern counties, Coos, Grafton and Carroll, have a lesser average annual individual income than the seven other counties of the State. During the last fifty years, the population and industries of those three counties have been shrinking. To some extent, their economy is weak and insecure; their people are to an unnecessary extent disadvantaged.

With the surging awareness in the nation of the need for clean air and pure water, these three counties have potentially boundless natural assets. Of the area of 2,883,456 acres in Coos, Grafton and Carroll, 712,917 acres are in public ownership, yielding no property tax for the support of local government, with the result that many towns in this locality find themselves virtually impoverished. The State now has the opportunity to make an investment in the economic welfare of this region, and when it does, it makes an investment in itself.

The State needs to raise the sights of the quality of private investment in northern New Hampshire. The example now set by the State in the quality of the summit park on the highest peak in the northeast does nothing for the pride of the State in itself or its people. If the State of New Hampshire cannot immediately undertake a project of this magnitude, the importance of this mountain to its economy and stature should warrant the expenditure at least within the next decade. It should be recognized, however, that construction costs have been increasing at the rate of nearly 10% per year and the cost of this project will increase accordingly with any delay in its development.



## PREFACE

This Commission is the fourth task force appointed by a governor of New Hampshire to consider the feasibility, the acquisition and the operation of a State park at the summit of Mt. Washington.

A "Housekeeping" Committee responsible for the oversight of the summit operation reported to Governor Hugh Gregg from time to time during 1953 to 1955 recommending actions to improve the maintenance and upkeep of the mountain.

The Mt. Washington Study Committee reported to Governor Lane Dwinell on October 16, 1958, recommending the acquisition of the land at the summit owned by Dartmouth College; the cog railway, then owned by the College; and the highway to the summit, owned by the Mt. Washington Auto Road Company, provided the road could be purchased for a reasonable price. On April 21, 1964, the State took title to 59.09 acres at the summit, but acquired neither the railway nor the highway.

The study committee, hereinafter referred to as the Woodbury Committee, made no recommendations about the development of the summit, but did outline certain preliminary ideas, suggestive of future improvements and operating policies which the State might pursue.

The Mt. Washington Planning Committee, appointed by Governor John W. King early in 1966, reported to Governor Walter Peterson on June 16, 1969, and is subsequently referred to as the Spalding Committee. The planning committee over a period of three years made an exhaustive study of the means of preserving and developing the physical assets at the summit to provide for the public use and enjoyment of the mountain. Reference to its recommendations appear in this report.

The study of the Woodbury Committee and the planning work of the Spalding Committee have provided a solid basis upon which the conclusions and recommendations of this Commission have been reached. Many of the recommendations made by the Spalding Committee we have adopted, some with modifications. We are indebted, as is the State and its people, to the members of these committees for their sense of value and the understanding they had that Mt. Washington is perhaps our most important natural asset.

## BACKGROUND

Mt. Washington is an important mountain. Its bulk, its height and its accessibility, indeed, nothing about it belittles the fact that it is an incomparable peak. No other summit in America is like it, nor can match the extremes of wind, weather and temperature that are literally commonplace on this, our mountain. On a rare sunny day its alpine meadows are placid places to bask in the sun; in a few hours it may become a vicious giant whose windy blasts are unequalled anywhere on earth.

Historically, the mountain is older than the State, and even the colony that preceded it. Verrazano, during his leisurely exploration of the New England coast in 1524, looked inward upon the summit from Casco Bay. In the journal of Governor John Winthrop of the Massachusetts Bay Colony there is an account of two ascents of the mountain by Darby Field in 1642 who, so far as history reveals, was the first white man to stand upon the summit.

The names of Presidents, theologians, scientists, statesmen, authors and educators enrich the history of Mt. Washington. Grant and Rutherford Hayes, Edward Everett Hale, Daniel Webster, Henry Thoreau, and Dr. Edward Tuckerman, who left his name behind him as did the botanists Cutler, Bigelow and Oakes -- all are remembered in history as being intimately interested in New Hampshire's mountain.

Sylvester Marsh disproved charges of insanity leveled at him by Concord legislators when he completed the first cog railway in the world in 1869. John Rich and David Pingree succeeded in instilling new life into the carriage road project, opening the road to the public in 1861.

This report is not the place to recite history. It is the place to remind ourselves that Mt. Washington looms magnificently in the history of countless great men and women who came to New Hampshire because of Mt. Washington and who continue to come because Mt. Washington is here.

Mt. Washington is a part of our identity and the image people everywhere carry of New Hampshire. Mt. Washington makes news -- of exploits that happen, of experiences people have with it, of things that authors, poets, scientists and scholars write about it, of the miscalculations people make about its rigor and capricious temper.

In the last decade we have become increasingly, but still insufficiently, aware of Mt. Washington. We have studied, planned, purchased and proposed and, in doing so, have spent substantial sums to get ready to do what we have intended at the outset to do. The bald and bare pate of this rugged peak is now ready for the restoration and reconstruction to provide a growing visitor population with a mountain experience that is intrinsically New Hampshire and indigenous to the surroundings provided by nature. Mt. Washington is indeed worthy of its keep.

With these precepts in mind, the plans and proposals of the Commission follow.

## THE MASTER PLAN

### I. Ground Plan of the Summit Properties.

In an effort to locate and determine boundaries of present ownerships, leaseholds, easements and rights-of-way, the Commission initiated a review of all titles, conducting a search of the Coos County records wherever we found such titles to be in doubt or in conflict.

In general, we found sufficient descriptive evidence in conveyances of record to determine boundary locations which we recommend be witnessed by permanent monumentation. In a few instances, easements and rights-of-way are not precisely located, but we have established them with close approximation.

In the appendix of this report we include an opinion of counsel and a ground plan showing boundaries and locations of all titles within and contiguous to State property.

### II. The Summit Environment.

In 1964 the State purchased fifty-nine acres of land with the buildings thereon from Dartmouth College for the sum of \$150,000. The principal buildings acquired included the Summit House -- a 168 by 38-foot, two-story, wood-frame structure containing a reception room, restaurant, rest rooms and 24 guest rooms; the Tip Top House, used vicariously for employees' quarters, guest accommodations, printing a newspaper, storage, and emergency shelter; the Observatory, occupied by a private organization engaged in meteorological research and related projects; and service structures which have been subsequently removed.

The Spalding Committee recommended "the retention of some structures, the modification of some, the removal of some, and the construction

of some". Essentially, we repeat this recommendation, with considerable modification of the details as will later follow. The former committee found "a most unpleasant picture of circumstances on the summit", and we do not differ from this view.

The Spalding Committee succeeded in several significant accomplishments:

- A. The removal of two U. S. Air Force structures, abandoned for some ten years, located on National Forest land northeast of the summit.
- B. The impetus resulting in the plans and construction of a new sewer system adequate to serve all foreseeable facilities in the future; the removal of exposed and obsolete wires, pipes and debris; the correction of unsafe and unsanitary conditions in food preparation, toilets and dormitories; and the reduction, to some extent, of the fire hazards caused by faulty heating and electrical systems.
- C. The preparation of a plan by Carter and Woodruff for the development of the mountain incorporating studies and data, much of which we have found both useful and valuable.
- D. The publication of a research study entitled THE VISITORS TO MT. WASHINGTON - CHARACTERISTICS AND OPINIONS which was planned and produced by Mary Louise Hancock, Planning Director of the Department of Resources and Economic Development, and Professor William F. Henry, Chairman of the Resources and Development Center, University of New Hampshire, hereinafter referred to as the Henry Report. We have cause to use pertinent information taken from it in this report.

This Commission began where the Spalding Committee stopped. We reviewed the points of view held by the committee, its conclusions and recommendations and its actions. Early in our own discussions, we adopted the following principles, on the basis of which we resolved to be guided:

- A. The summit should be restored and preserved in its natural and historic state, devoting only so much of the public land to buildings and improvements as is necessary and desirable to accommodate the needs and uses of visitors, commercial and scientific activities, and State and private employees.
- B. The land owned by the State should always remain under its jurisdiction. No lease or easement except for reasonable and necessary use should be given, and no structure or improvement for private use should be permitted other than those which may now be subject to valid claim.
- C. Any structures built or maintained upon the summit property should not intrude unnecessarily upon the configuration of the profile of the mountain and in no case be constructed over the geographical summit. Any structures built at the summit should utilize insofar as possible indigenous materials, predominantly wood and native stone.
- D. The business investments now located on Mt. Washington in private ownership provide indispensable transportation service to the summit, radio and television transmission facilities which furnish superior reception in much of the three northeastern states, and the observation and compilation of weather data, together with meteorological research of significant value to science and the Weather



Bureau. The State should accommodate itself to these interests and they, in turn, should cooperate with the State in the support and operation of the summit facilities maintained for public use and convenience.

E. The development of the summit should provide the visitor with an experience of mountain grandeur and isolation that is safe, exciting, pleasant, rewarding and educational. He should recognize the State as his host; feel that the State has been a good host; that in visiting Mt. Washington he has better identified New Hampshire and has seen the greatest point of interest in the northeast.

F. In order to help meet the capital costs of developing the summit, financial support should be sought from Federal agencies and from some form of public promotion to afford interested individuals an opportunity to participate in the effort.

### III. Summit House.

The Summit House is the heart of the activities on the peak of Mt. Washington. The present building serves as a shelter, a restaurant and provides the necessary tourist conveniences. It does little to relate the mountain to New Hampshire. It has no exhibits, no museum, nothing to indicate the significance of the mountain, its history or its natural characteristics. It does not attempt to do any of these things because it cannot. The building is 55 years old, unsound and unattractive, and it cannot be renovated and repaired and restored to a condition that is acceptable for the needs of the public and the image the State should create of its foremost attraction.

The Spalding Committee recommended the construction of a new summit house. For the purpose of developing short and long range plans for

the summit, the committee recommended and the State engaged the services of Carter and Woodruff, Architects, of Nashua, N. H., who submitted in August 1969, preliminary plans and a report which included a rendering and ground and floor plans of a new summit structure.

This Commission reviewed the Carter and Woodruff plans in great detail but was unsuccessful in working out modifications it considered essential to the siting and structuring of the new building. The Commission then recommended and the State retained the firm of Koehler & Isaak, Architects, of Manchester, to prepare a new plan and design a building of wood and stone on a site to the north of the present summit house, curvilinear in shape better to integrate with the contour of the mountain.

Koehler & Isaak submitted a report to the Commission in September, 1970, and included a description of the proposed summit house with space allocations for the various uses and activities recommended by the Commission. The building will contain 22,000 square feet of floor space incorporating as an integral part of the structure the observatory and tower, with living quarters for the staff. Other principal uses provided for are public exhibits and demonstrations, food sale and service with adequate dining facilities, public lounge, first-aid and toilet rooms, office and storage space.

The requirement for public accommodation is directly related to the number of people presently using existing facilities and, of immediate importance, the summit population projected over the next ten years. The Bureau of Business Research of Boston University in 1956 conducted a study of the potential of Mt. Washington. During that year 150,000 people visited the summit. In 1966, ten years later,

the Henry Study reported 244,000 visitors, an increase of 94,000 people and 63%. Increases in succeeding years point to both the inadequacy of the quality and the quantity of existing public accommodation.

The development of the facilities on the summit of Mt. Washington in respect to size and characteristics depends upon the policy of the State toward this public park. Recognizing the recent interest of governors and legislatures in the activation of four citizen groups to study and express the public interest in the mountain and the public funds made available and spent for improvements already made at the summit, together with those devoted to planning, it is reasonable to assume that the State intends to proceed to improve and maintain the public accommodations in a manner consistent with the importance of Mt. Washington as the chief natural asset in New Hampshire. It is upon this assumption we make the recommendation for the new summit building of the scope and dimensions proposed by Koehler & Isaak.

We recognize that there is a limit to the number of people who can and should occupy the summit on any one day during the short summer season. We requested the architects to provide 55 square feet of floor space per person based upon the average visitor population for good-weather days. We did not attempt to provide adequate room for peak days, since peak days are invariably optimum weather days when people will spend time out-of-doors.

The impact of visitors upon other people is spread widely over the eastern section of the United States. The Henry Study in 1966 shows 120,733 people used the auto road and the railway, of whom 41.8%

came from the mid-Atlantic states, 40.1% from New England and 8.7% from the mid-West. Other states represented 4.5% and foreign countries 4.9% of the total. Only 7.1% came from within New Hampshire.

More people ascended the mountain on foot (124,000) in 1966 than by vehicle (120,000). The increase in organized groups of hikers has necessitated an ambitious capital improvement program by the Appalachian Mountain Club. With the stimulus to outdoor recreation by Federal, State and private agencies, the use of the White Mountain trail system is bound to increase. The Appalachian Trail, extending from Maine to Georgia, reaches its maximum height in New England as it passes over this summit. At some time, Mt. Washington is the goal of substantially every trail user.

Provision is made in the new summit house for emergency bunk and pack rooms to accommodate the casual use of the hiker. The Commission has been urged to make space available for lectures and demonstrations to camp, scientific, botanical, geological and other groups to promote knowledge and understanding of alpine regions. Such provision has been made. The work of the observatory has become an important activity at the summit, recognized by the weather bureau and the scientific community for its data and research. The legislature has recognized not only its scientific role but its importance as an emergency rescue agency to mountain climbers and skiers and in the past has contributed financial support to this end. Space is set aside for the housing of employees, for its instrumentation and laboratory needs and for a tower accommodating a limited number of visitors to view and learn about its work as well as to look out upon the mountain surroundings.

#### IV. Transportation

The Summit of Mt. Washington is served by the cog railway from Marshfield at the western base of the mountain, and by the auto road from the Glen at the base to the east. The Henry Study in 1966 found 72,000 users of the road and 48,000 who rode the railway. Travel was concentrated in July and August; 46,678 using the road and 37,362 the railway. Traffic peaked during the first week in August; 6,537 for the road and 5,141 for the railway.

The peak day for the auto road in 1966 was 500 vehicles carrying 1,561 people on August 14th. The best day for the cog railway was July 27th with 1,012 riders.

The Boston University Study and the Henry Study by the University of New Hampshire indicate that Mt. Washington is by far the most impressive attraction in the State, but visitor opinion samplings indicated a high percentage of unfavorable comments on the inadequate facilities.

The conclusion is inescapable that the new summit house and proper maintenance of the facilities will have a marked effect upon mountain transportation systems as well as New Hampshire's image.

##### A. The Cog Railway.

The railway was completed in 1869, the first rack and pinion type mountain railroad in the world. Apart from times of war and catastrophe, it has run ever since. In more recent years its management and maintenance have both improved with the railway being considered a unique and safe means of transportation.

The railway company is a private corporation owning a ninety-nine foot right-of-way to the summit with land and access rights sufficient to its needs. The Commission is of the opinion that the road should be left in private hands, should strive to reduce the nuisance of dirt and soot, consider converting to another fuel but otherwise maintain its services in the traditional manner.

B. The Auto Road.

The Mt. Washington carriage road, after a few years of spasmodic starts, was opened to the public in 1861, but not before J. M. Thompson of the Glen House, determined to be the first to drive up the mountain, did so over the uncompleted road with a man on either side of his wagon to keep it from tipping over.

The eight-mile road, though narrow for the modern automobile, has a well-maintained gravel surface and has a miraculously low accident record. The samplings of users in both 1956 and 1966 disclosed little complaint with it. Henry reported 29% of the users wanted it widened, but 41% didn't want it changed.

The road company is a private corporation, well managed and, whereas the railway did not increase its business in the ten years 1956-1966, the auto road was used by 22,000 more people in 1966 than in 1956.

C. The Hiker.

The use of paths and trails on Mt. Washington is gradually increasing. More than 50% of all those visiting the summit of the mountain travel by foot. This traffic, while it should be encouraged, creates increasingly difficult problems with trail

maintenance, preservation of flora and supplying adequate conveniences and services at the summit.

V. Tip Top House.

Built in 1853, burned in 1915 and later rebuilt, the Tip Top House is the oldest existing landmark on Mt. Washington standing on its original foundation. The massive walls are built of rock blasted from the foundations and the roof originally was a flat deck used as a vantage for observation. The structure, 28 x 84' in dimension, was first used as a hotel, and for a time the newspaper AMONG THE CLOUDS was published here.

The Commission recommends that the building be preserved as a historical landmark and the roof restored to its original shape. The interior should be used as a museum for the exhibition of prints, pictures and artifacts that effectively depict the history of the mountain. With a unified and central theme, the salient natural and historical character of Mt. Washington should be revealed to the visitor to provide much of the information which he is eager to take home with him.

VI. Parking Areas.

People ascend Mt. Washington for an adventure, to have "done" the highest mountain in the northeast, for a sense of exaltation, and mostly to satisfy a yearning for a sense of isolation. In order to achieve such an experience, many people have to come by motor vehicle. Large yards of parked automobiles do not contribute to this experience. Unfortunately, large parking areas cannot be wholly concealed. However, such areas located as close to the base of the cone of the mountain as is possible are virtually



concealed from the view of a person standing on the summit. Insofar as these locations are available and suitable, they should be used.

Existing areas, one 200' x 60', another 270' x 50', now accommodate 86 vehicles and can be expanded to take care of a total of 120 vehicles. For the next ten years, total parking space to accommodate 200 cars will be required. Investigations indicate that an additional parking area constructed to accommodate 80 vehicles could be located immediately below the existing southerly lot in an unobtrusive manner being out of view of the summit proper. The expansion of parking facilities is a function of the auto road. However, the State should assume the responsibility for the location and design of any additional areas.

Overflow parking areas for peak use periods lie on National Forest land and can be obtained with a special use permit, available to the State upon application and reasonable landscaping.

#### VII. The Observatory.

The first tower on the mountain was built as a business venture in 1854, an elevator affair hoisted by gear and pinion propelled by a crank. It lasted two years. In 1880, the Coast and Geodetic Survey had a forty-foot tower erected for angular observation by theodolite.

Organized meteorological observation began on Mt. Washington nearly forty years ago. The station has established itself as one of the foremost mountain observatories in the world. Not only in collecting weather data, the station is engaged in radar and laser or optical laser experimentation. Its contribution to the safety of the growing population of winter visitors through weather advice and

warning is a dependable service to skiers and mountaineers.

We have allocated 1500 square feet of floor space for observatory staff living quarters on the ground floor and 1750 square feet for the work and observation area in the new summit building. As its share of the cost of this space, the observatory is prepared to contribute substantially. In addition, it will supply the custodial help necessary to care for the building during the seven months when it is closed to the public. The operating statement reflects this contribution.

A portion of the space in the observation tower will be available to the public with exhibits showing the nature of its work and, to some extent, personnel to explain it. The existing observatory building is decrepit and should be taken down as soon as the new quarters are provided.

#### VIII. Other Buildings on the Summit.

At the time the State acquired the land at the summit from Dartmouth College, 9.07 acres were reserved with the structures thereon, all under lease to Yankee Network until the year 2010. Radio and television transmitting facilities are well maintained, offer a valuable public service and constitute a legitimate use of the leased property. It would be desirable, if and when the opportunity is offered, to acquire the land now owned by the College.

The buildings owned by the network are well built and maintained but have a relatively high profile and their ultimate removal would improve the scenic aspects of the mountaintop.

The best interests of the State will be served by incorporating all commercial interests at the summit within the new structure.

Should the network be amenable to surrendering its present leasehold and conveying its present buildings to the State for demolition, we recommend modification of the present plans to accommodate the facilities and personnel of the network on such basis as will be most mutually advantageous. Discussions leading to this end are presently in progress.

The stage office, held down by heavy chains against the weather, is a picturesque and unobtrusive building of small size but something of a curiosity. A place should be found for it where it can be seen and photographed readily. It should be appropriately signed.

IX. The Summit and Its Environs.

Along with the new construction, the paths and grounds in the vicinity of the summit should be improved and minimal landscaping needs to be done. The sites of original structures, the old corral and foundations of walls and towers can be identified and appropriately signed. Recovery of small artifacts on or near the surface under razed buildings can add to the historical interest of the museum. Short excerpts of history placed adjacent to these sites contribute measurably to the satisfaction the tourist has with his visit.

X. Electric Power.

The Commission has undertaken an investigation of the future requirement for power at the summit. The present source of electric energy is the diesel generating plant of the T.V. station which

supplies the State-owned buildings at the rate of 10¢ per kilowatt hour. This source of energy has proved reliable with almost no power interruptions.

We have examined the practicability of extending the Public Service Company's lines to a sub-station at Marshfield and laying a high-voltage, 3-phase cable up the mountain to supplant present power sources. It has been determined that the State buildings can be heated by electricity as reliably and, over a period of 20 years, more economically than self-generation. The supply of energy available from the T.V. source is inadequate to meet the anticipated power demands.

The initial installation of the high-voltage cable, connecting and grounding equipment, transformers and installation will cost about \$205,000. On the basis of predicted use of 600,000 kilowatt hours annually at prevailing commercial rates, power is estimated to cost 4.5¢ per kilowatt hour.

The indicated cost of 4.5¢ per kilowatt hour of commercial power includes the capital expense and amortization over 20 years. The Public Service Company has under consideration the possible assumption of a portion of this expense which would result in further reducing the projected cost. An engineering report covering the computations is included in the appendix.

#### XI. Water.

The water supply at the summit is now provided by pipeline owned and operated by Mt. Washington Railway Company. The pumping equipment, located at Marshfield, and pipelines have been used in

past years to provide water to the Summit House leased to Marshfield, Inc. by the State. The State is currently negotiating a contract with Marshfield to supply the Summit House with water during 1971. No arrangements have been made beyond October 1971.

Ultimately, the State should own and operate its own water supply and conduit. Such improvements will provide a reliable source of water at the summit. The cost of such a system is estimated to be \$168,000.

A suggested timetable for implementation of the ten-year plan is included in the appendix of this report.

## OPERATION OF THE SUMMIT

### I. A Program for the Operation and Management of the Summit Park

The residual responsibility for the operation of the summit park on Mt. Washington is lodged with the Division of Parks, Department of Resources and Economic Development. The authority to delegate this responsibility lies with the General Court with the approval of the Governor. The authority to lease out or concession particular activities conducted within the summit park premises lies with the Division of Parks with the approval of the Commissioner of the Department of Resources and Economic Development, and subsequently with the approval of Governor and Council.

At the completion of the new summit building and the renovation of the other structures and the summit surroundings, the State should have in its employ a park manager who possesses the stamina, resourcefulness, leadership and executive capabilities to direct the best mountain park establishment in the country. At the time the program we have recommended is approved, the Parks Department should begin looking for such a manager.

The Commission believes it desirable for the State to continue to consult and advise with a group of business and professional people oriented to the recreation industry in the Mt. Washington region who would be willing to assume the responsibility of a board of directors to the Mt. Washington State Park.

Such an advisory board will assume responsibility for the oversight of construction, including the operation of present facilities until the new structures are completed. The board will advise

concerning new operating personnel, budgets and concessions, providing the benefit of its experience and judgment in all matters relating to the operation of State-owned facilities.

For the present, and until the legislature acts upon its recommendations, the Commission should continue in being until reconstituted by the legislature.

In the appendix of this report we have prepared an operating budget for the operation of the summit park, with the assistance of the Division of Parks and the Division of Special Services. The budget is predicated upon State operation. The salaries and wages are commensurate with those paid elsewhere by the State and in the White Mountains region. The income from concessions is estimated upon an increasing flow of traffic as is the income received for admission to State summit facilities. The Commission is mindful of the responsibility to present a plan for meeting the expenses of operating the new facilities on Mt. Washington. Long ago, the State adopted the policy that the user of a park facility should share in the cost of its upkeep. Long ago, the Federal government adopted this policy. Providing for human needs on Mt. Washington is inordinately expensive. The Henry interviews disclose that many hikers on Mt. Washington use the summit building to rest, to seek first-aid, to obtain assistance for various reasons, to post a card, to seek shelter from the storm. The State has elected to operate a public park on top of an arctic peak, so these conveniences must be provided. The people that use them should share their cost.



The Commission proposes to provide complete and modern facilities for the convenience of its guests. In addition, the visitor will find two observation decks, a museum and educational exhibits to contribute to his mountain experience. All this will be available for an entrance fee of \$1.00 for adults and \$.50 for children to yield immediately upon completion, an estimated \$170,000 per year. Notices of such fees will be posted or announced at the base station, the entrance to the auto road and at the beginning of principal trails at Crawford, Marshfield and at other points. Entrance to the summit building will be gained through one public entrance with return privileges during the day of issue. For those not desiring entrance to the building, access to separated washroom and toilet facilities will be provided without charge.

The person who climbs Mt. Washington on foot has spent his energy rather than paying a fare. He is entitled to the same rewards for his exertion as he would find on any mountain -- a bare summit and the countryside spread out before him. If he desires the perquisites of comfort, food, rest and the advantages provided in a new structure, he should stand on the same footing as a passenger who rides up the mountain in a vehicle.

## II. Advertising and Promotion

The most effective method of promoting the use of the summit is through the improvements the Commission suggests. The news of an attractive summit will be carried to virtually every state in the country and to foreign lands.

An aggressive advertising program could be geared to selling a

"share" in Mt. Washington, sending to a member enrolling in the "windy mountain club" a "piece of the rock"--to steal a phrase from a well-known insurance company.

The State can well support the promotion carried on by the White Mountain Recreation Association. In supporting private promotional efforts of regional recreational enterprises, it helps itself.

Both the University and the Henry reports produced valuable behavior patterns of visitors to the mountain. It indicates how their reaction to their experience affects their impressions of New Hampshire, length of stay, and their intentions about coming again or recommending the trip to others. To some extent, advertising can capitalize on these reactions.

The Commission has considered various promotional ideas suggestive of means to raise some portion of the capital funds required for construction. We have consulted with professional advertising agency personnel who recommend that the State embark on an organized campaign to seek private individual and corporate contributions toward the capital costs of the Mt. Washington Summit development. In the view of the Commission, this is a feasible venture which could yield \$500,000 to \$1,000,000 if aggressively and skillfully pursued. The Commission is prepared to promote and oversee such an effort.

### III. Public Rights-of-Way

Access to the summit of Mt. Washington is described in paragraph IV of The Report on Real Estate of the State of New Hampshire at the Summit of Mt. Washington found in the appendix.

Hikers enjoy free access over the trail system located over the White Mountain National Forest.

The Mt. Washington Railway Company and the Mt. Washington Summit Road Company are regulated by the New Hampshire Public Utilities Commission which assures State and public access to the summit areas. At present, the State has a right-of-way over the land owned by Marshfield, Inc. and Mt. Washington Cog Railroad from the base at Marshfield to the summit.

The State enjoys the privilege of free access over the Carriage Road owned by the Mt. Washington Summit Road Company.

#### IV. Flora

During the summer of 1970, the Commission asked botanical personnel at the University of New Hampshire to assist in the preparation of recommendations for the preservation and exhibition of the alpine flora of Mt. Washington. This request resulted in the submission of a report by Professor Richard R. Weyrick which he has revised and is included in the appendix. Both Professors Hodgdon and Rogers collaborated in the recommendations made to the Commission, and many others at the University contributed to it.

The varieties of grasses, rush, sandwort and other plants occurring in patches in the alpine lawns on the slopes below the cone of Mt. Washington are both rare and interesting to the visitor. Weyrick thinks that a small and selected exhibit of growing plants of the more hardy variety could be exhibited out of doors at the summit. Yet most of these species should be shown in the museum space inside the summit house and tip top house.

The recommendations in the Weyrick report for the preservation of the meadows and the care that ought to be exercised in trail location and maintenance provide valuable guidance in the use and development of the higher slopes of the mountain.

The meadows and lawns where alpine flora of the mountain grow lie on lands of the National Forest. The trail systems over which hikers travel are maintained by the Appalachian Mountain Club, the National Forest and local mountain clubs. The State is not involved with these systems nor with the people that use them except as general law applies to such matters as pollution, fire control and fish and game. The preservation of flora, therefore, becomes a joint undertaking with the National Forest as the land owner principally concerned. The Commission recommends that the National Forest review the Weyrick report and coordinate a program to promote the objectives with which the State should fully cooperate.

The Weyrick report presents a foundation for reference and action which the Commission commends to the attention of all conservation-minded people concerned with the use and enjoyment of the mountain.

## PRESENT SUMMIT IMPROVEMENTS

### I. Sewer and Water

Funds appropriated for the construction of a sewer system and improvements to the water system amounted to \$170,500. In August 1969, the engineering and design work was initiated, with the result that work on these facilities began in May 1970 and essentially completed in September. Final completion of these projects is anticipated in the Spring of 1971 with the current appropriations sufficient to meet contract expenditures.

#### A. Sewer

The sewer system provides sufficient capacity for any foreseeable expansion in the use of the summit, certainly for the next ten years. Specifications for the piping, tanks and absorptive leaching areas conform to State and Federal standards. Of the above appropriated funds, the sum of \$91,500 was expended for this project.

#### B. Water

To replace and enlarge existing water storage capacity, and to remove unsightly and obsolescent wooden tanks, two new steel tanks have been installed below ground level; two more to be added when the new summit house is constructed. The present capacity provides a 5-day supply, or a 2½-day supply at maximum projected traffic in the ten-year period. The additional tanks provide a 5-day supply against the eventual consumption, thus insuring an adequate reserve. The sum of \$50,800 was expended for this project.

## II. Repairs and Maintenance

Appropriations for repair and maintenance provided by the 1969 legislature amounted to \$43,000: \$8,000 for the Tip Top House and \$35,000 for the Summit House. Sums expended amount to a total of \$20,500: \$3,500 for the Tip Top House and \$17,000 for the Summit House.

### A. Tip Top House

Under the direction of the Commission, a project to remove the interior partitions, bunks and bedding and old deteriorated ceilings was completed. In addition, a thorough cleaning of the building interior was conducted. The outside walls and frame appear to be in serviceable condition, requiring some repair but largely structurally sound. For the purposes of a museum, floors and interior walls need renovation. Restoration of the flat roof poses no problem since the massive outside stone walls with a reasonable amount of grouting are capable of carrying the roof load and visitors.

### B. Summit House

During the summer of 1970 extensive weatherproofing of the summit building was attempted. All windows were caulked and painted, many replaced, and new wooden shutters made throughout. Exterior doors were rebuilt and the thresholds and jambs replaced. Roof and exterior wood shingles were repaired and replaced where most needed.

These repairs were minimal and while performing this work, a survey showed that the building sills and much of the framing and sheathing were deteriorated. With this in mind, it must

be recognized that in the absence of new construction, major capital improvements of the summit building will have to be initiated in the near future.

SUMMARY STATEMENT OF PROPOSED  
CAPITAL EXPENDITURES

NEW SUMMIT BUILDING

Building \$894,000 x 2.12*	\$1,890,000.00	
Auxiliary Power Generators	58,000.00	
Site Preparation and Restoration	50,000.00	
Demolition of Existing Structures	30,000.00	
Architects Fees and Engineering	<u>135,000.00</u>	
TOTAL BUILDING COST		\$ 2,163,000.00
ESTIMATED COST OF FURNISHINGS**		\$ 85,000.00

TIP TOP HOUSE

Removal of Existing Roof and Interior Reinforce Walls, Restore Roof	70,000.00	
Install Heat, Lights, Insulation, Establish Museum	77,000.00	
Engineering & Contingencies	<u>5,000.00</u>	
TOTAL		\$ 152,000.00
Electric Power ***	196,000.00	
Engineering	<u>9,000.00</u>	
TOTAL		\$ 205,000.00

WATER

Intake Structure - Monroe Brook	40,000.00	
2" Piping	112,000.00	
5,000 Gallon Reservoir - Base	2,000.00	
Pumping Station & Chlorine Building	1,000.00	
Pumping Equipment, Piping & Electrical Work	<u>5,000.00</u>	
SUBTOTAL	160,000.00	
Engineering	<u>8,000.00</u>	
TOTAL		\$ 168,000.00
SUBTOTAL		\$ 2,773,000.00
Estimated Contingency		<u>200,000.00</u>
GRAND TOTAL		\$ 2,973,000.00

- \* Due to Isolation and Severe Climatic Conditions, Construction Costs Adjusted by Major Building Component Systems - Ave. 2.12 Factor
- \*\* Includes all Furniture, Counter and Food Preparation Equipment - No Observation Furnishings
- \*\*\* See Appendix for Detailed Breakdown

NOTE:

The Commission requests legislative approval of the foregoing capital budget subject to providing substantially all of the required funds from outside sources. The Commission envisions that such funds will comprise capital donations by the Observatory, income from promotional efforts and Federal assistance.



STATEMENT OF RECEIPTS AND EXPENDITURES

Account	Appropriation	Additional Appropriation	Net Appropriation	Expended or Encumbered 12-31-70	Balance
<u>Chapter 505:1 Paragraph 10, Laws of 1969</u>					
Sewer Improvements	88,000.00	15,031.21	103,031.21	100,435.52	2,595.69
Water Improvements	67,500.00	---	67,500.00	57,253.40	10,246.60
Summit House Refurbishing	35,000.00	---	35,000.00	18,651.27	16,348.73
Tip Top House	8,000.00	---	8,000.00	3,355.19	4,644.81

Operating Budget Contingent Fund  
Approved by Governor & Council Feb. 16, 1970

Mt. Washington Commission	5,000.00	---	5,000.00	5,000.00	---
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Chapter 43:1 Laws of 1970

Mt. Washington Commission	38,000.00	---	38,000.00	32,900.00	5,100.00
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STATEMENT OF FUNDS ESTABLISHED UNDER  
CHAPTER 427:2 APPROPRIATION, LAWS OF 1969

Account	Receipts	Expenditures as of 12-31-70	Balance
Mt. Washington Commission	1,403.00	357.69	1,045.31

**APPENDIX A**

**SUMMIT OPERATIONAL PLAN AND BUDGET**



GEORGE GILMAN  
COMMISSIONER

NEW HAMPSHIRE DEPARTMENT of RESOURCES and ECONOMIC DEVELOPMENT

January 15, 1971

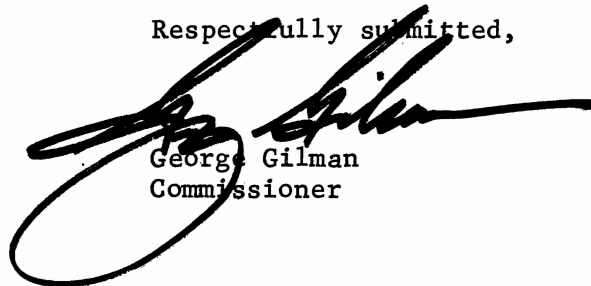
Honorable Sherman Adams  
Chairman  
Mount Washington Commission  
Lincoln, New Hampshire

Dear Governor Adams:

Enclosed please find a proposed operational plan and estimated budget for the anticipated new summit facilities at Mount Washington State Park.

This operational plan and budget was prepared by the Division of Parks staff and incorporates some of the proposals suggested by members of the Mount Washington Commission. Included in the operational plan is an estimate of revenue expected from the patrons of the private transportation companies and the hikers who will be using the summit facilities.

Respectfully submitted,



George Gilman  
Commissioner

DIVISION OF PARKS OPERATIONAL PROPOSAL FOR NEW SUMMIT FACILITIES -  
MOUNT WASHINGTON

The proposed building design is basically a two-level structure with interior designs such that large volumes of people can be handled smoothly and efficiently. Placement of additional appurtenances necessary for food, souvenirs, or other internal operations should be carefully considered.

It is envisioned that the food service operation would be handled on a commission basis by a private concessionaire. Hopefully, the means of food storage, handling, preparation, and disposal of refuse will incorporate the most modern practices available today. The size of the building and the anticipated volumes of people arriving at the summit will dictate the extensiveness of the menu depending on several factors such as speed of preparation and availability of areas for dining.

We anticipate that most of the exhibits and displays will be self-explanatory; but in addition, we would propose a limited staff of guides that might be available for conducted tours or on-the-spot explanation of the geological, ecological, historical, and other natural environmental aspects of the mountain. We have included in our proposed operating budget several laborers who would perform the janitorial tasks in the restrooms and also police the outside grounds. These laborers would also assist in minor maintenance and in trucking refuse off the summit of the mountain.

It is not known at this time whether the Tip Top House will be renovated as a museum and observation area; but in the event that it is, most of the display would be self-guiding and self-explanatory, but there still should be a minimum of one guide stationed at this place at all times the public is permitted there.

Attached is a breakdown of our yearly operating budget for the proposed new facilities. The salaries of the park manager and the maintenance mechanic include the cost only for eight months of the year, April 1 to December 1. We feel that it is necessary for these two key employees to be available during pre-and post-season periods to insure that the building and staffing are properly prepared for the summit patrons. The post season aspect is extremely important in closing the building prior to turning custody of the building over to the observatory for the winter months.

It is recommended that the observatory staff be responsible for the custodianship of the building during the winter months. The observatory staff also could play a key role in coordinating and supporting winter rescue operations in the proximity of the summit of Mount Washington. Arrangements will be necessary for transportation to the summit during the winter months for state personnel on periodic inspection trips.

The three summer guides listed in the proposed operating budget would serve not only as attendants in the museum and the exhibit areas but they would also be well-trained in first-aid and mountain rescue work to form the nucleus of an emergency rescue team.

This comparatively small staff is felt to be adequate because it would be proposed that the food and souvenir concessionaire would be responsible for janitorial services in the food service, food storage, food preparation, and dining areas.

The current expenses category is self-explanatory. The large items are electrical power at \$12,000 for year-round heating of the building and water at \$12,500 which is an estimate supplied by the Cog Railway, the only source of water at this time.

Under equipment, we are proposing a 4-wheel drive van which would serve as an ambulance and a vehicle to house and transport men and mountain rescue equipment on the mountain. The 4-wheel drive dump truck is for the transportation of refuse off the summit and for minor work around the exterior of the building. The station wagon would be used for the transportation of our personnel up and down the mountain and would be used by the manager during pre-and post-season periods for the many meetings and contacts that would have to be made for the operation of this summit facility. The first-aid and rescue equipment and the walkie-talkie radios, which are on the same frequency as the radios of other related agencies, are for emergency rescue work around the mountain.

We have attached a second sheet showing estimated income and total expenses for the operation of the summit.

The commission from the private concessionaire for food services is estimated at \$10,000. This estimated return depends greatly on several factors such as:

1. The condition of equipment and what equipment is furnished the food concessionaire.
2. The extent of janitorial responsibility placed upon the food concessionaire.
3. What transportation arrangements for his personnel and supplies can be made by the concessionaire and the private transportation companies.
4. The availability of help and what arrangements might be made for lodging concessionaire's help.
5. The amount of floor space allocated to the concessionaire for food storage, food preparation, food serving, and dining areas.

We have estimated the commissions on gifts and souvenir sales to be \$15,000. This return depends generally on the same factors as outlined for food service and the type and quality of merchandise to be sold at an installation such as this.

The Henry Report estimates the total visitors to the Summit to be approximately 250,000, of which 200,000 would be classified as adults (15 years of age or over), and 50,000 under age 15. Assuming that 75 per cent of the adults and 80 per cent of the children would be willing to pay for admission to the summit facilities, total receipts from this source would amount to \$170,000 if the charge was \$1.00 for adults and 50¢ for children.

There is also a possibility that some small amount of income might be derived from having such things as locks and coin-operated showers in the hikers' quarters.

MT. WASHINGTON  
PROPOSED YEARLY BUDGET FOR OPERATION OF NEW FACILITIES

(Operating Season May 15 to October 15)

SALARIES

1 Park Manager VII	8 mos.-Apr.1 to Dec.1 @ \$1,023 per mo.	\$ 8,184
1 Maintenance Mechanic II	8 mos.-Apr.1 to Dec.1 @ 576 per mo.	4,608
3 Guides	5 mos.-May 15 to Oct.15 @ 514 per mo.	7,710
3 Laborers	5 mos.-May 15 to Oct.15 @ 385 per mo.	5,775
4 Collectors	5 mos.-May 15 to Oct.15 @ 385 per mo.	7,700
TOTAL SALARIES		<u>\$33,977</u>

Winter time custodianship by observatory personnel would in effect provide an annual contribution by Mt. Washington Observatory of approximately \$20,000 to the cost of operating the new facilities. This figure is not included in the salaries or in the total yearly operating cost.

CURRENT EXPENSES

Supplies	\$ 8,000
Clothing	1,500
Power and Water	
(Power 12,000)	
(Water 12,500)	24,500
Telephone	720
Postage	200
Repairs - Buildings	18,000
Motor Vehicle Upkeep	2,000
Subsistence of Persons	3,000
Contract Earnings	
(Town Dump 500)	
(Pump Septic Tanks 1,000)	1,500
Miscellaneous	1,000
Insurance (Motor Vehicle)	240
TOTAL CURRENT EXPENSES	<u>\$60,660</u>

TRAVEL

In-State	\$ 500
Out-of-State	500
TOTAL TRAVEL	<u>\$ 1,000</u>

EQUIPMENT (To be purchased every four years)

	<u>Total Cost of Equipment</u>	
1 4-wheel drive van	\$ 3,700	\$ 925
1 4-wheel drive dump truck, 3/4-Ton	3,500	875
1 Station Wagon	3,500	875
First-Aid and Rescue Equipment	1,000	250
2 Walkie-Talkie Radios	1,000	250
TOTAL EQUIPMENT	<u>\$12,700</u>	<u>\$ 3,175</u>

ESTIMATED TOTAL YEARLY OPERATIONAL BUDGET	<u><u>\$98,812</u></u>
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MT. WASHINGTON  
SUMMARY OF YEARLY OPERATING INCOME AND EXPENSES

PROJECTED INCOME

Commission on food sales		\$ 10,000
Commission on gift and souvenir sales		15,000
Per Capita admission fees:		
\$1 per capita 150M adults	150,000	
\$0.50 per capita 40M children	<u>20,000</u>	<u>170,000</u>
ESTIMATED TOTAL INCOME		<u>\$195,000</u>

PROJECTED EXPENSES

Operating Expenses	<u>\$ 98,812</u>
NET OPERATING INCOME TO THE STATE	<u><u>\$ 96,188</u></u>



APPENDIX B

REPORT ON REAL ESTATE OF THE STATE OF NEW HAMPSHIRE  
AT THE SUMMIT OF MT. WASHINGTON

JOHN R. McLANE (1912-1969)  
KENNETH F. GRAF  
HARRIET E. MANSFIELD  
JOHN R. McLANE, JR.  
ARTHUR A. GREENE, JR.  
STANLEY M. BROWN  
ROBERT A. RAULERSON  
JACK B. MIDDLETON  
G. PETER GUENTHER  
JOHN A. GRAF  
CHARLES A. DE GRANDPRE  
JAMES R. MUIRHEAD  
JOHN P. GRIFFITH  
PETER B. ROTCH  
ARTHUR G. GREENE  
ROBERT UPTON, II

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JOHN P. CARLETON  
OF COUNSEL

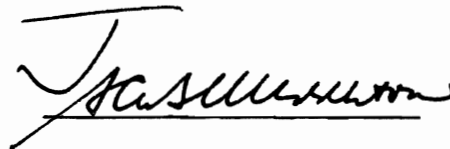
December  
Eighteenth  
1970

Honorable Sherman Adams, Chairman  
Mount Washington Commission  
Concord, New Hampshire 03301

Dear Governor Adams:

Enclosed please find my report on real estate  
of the State of New Hampshire at the Summit of Mount Washington.  
The report is based upon my review of instruments of record in the  
Coos County Registry of Deeds, Lancaster, New Hampshire. I  
am indebted to Paul Donovan, Esquire of Hinkley & Donovan,  
Lancaster, New Hampshire, for his assistance in searching these  
records.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read "John P. Carleton", written over a horizontal line.

JBm:sr  
Enc.

REPORT ON REAL ESTATE OF THE STATE  
OF NEW HAMPSHIRE AT THE SUMMIT  
OF MOUNT WASHINGTON

I. Introduction

The real estate owned by the State of New Hampshire at the summit of Mt. Washington was acquired from Dartmouth College by deed dated April 21, 1964 and recorded in the Coos County Registry of Deeds, Volume 481 at Page 209. A copy of this deed is attached as Appendix A. Briefly stated, the deed conveyed to the State a tract of land within a circle described by a radius of 50 rods, the center of which is a pin near the northeast corner of the Stage Office, so-called. Also conveyed is a rectangular tract extended from the northeast edge of the circle. The land is completely surrounded by the White Mountain National Forest, except for a tract of land 99 feet in width extending from the Base Station, so-called, on the northwest side of the Mountain to the summit tracts and being the so-called right-of-way of the Mt. Washington Railway Company and a tract of land 4 rods in width extending from the summit property to the base of the Mountain on the northeast side at Route 16, and being the property of the Mt. Washington Summit Road Company.

The circular and rectangular summit tracts, the Railroad and Road Company tracts near the summit and many of the other parcels of land and objects referred to in the deed to the State are shown on plans

entitled "Mount Washington Summit - Existing Conditions - September, 1970" and "Mount Washington Summit - Existing Utilities - September, 1970", and reference will be made to these plans in this report.

The land in question is situated in the unorganized township of Sargents Purchase in the County of Coos. All notations of recording of instruments will refer to the Volume and Page in which the instrument was recorded in the Coos County Registry of Deeds in Lancaster, New Hampshire.

## II. The Real Estate And Interests Therein Acquired by the State of New Hampshire From Dartmouth College

Circular  
Tract

The "circular tract", so-called, is Tract I in the deed from Dartmouth College and is described as follows:

"All that portion of the summit of Mount Washington which is included within the circle described by a radius fifty (50) rods in length, the center of which is an iron pin set in the ledge, three and nine tenths (3.9) feet northeast from the northeasterly corner of the Stage Office, so-called. "

The pin, the Stage Office and the circular tract are shown on the plan "Existing Conditions".

Yankee Network  
Tract

Excepted and excluded from the circular tract of land conveyed to the State is a tract of 9.07 acres retained by Dartmouth College. The land was leased by Mt. Washington Club, Inc. to Yankee Network, Incorporated, by lease dated June 7, 1944, and recorded in Volume 328 at Page 330. The original term of the lease was six years, but the lessee was given the right to 4 successive extensions of the

lease, each for a period of 15 years. If all of the extensions are exercised, the lease will terminate December 31, 2009. The present owner of the lessor's rights is Dartmouth College by reason of assignment from Mt. Washington Summit House, Inc. (formerly known as Mt. Washington Club, Inc.) to Dartmouth College dated November 16, 1962, and the present record owner of the lessee's interests under the lease is Mt. Washington T.V., Inc. (see instruments dated August 30, 1962 and June 2, 1964, recorded, respectively, Volume 471 at Pages 245 and 247, and Volume 482 at Page 344).

The 9.07 acre tract is exception (A) in the deed to the State and is described as follows:

" (A) Beginning at a point halfway between the Tip Top House and the so-called Yankee Network Building, measured at the shortest distance between said buildings; thence running westerly by a line parallel with the northerly side of the Yankee Network Building to a point two hundred (200) feet beyond the point where said line intersects the extension northerly of the line of the westerly side of said Yankee Network Building; thence turning a right angle and running southerly to the boundary of Tract I, a distance of approximately seven hundred (700) feet; beginning again at the original point of beginning and running easterly to a point ten (10) feet north of the Mount Washington Observatory steps; thence still easterly by a line parallel to the northerly side of the Observatory building to the border of the parking area, a distance of approximately two hundred (200) feet; thence turning at a right angle and running to the boundary of Tract I, a distance of approximately seven hundred fifty (750) feet; thence by a line curving to the right and having a radius of eight hundred twenty-five (825) feet, being the boundary of Tract I, to the southerly end of the line already referred to as being approximately seven hundred (700) feet; the premises containing approximately nine (9) acres. "

The Yankee Network Building and the 9.07 acre tract are shown on the plan "Existing Conditions".

Mt. Washington  
Observatory  
building and  
right of access

Included within the area described above as the 9.07 acre tract is the building leased to and occupied by the Mt. Washington Observatory. This building and the land on which it stands were excluded from the premises leased to Yankee Network in the lease dated June 7, 1944 and a right of access was reserved by the lessor to the building over the land leased to Yankee Network. The building and the land on which it stands and a right of access to the building were conveyed by Dartmouth College to the State. The building was leased by the State to the Mt. Washington Observatory by lease dated February 2, 1965, and the lease is recorded in Volume 488 at Page 386. The lease terminates May 15, 1977, unless previously terminated by either party upon six month's written notice to the other party. (See further reference to this lease below). The Observatory building is shown on the plan "Existing Conditions" as the "Mt. Washington Observatory".

Dartmouth  
College right  
of way

Dartmouth College reserved a right of way across the circular and rectangular tracts "by vehicle and on foot" to the 9.07 acre tract.

Marshfield  
property

Also excluded from the circular tract was a tract of land 80' x 200' immediately east of the present Summit House, which was conveyed by Dartmouth College to Marshfield, Inc. by deed dated

April 21, 1964 and recorded in Volume 481, at Page 96. That tract is described as follows:

"(B) Beginning at an iron pin driven in the ground, which pin is located twenty-five (25) feet northeast of the center cog of the Mount Washington Railway as now located and constructed, and twenty-five (25) feet east of the northeast corner of the Summit House Building; thence northerly on a line which is parallel to the north side of the Summit House a distance of eighty (80) feet to a point; thence easterly on a line parallel to the line of the center cog of said Railway a distance of two hundred (200) feet; thence southerly on a line parallel to the first mentioned bound a distance of eighty (80) feet; thence westerly on a line parallel to, and twenty-five (25) feet from, the line of the center cog of said Railway, to the point of beginning. "

This tract is shown on the plan "Existing Conditions" as "Marshfield, Inc. Property".

Right of way  
of Marshfield,  
Inc.

The deed from Dartmouth College to Marshfield, Inc. dated April 21, 1964, and referred to above, granted the following easement over the premises conveyed by Dartmouth College to the State:

"Also conveying a right of way to said premises by vehicle and on foot, together with rights to construct wires for the transmission of electricity and pipelines for water and fuel oil over and across (said tracts), together with the right to maintain, replace and repair such transmission lines and pipelines. "

Rectangular  
Tract

The "rectangular tract", so-called, is Tract II in the deed from Dartmouth College to the State and is described as follows:

"Commencing at a point on the easterly side line of the right of way of the Mount Washington Railway Company, said point being located at right angles from a point in the center line of location of said Railway, three hundred forty-seven (347) feet northwesterly, measuring along said center line, from a point in said center line opposite the Lizzie Bourne Monument;

thence North 68° East, four hundred thirty-seven (437) feet; thence South 22° East, one thousand (1,000) feet; thence South 68° West, four hundred thirty-seven (437) feet to a point fifty (50) rods easterly from an iron pin on the summit of Mount Washington at the center of Tract I; thence northwesterly by said circular tract about six hundred nineteen (619) feet to the easterly side of the location of said Railway; thence northwesterly by said side line about four hundred nine (409) feet to the point of beginning. "

The right of way of the Mount Washington Railway Company and the rectangular tract are shown on the plan "Existing Conditions".

Excluded from the rectangular tract is the land on which the Yankee Network fuel tanks and pump house are located. This exception is described:

" Together with the land on which the tanks, pump house and pump formerly owned by the Yankee Network, Incorporated stand, and sufficient land adjacent thereto for such larger or additional tanks as the successor to the Yankee Network, Incorporated may require for the conduct of its business. "

As noted above, the present successor lessee is Mt. Washington T.V., Inc. The fuel lines are shown on plan "Existing Utilities" and the fuel tanks are shown on the plan "Existing Conditions".

Included in the conveyance of the above tracts in fee were certain rights and easements granted to the State as well as rights and easements reserved to others, in addition to those referred to above.

(1)  
Right of way  
over Mt.  
Washington  
Railway Co.  
property

Dartmouth College conveyed to the State "a right of way for travel by motor vehicle or on foot, in common with (Dartmouth) and others, over and across the premises conveyed by (Dartmouth) to Marshfield, Inc. by deed dated November 20, 1962 and recorded in said



Registry at Volume 474, Page 5". The premises referred to are the tracts of land at the base of Mt. Washington on the northwest side of the Mountain and known as "Marshfield" and the "Base Station" of the Cog Railway, and the strip of land 99 feet in width extending from the base to the summit. (Portions of this real estate were subsequently conveyed by Marshfield, Inc. to the Mount Washington Railway Company by deed dated December 31, 1962, and recorded Volume 474 at Page 58).

The following rights and easements are referred to in the same order and designated by the same number as in deed from Dartmouth College to the State:

(2)  
Aeronautical  
Radio

The conveyance to the State was subject to the lease between Dartmouth College and Aeronautical Radio, Inc. under which Dartmouth College agreed to lease certain facilities until October, 1964. Subsequently, the State entered into two lease agreements with Aeronautical Radio, Inc. dated March 29, 1965, and October 20, 1969, (recorded: Volume 489 at Page 247 and Volume 526 at Page 140, respectively) for the maintenance by lessee of antennas on the Summit. The final termination of this lease is October 1, 1970. The leases require the lessee to provide the lessor with "information showing it has satisfactory arrangements with Mt. Washington T.V., Inc. with respect to the method of carrying out their broadcasting, in as much as the Mt. Washington T.V., Inc. has exclusive broadcasting rights on the summit" (See below under "aural broadcasting").

(3)  
Aural Broad-  
casting

The conveyance to the State was subject to the restriction that the premises "shall not be used for aural or visual broadcasting". This restriction is derived from the lease between Mt. Washington Club, Inc. and the Yankee Network, Incorporated, referred to above (hereinafter, for convenience, called the "Yankee Network lease"). Paragraph 7 of the Yankee Network lease contains the following provision:

"7. The lessor covenants and agrees that during the term of this lease and any extensions hereof, it will not permit any of the lessor's remaining land on Mt. Washington, or other land thereon which may be acquired by the lessor, to be occupied or used as a radio broadcasting station or for any other use permitted to the lessee by the terms of this lease."

The lease also provided that:

"2. The lessee will use the leased premises for aural and visual broadcasting and receiving and similar use, including scientific experiments and development in similar fields."

Dartmouth College reserved to itself the rights to aural and visual broadcasting, subject to the rights of the present holder of the Yankee Network lease (See (8) below).

(4)  
Rights of the  
Mt. Washing-  
ton Summit  
Road Company

The conveyance to the State is subject to certain rights of the Mt. Washington Summit Road Company, more particularly described in the following instruments:

(1) David Pingree et al to Mt. Washington Railway Company, et al, dated April 30, 1894 and recorded Volume 68 at Page 310.

(2) Conway Company to Mt. Washington Railway Company dated March 15, 1910, recorded Volume 153 at Page 150.

(3) Robert Osgood to Mt. Washington Summit Road Company dated May 14, 1906 and recorded in Volume 132 at Page 347.

(4) Mt. Washington Summit Road Company and Mt. Washington Summit House, Inc. dated September 27, 1955, and recorded in Volume 419 at Page 117.

In order to bring the first instrument into proper prospective, and to have proper appreciation of the effect of this first instrument, it is necessary to briefly review certain events which led to the execution of this document. The State of New Hampshire by its Commissioner, James Wiley, had conveyed vast tracts of public lands to private persons and the descriptions used in the deeds were not particularly precise. By deed dated May 31, 1832, Wiley conveyed 25,000 acres to Jacob Sargent, et al. This tract was acquired by David Pingree, et al and by them conveyed in 1853 to Jackson Iron Manufacturing Corp. In 1835, Wiley conveyed 12,000 acres to Meserve and Thompson, and a portion of that tract was deeded to Bellows and Wells, who instituted suit against the Jackson Iron Manufacturing Corp. to establish ownership of the summit of Mt. Washington. The heirs of David Pingree purchased the interests of Bellows and Wells for \$30,000. About this same time, the Jackson Iron Manufacturing Corp. conveyed its interest in the Summit to the Pingree heirs. In the meantime, David Pingree and Ebenezer Coe, had come to the rescue of the ailing carriage road by the creation on June 27, 1857, of the Mt. Washington

Summit Road Co., which acquired the rights of Mt. Washington Road Company. (The Pingrees retained this interest until May 24, 1906, when the heirs sold to E. Libby & Sons, Co.) Further litigation developed in the Federal Court in New Hampshire about 1890 as a result of the petition filed by the Mt. Washington Railway Company with the Railroad Commissioners of the State of New Hampshire, for authority to take by eminent domain a parcel of land at the Summit. The petition was granted and damages were awarded to the Pingrees. The Pingrees instituted the action in the Federal Court to obtain relief from these orders. While this litigation was still pending, an agreement was entered into between the Pingree heirs, the Mt. Washington Railway Company, the Mt. Washington Summit Road Co., et al. For the sum of \$56,000, the Pingree heirs conveyed the circular tract to the Railway Company subject to the following rights of the Road Company:

" 1. The right to forever maintain and operate its carriage road over and upon the granted premises where the same is now constructed.

2. The right to forever renew, maintain and use the stage office and stage buildings for lodging and victuallizing employees of the Road Co. and stages, and convenient stables for horses used on said road, as said buildings are now located or may hereafter be located by mutual agreement.

Any renewal of such buildings shall not be unsightly.

3. The right to use the space between the present stage office and signal station, and in front of the stables, as turning grounds for their stages and other vehicles.

4. The right to pass over said premises to and from said carriage road to other parts of the summit by the usual or customary walks and passageways and from one point to another on the summit to the same extent respectively as the patrons,

passengers and employees of the Railway Co. shall be permitted to do, but the employees of neither company, or their lessees and patrons, shall be permitted to resort to and make use of the buildings of the other except under such reasonable rules as may be established by the other Co.

5. The exclusive right to use the water from the spring near the present stable; the right to use the water from the spring near the stage office to the same extent as heretofore; and an equal right with the Railway Co. to use the water from the spring west of the old engine house."

The Mt. Washington Summit Road Company was a signatory to this Agreement.

The deed from The Conway Company to the Mt. Washington Railway Company, referred to above, conveyed the rectangular tract. The sole reference to the Mt. Washington Summit Road Company in that deed is the following:

". . . excepting such right of way, if any, through such tract of land as belongs to the Mt. Washington Summit Road Company."

The deed from Robert Osgood to the Mt. Washington Summit Road Company, referred to above (instrument #3), conveys "the two stables and stage office on the summit of Mt. Washington . . . used by the Mt. Washington Summit Road Company, subject, however, to the restriction contained in a deed to the Mt. Washington Railway Company dated April 30, 1894" (instrument #1). "Also, all our right, title and interest in the springs near the present stable, stage office, and west of the old engine house, and the waters thereof." There is a reference to a deed to the grantor from David Pingree, et al, dated June 4, 1897 and recorded Volume 90 at Page 154.

The agreement dated September 27, 1955 (instrument #4) refers to the agreement of April 30, 1894, in which "the rights of the several parties in, to and over the summit of Mt. Washington were defined and agreed upon." The latter agreement allows the Road Company to remove its stables on the southwest side of the summit "at any time without prejudice to its rights to use such land and the area about such stables as presently used, for toll purposes" and provides further that the Road Company "shall at all times retain the right to erect another building of similar size to the existing stable . . ."

The carriage road, stage office and the location of the so-called "old and new" stables are shown on plan "Existing Conditions".

(5)  
Mt. Washington  
Railway Co.,  
Right of way

By deed dated November 20, 1962, and recorded Volume 474 at Page 7, Dartmouth College conveyed to Marshfield, Inc. "the perpetual right and easement to operate a railroad" across the summit tracts (these rights and easements were conveyed by Marshfield, Inc. to the Mt. Washington Railway Company by deed dated November 20, 1962 and recorded Volume 474 at Page 58). The easement is 99 feet wide, "the external boundaries of which are 49.5 feet from the center cog of the Mt. Washington Cog Railroad as now located and constructed", from the northerly edge of the circular tract to the southerly extension of "a line drawn parallel to and 50 feet easterly of the easterly side of the Mt. Washington Summit House". From that point to the terminus of

the railroad at the summit the width of the easement is 50 feet,  
"the external boundaries of which are 25 feet from the center cog  
of the Mt. Washington Cog Railroad as now located and constructed".  
The location of this easement is shown on the plan "Existing Conditions".

(6)  
Mt. Washington  
pipelines &  
water tanks

The deed from Dartmouth College to Marshfield, Inc.,  
further provides:

"Together with the right to maintain pipe lines and  
water tanks as now located on the premises of the grantor at  
the summit of Mount Washington, and the right to enter upon  
the premises of the grantor for the purpose of maintaining or  
repairing said water tanks and pipe lines."

At the time of the conveyance from Dartmouth College to  
Marshfield, Inc., there were wooden water tanks located on the north  
side of the Summit House, which have since been removed. The  
Mt. Washington Railway Company has one water tank at the summit,  
located immediately north of the Railroad trestle about 65 feet from the  
southeast corner of the Summit House. The water pipeline from the Base  
Station to the Summit is located on the trestle of the Cog Railroad. There  
is a pipeline leading from the existing water tank to the Summit House,  
as shown on the plan "Existing Utilities". (See the reference below to  
the easement acquired by the State from Marshfield, Inc. dated March 23,  
1970 and recorded Volume 527 at Page 331).

(7)  
Rights of  
Passengers,  
etc. to pass  
& repass

One of the rights granted to the Mt. Washington Summit  
Road Company by deed of David Pingree et al dated April 30, 1894, referred  
to above, was the "right to pass over said premises to and from said  
carriage road to other parts of the summit by the usual or customary walks  
and passageways . . . ." The provision (6) in deed extends these rights

to the members of the general public and includes the right to pass and repass generally over the summit in all areas except those occupied by buildings or other structures and includes the purpose of performing scientific research on the summit.

(8)  
Reservation of  
Rights by  
Dartmouth

The Yankee Network lease included "the land on which the tanks, pump house and pumps now stand and sufficient land adjacent thereto for such larger or additional tanks as the lessee may require for the conduct of its business". (This area is part of Exception A referred to in the deed from Dartmouth College to the State). It further granted the lessee the right to maintain, repair, replace and construct wires and pipelines "in substantially their present locations" between the pumps and tanks and the 9.07 acre tract. The fuel tanks are located on the east side of the summit between the railroad and the road. The tanks, pipelines and wires are shown on Plan "Existing Utilities". This provision in the deed reserves these rights and interests to Dartmouth College as successor in interest of the lessor under the Yankee Network lease.

The deed from Dartmouth College to the State also reserves to Dartmouth "the rights granted to General Teleradio, Inc. in Agreement dated January 25, 1955 between Mt. Washington Summit House, Inc. and General Teleradio, Inc." That agreement was made a part of "a comprehensive settlement of all existing controversies" between the successors in interest of the lessor and lessee of the Yankee Network lease.



The agreement provides that the only restrictions upon the use of the leased premises by the Lessee shall be:

"No admission fee shall be charged for entrance to the leased premises. The Lessee will not use the leased premises so as to compete in any manner with the business of the present hotel on the Summit of Mount Washington, including its dining room, shelter, gift shop, post office and garage."

The agreement also provides that the lessor shall not use its remaining premises (the tracts conveyed to the State) for:

". . . aural and visual broadcasting and receiving and similar uses, including scientific experiments and development in similar fields."

**Right of First  
Refusal**

The deed from Dartmouth College to the State also grants to the State the right of first refusal to purchase the premises excluded as exception A and the rights of Dartmouth College in aural and visual broadcasting. Such right of first refusal to be exercised in accordance with the provisions of the deed.

**III. Transactions Affecting the Real Estate of the State at the Summit  
From April 21, 1964 to November 1, 1970**

**Lease to  
Marshfield**

Dartmouth College entered into a lease of the Summit House, Tip Top House and certain adjoining land and equipment with Marshfield, Inc. dated November 20, 1962 for a term of 10 years from that date with an option to renew for a further term of 10 years. The lease was recorded in the Registry in Volume 474 at Page 8. The deed from Dartmouth College to Marshfield, Inc. dated April 21, 1964 and recorded Volume 481 at Page 96, provided:

"The grantee (Marshfield) by acceptance of this deed, releases any and all rights and claims it may have had pursuant to the (lease dated November 20, 1962) and that lease is hereby terminated."

Thereafter the State from time to time leased portions of the Summit to Marshfield, Inc., and the last lease, dated April 20, 1970, and recorded in Volume 488 at Page 383, was for "the term of one season . . . ending approximately October 20, 1970, but subject to renewal for succeeding summer seasons . . . upon terms agreed to by both parties." As of November 1, 1970, the parties had not entered into an agreement for renewal of this lease.

Mt. Washington  
Observatory  
lease

By Agreement dated February 2, 1965, the State leased the Observatory building to the Mount Washington Observatory for a term ending May 15, 1977. This lease is recorded in Volume 488 at Page 386. The lease is terminable by either party upon six month's written notice to the other party. The lease contains the following restrictions upon the lessee's use of the building:

" Said building shall be used solely for scientific purposes and no admission fee shall be charged nor shall food be sold, but general publications about Mount Washington, publications of and about the Observatory and scientific tracts may be sold."

Easement by  
Marshfield to  
State

By instrument dated March 23, 1970, and recorded in Volume 527 at Page 331, Marshfield, Inc. conveyed to the State the right and easement to lay pipe across Marshfield's summit property and "the right to flow sewage and water through said pipes and to maintain said

pipes in repair and enter upon its land at any and all times for the purpose of cleaning out or repairing said pipes, providing, however, that no damage to (Marshfield's) land is occasioned by these entries or repairs."

#### IV. Access to the Summit

The matter of the access of the State to its property at the Summit of Mount Washington has been raised from time to time and enough interest has been shown in this matter to warrant a specific reference to access. As noted at the outset of this report, the property of the State is surrounded by land owned by the United States Government, which land consists of the White Mountain National Forest. The United States Forest Service has consistently pursued a policy of free access over and across the White Mountain National Forest. There are at present several hiking trails, which run from the Summit real estate to various public highways and the public has always enjoyed free access over these trails.

As also mentioned above, the State obtained a right of way from the base of Mount Washington at Marshfield over the land owned by Marshfield, Inc. and the Mt. Washington Cog Railroad to the Summit. These lands are owned by those companies in fee and the State has a legal right to travel over those properties by motor vehicle or on foot in common with Dartmouth College and other users.

It has already been observed that the Summit tracts are presently serviced by the Mt. Washington Railway Company, operator of a railroad carrying passengers for hire, and the Mount Washington Summit Road Company, operator of a toll road and a fleet of motor vehicles carrying passengers for hire. Both of these companies are and have been for many years, public utilities, subject to and in fact regulated by the New Hampshire Public Utilities Commission, pursuant to R.S.A. 362:2, 3 and RSA 365:22, 24. (See R.S.A. 365 generally).

R.S.A. 374, sections 1, 2 and 3 provide:

"374:1 Service. Every public utility shall furnish such service and facilities as shall be reasonably safe and adequate and in all other respects just and reasonable.

"374:2 Charges. All charges made or demanded by any public utility for any service rendered by it or to be rendered in connection therewith, shall be just and reasonable and not more than is allowed by law or by order of the public utilities commission. Every charge that is unjust or unreasonable, or in excess of that allowed by law or by order of the commission, is prohibited.

"374:3 Extent of Power. The public utilities commission shall have the general supervision of all public utilities and the plants owned, operated or controlled by the same, so far as necessary to carry into effect the provisions of this title."

Further, R.S.A. 378:10 provides:

"378:10 Preferences. No public utility shall make or give any undue or unreasonable preference or advantage to any person or corporation, or to any

locality, or to any particular description of service, in any respect whatever, or subject any particular person or corporation or locality, or any particular description of service, to any undue or unreasonable prejudice or disadvantage, in any respect whatever."

It is the duty of these public utilities to provide reasonable services to the public at rates which are fair and reasonable. The State, through its employees, is entitled to receive such fair, non-discriminatory treatment. The State, through its Public Utilities Commission, may enforce these general requirements to protect its interests as a member of the general public serviced by these utilities.

#### V. Conclusion and Recommendations

While the land owned by the State at the Summit may be readily surveyed and mapped, it is apparent from the foregoing analysis that the land owned by the State is subject to a number of easements, which cannot at this time be precisely defined. This is particularly true with respect to the general easements reserved to the Mt. Washington Summit Road Company as detailed on pages 10 and 11, and the rights reserved to the Yankee Network, Incorporated (and to Dartmouth College) as set forth on page 6. Many of the pipelines, etc., have been located on the plan entitled "Existing Conditions", but there may be other lines which exist and which have not to date been surveyed and plotted. In order to establish the rights of the various parties with greater precision and to clarify

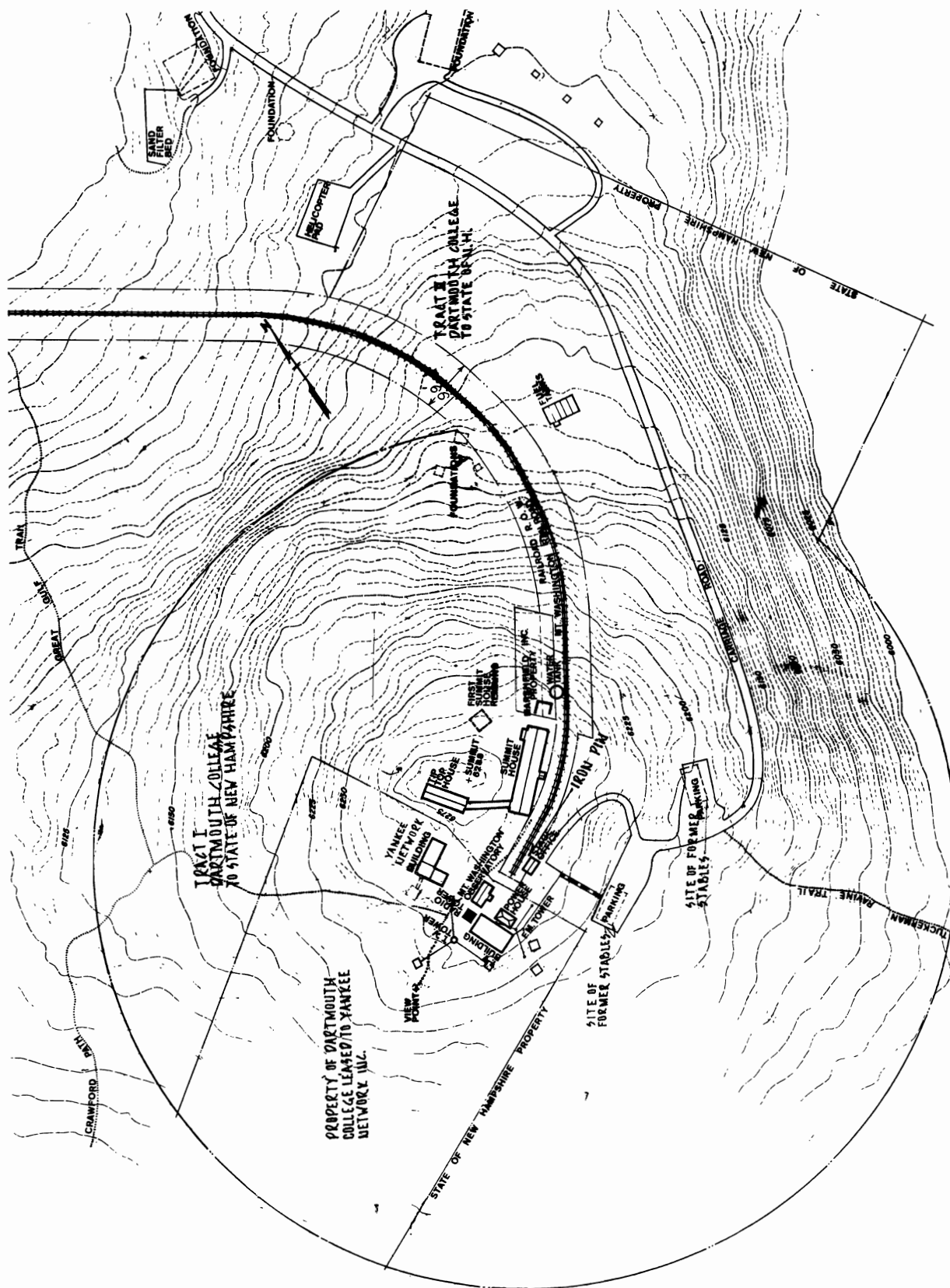
the nature and extent of these easements, it is recommended that a written agreement involving all of the interested parties (i.e., the State of New Hampshire, the Mt. Washington Railway Company, the Mt. Washington Summit Road Company, the Mt. Washington Observatory, Mt. Washington T.V., Inc. and Dartmouth College), be negotiated and executed in an effort to define all of the interests of the parties as precisely and exactly as possible.

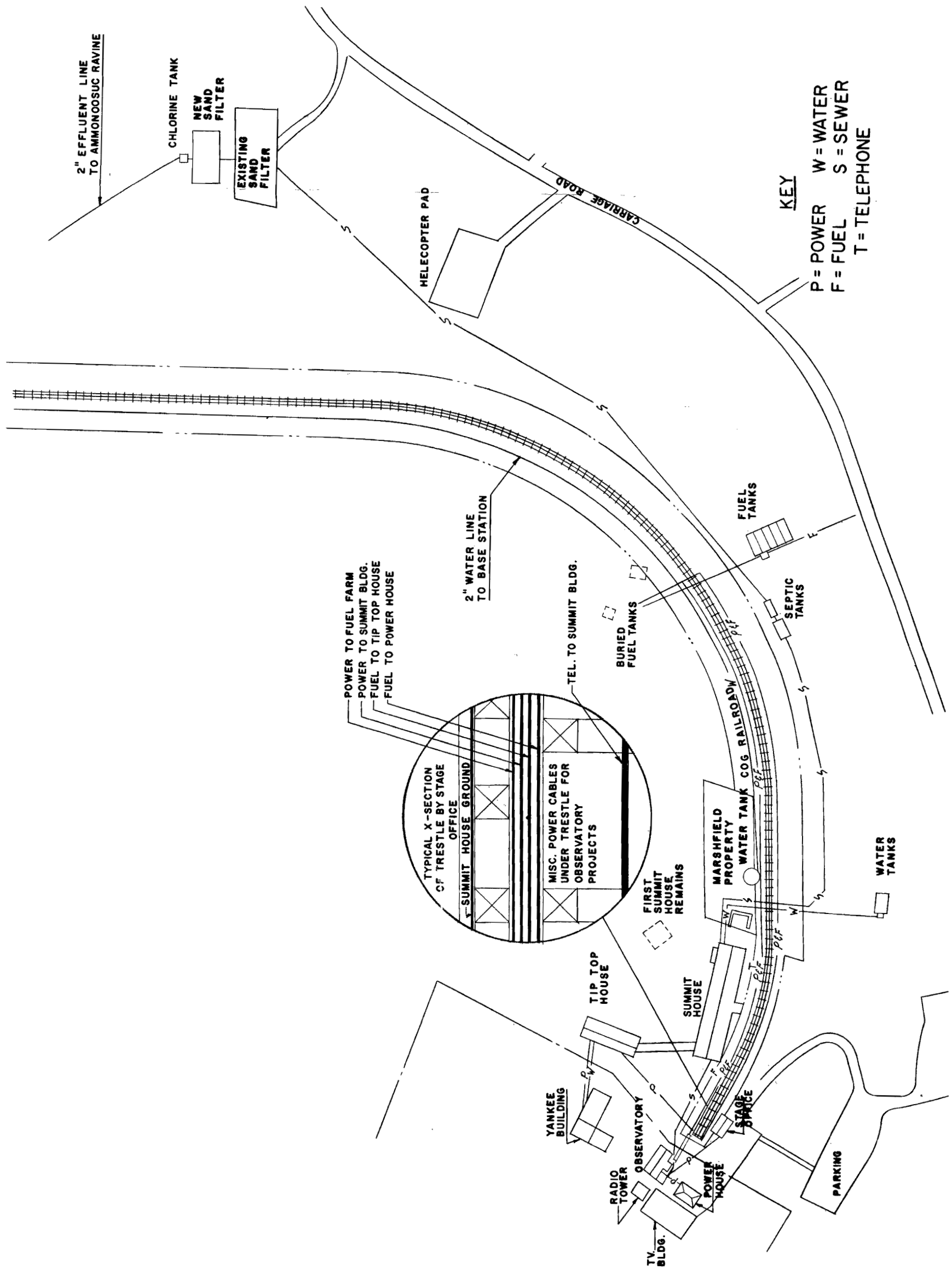
#### VI. Footnote to Report

At the request of the Mt. Washington Summit Road Company, the following comment is incorporated in this report with respect to the rights of the Mt. Washington Summit Road Company, Dartmouth College and Mt. Washington T.V., Inc., in the 9.07 acre tract retained by Dartmouth College (see pages 9-12):

"The Mt. Washington Summit Road Company also claims an interest in this 9.07 acre piece because the rights and interests granted it in the April 30, 1894 grant (described on pages 10 and 11 of the Report) apply to this piece. The grant to the Road Company stated such interests granted were for its 'sole use and benefit'. The described 'space' (paragraph '3', page 10 of the Report) between the stage office and signal station lies partly within the 9.07 acre piece. Structures, consisting of a power house, TV building and antennae, have been erected in this space by Dartmouth's lessee, which the Road Company claims infringe its rights."

# MOUNT WASHINGTON SUMMIT • EXISTING CONDITIONS





MOUNT WASHINGTON SUMMIT · EXISTING UTILITIES · SEPTEMBER 1970



APPENDIX C

FLORA OF MT. WASHINGTON SUMMIT AND ITS PROTECTION

UNIVERSITY OF NEW HAMPSHIRE  
DURHAM, NEW HAMPSHIRE 03824

COLLEGE OF LIFE SCIENCES  
AND AGRICULTURE  
Institute of  
Natural and Environmental  
Resources

December 22, 1970

Sherman Adams, Chairman  
Mount Washington Commission  
Concord, New Hampshire 03301

Dear Mr. Adams:

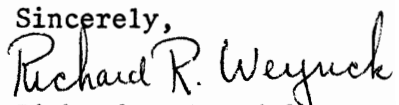
I am enclosing the final report entitled, "The Flora of Mount Washington Summit and Its Protection", by Professor A. R. Hodgdon, Associate Professor O. M. Rogers, and myself. We have attempted to direct our efforts toward the questions that were raised at our preliminary meetings early last summer. I hope that we were successful.

There are a few changes that we have made since the preliminary (October 1) report. The most notable addition is a section concerning protection of relatively rare species. The map is intended to show the location of alpine meadows in the summit area and to characterize the dominant vegetational groupings.

I am also enclosing copies of two recent articles in The Conservationist which you and your commission members should find interesting and relevant to some of the points covered in our report. The articles, which are concerned with high Adirondack peaks, point out the deleterious effects of man's presence, even in the absence of high density use and developments. This really emphasizes the challenge facing us in New Hampshire concerning the protection of not only Mount Washington, but all our alpine zones, whether or not they have roads leading to them.

We have found the study to be both challenging and gratifying, and we hope that you and the Commission will find our efforts to be helpful and worthwhile.

RW/es  
Enclosures (4)

Sincerely,  
  
Richard R. Weyrick  
Associate Professor

CC: Malcolm Chase  
Dean H. A. Keener, COLSA  
O. F. Hall, Director, I.N.E.R.

PS: Please convey our appreciation to Malcolm Chase and his staff for their fine cooperation and assistance, and also to Douglas Philbrook, who cooperated fully in making the summit accessible.

# THE FLORA OF MOUNT WASHINGTON SUMMIT AND ITS PROTECTION

## Study Report

Richard R. Weyrick, Associate Professor, Institute of  
Natural and Environmental Resources  
Albion R. Hodgdon, Professor, Department of Botany  
Owen M. Rogers, Associate Professor, Department of Plant  
Science  
College of Life Science and Agriculture, University of  
New Hampshire<sup>1/</sup>

December 22, 1970

### I. Purpose

The purpose of this investigation was to develop background information and integrate expertise available in the College of Life Sciences and Agriculture, University of New Hampshire, to assist a Governors Task Force, chaired by Mr. Sherman Adams, in making recommendations for the development of state facilities at the summit of Mount Washington. Our suggestions are to be in ways that are consistent with protection and consideration of the unique alpine resources of the summit area, as well as the needs and edification of the visiting public.

### II. Mapping Mount Washington Summit Flora

#### A. Topography and occurrence of vegetation

It must be recognized that the vegetation, other than lichens and mosses growing on rock surfaces, occur primarily in relatively small patches, or meadows, where alpine soils have been formed in rock benches or in depressions among rocks. Mapping and characterizing alpine vegetation become a matter of locating these meadows and observing patterns of plant growth occurring in them.

The topography appears to be significantly different between the north and south slopes of the summit, and this, in combination with other aspects effects, has resulted in notable difference in the nature of the meadows.

#### 1. North slope

The north slope of the summit is a relatively gentle gradient, averaging 15 to 30 percent, with the meadows occurring on almost level benches between rock piles. The soils appear to be fairly deep in many areas, and moisture has been sufficient to produce luxuriant patches of sedge growth. National Forest Land below and to the north of state land supports wide expanses of sedge meadows through which cross the Gulfside Trail and the cog railroad right of way.

<sup>1/</sup>Portions of the study were carried out as part of an Agricultural Experiment Station Project, MS-5, Non-Industrial Forest Management Control.

## 2. South slope

The land to the south of the summit falls away to fairly steep gradients, averaging 50 to 70 percent over much of the face. The vegetation patches on this slope tend to be steep meadows running generally up and down the slope. The meadows sometimes appear on small steep ridges, other times as small steep gulleys, in many cases interconnected. The dominant plants in these meadows range from sedge at the higher elevations to combinations of bilberry, other vaciniums and perennials, and annual plants. There are scattered tree species below 5900 feet, (off of state land) but dense patches of tree species generally occur at elevations below 5700 feet, as the slopes become more gentle. The lush Alpine Garden meadow vegetation occurs on the well-watered flats below the south and southeast slopes of the summit and Ball Crag between 5200 and 5700 feet.

### B. Study methods

Stereoscopic coverage of 1966 vertical aerial photographs was used as a basis for identifying meadows. Due to the large variety of shapes, individual meadows could be identified with very little difficulty.

Most of the meadows on state land and surrounding areas were examined for occurrence of plant species on three trips in late July and early August. Species associations were identified by dominant species, with notations made for minor species which occurred.

Property corners were located on the ground and these locations were pricked on a stereo pair of photographs. These points were used to construct a radial line plot of the summit area in order to remove as much of the distortion on the photographs as possible. A vertical sketchmaster was used to transfer meadow location and cultural features to the radial line plot of the summit vicinity.

A transparency was made of the plot containing the photo detail, and this transparency was projected in order to transfer detail in the appropriate scale to a topographic map of the summit area provided by the New Hampshire Department of Highways.

Intensive use of the aerial photographs revealed the possibility that tonal and shade differences can be used to characterize broad vegetational types in the meadows. The lighter shades and uniform tones indicate a general dominance of sedges, rushes, and grasses. Darker shades and uniform tones indicate a dominance of low shrubs, notably bilberry, and various annual plants. Darker shades and varied tones appear to indicate the presence of tree species, especially spruce and fir.

### C. Species occurrence

Determination of "dominant" and "present" species was largely a subjective decision, based on proportion of ground covered by the species. The sedges, grasses and rushes were not identified by species, but the most common sedge was assumed to be Bigelow sedge, which is the dominant plant in most of the north slope meadows and one of the dominant plants in the south slope meadows.

It should be pointed out that all the visits made for this study were late July and August, which was beyond the flowering season for most of the alpine annuals. As a result, the occurrence of some of these plants may have been missed.

The species occurring commonly with sedge on the north slope include rushes, grasses, club mosses, mountain sandwort, bog bilberry, and diapensia. Less commonly occurring species are blueberry, mountain cranberry and goldthread. Above 6150 feet in elevation, sedge grasses, rush and mountain sandwort are the only species noted. Disturbed sites close to the summit were often limited to grass and sandwort cover, and bare soil was exposed.

The south slopes exhibit quite a bit more variety. Below 6150 feet several species share dominance with sedge, rushes and grasses.

At upper levels, the most common species sharing dominance are perennials such as bog bilberry, mountain cranberry, and diapensia, with low blueberry and dwarf bilberry sometimes occurring in clumps with bilberry. Also commonly present at upper levels are labrador tea, alpine goldenrod, bunchberry, crowberry, clintonia, and three-toothed cinquefoil.

Below 6000 feet on the south slope the plant diversity is great. Clintonia, alpine goldenrod, meadowsweet and bunchberry become very common and occasionally may share dominance with the above species. Mountain sandwort remains very common, and goldthread can be observed in many places. Indian-poke and ferns occur in damp and sheltered areas.

Below 5900 feet, tree species begin to occur singly on the south slope. Heart-leaved white birch, balsam fir and black spruce, all appear to have about the same upper limit. The highest elevation where all three species were found was in the same meadow, approximately 5860 feet in elevation (measured by a barometer calibrated with summit readings). Tree species occurrence gradually increases at lower elevation until dense patches of shrubby growth is found at the base of this steep face of the south slope, below 5700 feet.

Species List of Common or Showy Species Near Summit

Sedge (Bigelow), Carex Bigelovii  
Rush, Juncus trifidus  
Grasses, several species  
Club moss, Lycopodium spp.  
Bog bilberry, Vaccinium uliginosum  
Dwarf bilberry, V. caespitosum  
Blueberry, V. angustifolium var. angustifolium  
Mountain Cranberry, V. vitis - idaea var. minus  
Bunchberry, Cornus canadensis  
Meadowsweet, Spiraea latifolia var. septentrionalis  
Labrador tea, Ledum groenlandicum  
Black crowberry, Empetrium nigrum  
Three-toothed cinquefoil, Potentilla tridentata  
Gold thread, Coptis groenlandica  
Diapensia, Diapensia lapponica  
Indian poke, Veratrum viride  
Clintonia, Clintonia borealis  
Mountain sandwort, Arenaria groenlandica  
Alpine goldenrod, Solidago cutleri  
Mountain rosebay, Rhododendron lapponicum  
Alpine azalea, Loiseleuria procumbens  
Balsam fir, Abies balsamea  
Black spruce, Picea mariana  
Dwarf white birch, Betula minor  
Heart-leaved white birch, B. cordifolia  
Dwarf birch, B. glandulosa  
Bearberry willow, Salix Uva-ursi  
Tea-leaved willow, S. planifolia  
Silver willow, S. argyrocarpa

### III. Recommendations concerning summit facilities

#### A. Location

The new buildings proposed by the architects appear to be well-located and designed. They are essentially low-profile so that they should not excessively dominate the landscape. The new summit building is shown to be located on relatively gentle slopes to the east and north of the existing summit building. There are no unique and rare meadows that will be lost in that location. The use of the foundation of Tip Top House as the base of an observation post would be a creative and useful means of preserving this historic site.

The advisability of including an observation tower with the summit building must to some extent depend upon the limitations to views from the roof deck. Presumably, views to the south-west even from the tower would not be available because of obstructions by the Tip Top House and the other structures at the summit.

A very difficult problem in site appearance may develop at the site of the existing summit building. It would be difficult to establish vegetation in the area, but this or some other ground cover may be necessary to hide the signs of the old structure.

The Commission has undoubtedly already addressed itself to the fact that views from Mount Washington summit are often obscured by clouds, thereby dulling the adventure for summit visitors. Perhaps some of the problem could be alleviated through carefully planned enlarged parking areas and observation posts at various elevations along the toll road, so that views from lower elevations, which may be below the clouds, are afforded and encouraged. It should be emphasized that this idea calls for a whole new round of planning and study, for the ecological effects of such activity would have to be determined in each case.

#### B. Numbers of People

The potential increase in visitor load is of course a technical question which this study does not purport to answer, but there does seem to be a reasonable question concerning additional loads that existing modes of transportation can support and numbers of people who could be handled at the summit. Even middle of the week traffic on cloudy days found both parking lots full and road traffic stacked up on occasion.

At any rate, large increases in visitor traffic means that these people will need to be kept entertained and dispersed in the summit facility or problems in satisfaction and maintenance will occur. Well-defined footpaths between buildings and observation points would be helpful in preventing trampling effects in the small meadows close to the summit.

Indoor and nearby outdoor displays would greatly aid in keeping a large proportion of visitors within the area designed for intensive use. One positive method of preventing harmful traffic in the mountain meadows is to keep visitors occupied with activities near the summit facilities.

#### C. Native Alpine Species Plantings

One facility that would be of great interest to visitors and which would serve to reduce indiscriminate trampling in meadows would be to develop a display of live, native alpine plants. This would enhance the appearance of the area while plants are blooming and fruiting; it would in addition provide an interesting and educational pastime to visitors.

It must be realized that there are presently limitations on alpine plant growth at the summit area. As mentioned previously, sedge, grass, rush and mountain sandwort are the only species now growing well in the highest openings. Therefore, existing limiting conditions must be recognized and alleviated before successful propagation of a variety of species can be expected.

Moisture is not likely to be a limiting factor, unless the constant winds provide an excessive dessicating influence. In such an event, additional moisture and some form of shelter may be necessary. Lack of organic soil is a likely limiting factor for development of lush vegetative mats characteristic of alpine meadows, and it is likely that soil will need to be transported into the area.

Exposure to high winds and temperature extremes may at least in part inhibit plant growth in the summit area. If so, sheltered locations may have to be found and utilized to protect plants from the wind and to provide as much exposure to the sun's rays as possible. The use of plastic canopies to provide protection has been found to be very helpful in stimulating plant growth in exposed arctic situations.

It is expected that initial efforts will be on a limited basis, trying various species and species locations in nooks, crannies and other strategic locations adjacent to the summit facilities and walkways. Interpretive signs and folders could be prepared to describe the plants and their characteristics.

It is recommended that additional technical help in this respect could be secured through Mr. Fred Steele, of Littleton, N. H., or by contacting Mr. Leslie Clark of the Society for the Protection of N. H. Forests. Also, the Wildflower Preservation Society of New England should be able to render assistance in suggesting propagation techniques and sources of plant material.



As time, budget and experience permits, the plantings could be enlarged and improved, necessitating of course additional care and maintenance. In any event, the success of any plant propagation attempts will depend heavily on the care and skill of the personnel caring for the facility.

#### D. Alpine Interpretation Center

On cloudy days, or in cold weather, visitor interest and satisfaction, as well as their appreciation of the wonder of the alpine world, could be greatly enhanced by developing an indoor series of displays interpreting alpine geology and ecology to visitors. There are several interesting stories that could be illustrated concerning life and natural processes at high elevations.

Mr. Fred Steele has suggested, for example, that a White Mountain insect display, presently at the Lost River Reservation, may be used from time to time. The Mount Washington Observatory could place displays in the facility. The story of the geologic history of the mountain could be illustrated and told. A series of slide-tape presentations could be developed for periodic showing. Photographs of alpine flowers in bloom could extend the appreciation of their beauty beyond the normal flowering period.

This type of activity, of course, would require the services of experts both in developing the formats of the displays and in maintaining the center after it is established. The consultants who did a fine job in advising concerning the museum at Lost River Reservation are Mr. Charles Roth, Hathaway School of Conservation, and Mr. Bernard, Director of Story Book Nature Center, both of the Massachusetts Audubon Society. Mr. Fred Steele and Mr. Leslie Clark have also had experience with the center at the Lost River Reservation.

#### E. Study Facilities

Research and study in alpine situations would be greatly assisted by including provision for laboratory study in the new summit facility. A small area where teachers could meet with small classes while on field trips and illustrate what they have seen or are about to see, would provide incentive to visit and learn in the area. In addition, the facility could be used to provide research space so that teachers and graduate students could study, prepare and temporarily store specimens they may have collected, or provide a refuge for study, writing or analysis during bad weather.

Such a facility would undoubtedly lead to more effective interpretation of the mountain to visitors, in addition to adding to the fund of alpine scientific findings.

It is noted with approval and appreciation that classroom facilities have been included in the most recent plans for the summit building. This should add greatly to the long-term value of the facility to the public; it especially would foster cooperation with the mutual support between Mount Washington Observatory personnel and other researchers.

#### IV. Protection of Vegetation and Alpine Soils

##### A. Trails

It is sometimes difficult to tell by casual inspection the effects that trampling and erosion have on alpine trails and surrounding areas. Close ground and aerial photograph inspection, however, reveal that the effects of long-term trail use are often very significant.

The most outstanding examples of these effects on the Mt. Washington summit are on the Tuckerman Ravine Trail, which descends from the summit to the north. Since the terrain is primarily rock, it is often not easy by casual observation to see where soil has been washed away and vegetation is greatly altered. The aerial photographs reveal a broad washed-out looking area several feet to either side of the trail. This indicates that the years of trampling and washing have brought about a general loss of soil along the trail.

The question of what to do now is difficult to answer. In most cases where damage has occurred, the trails are now down to bare rock or gravel, so little additional damage can be anticipated. It should go without saying, however, that if trail relocation is anticipated, meticulous care should be taken to keep gradients reasonable, and to provide cross-drainage to disperse water and keep it from running down the trail. Also, very little useful purpose could be served by locating trails in meadows, which are so susceptible to damage.

##### B. Parking Lot and Road Surface runoff

The runoff of water from hard and impermeable surfaces in the summit area appears to be an important factor in meadow and trail erosion, particularly where the parking lots drain into the head of the Tuckerman Ravine Trail. One whole small meadow is partially covered with gravel and sediment that has washed down from above.

If additional parking areas and roads are needed, it is recommended that they be located so that they do not drain onto the steep south slope, but rather onto a more gentle slope, preferably with no meadows immediately below the outflow.

Better drainage arrangements for existing lots would greatly help the situation on the Tuckerman Ravine Trail.

### C. Meadow Protection

There can be very few experiences more luxurious than lying back and sinking deep into the vegetational mat in an alpine meadow. It is an experience that few can pass up, or forget if they have been so fortunate.

Occasional foot traffic and use in a meadow is probably not particularly detrimental, but continued intensive use is certain to exert an unfavorable effect. The south slope meadows on Mount Washington are particularly susceptible to use because they are so steep. Walking traffic, in addition to the tendency to compact, also tears the vegetation mat because of the sidehill pressure exerted.

For these reasons, it is suggested that a system of zoning be considered for visitor use, to be installed in the future as visitor traffic warrants such use. The steep meadows should be restricted first or rotated to permit recovery time. Also, the meadows nearest to the trails should be watched closely and restricted if they begin to be altered. There is probably not much need for immediate concern with meadows on the north slope which are more than 75 yards from trails.

In the matter of trail side and meadow protection, it is essential that other organizations involved in trails and land management in the immediate area, namely the U. S. Forest Service and the Appalachian Mountain Club, be asked to work in close cooperation. Indeed, some of the more susceptible locations needing special attention are on adjacent areas of the White Mountain National Forest.

### D. Protection of Rare Alpine Species

A considerable number of alpine flowers are highly localized on Mt. Washington; one species indeed is found only there and in much lesser quantity in the Franconia Range. Such species are of great interest to scientists and nature lovers and of course, should be protected.

Only one of these, the alpine brook saxifrage, Saxifraga rivularis, might be endangered directly by projected developments near the summit. However, recent observations indicate that its presence is at least partially attributable to man's influence, and that it has spread into a disturbed situation near the Lake of the Clouds. It would seem inadvisable to make any special effort to save the few plants of this species at the summit if it has some capacity to adapt to new man-made conditions. There is also a small colony of the plant growing under natural conditions elsewhere on the mountain.

All other rare species occur at some distance from the summit and would not be directly affected by development on the summit.

#### E. Care in Construction

There is still much evidence of disturbance in the form of scattered trash and debris from previous construction efforts. The unique splendor of the area can be greatly diminished by allowing construction contractors to leave trash and debris lying around so it can blow away during any stage of the operations.

Another problem regarding construction is the long time it takes to obliterate earth moving evidence in alpine zones. The fact that previous construction and earth moving efforts are still very visible after several years illustrates this point very well. Therefore, it is recommended that a special point be made to restrict bulldozer and heavy equipment movement except where it is necessary for the construction effort.

#### F. Consultation

The overall question of proper care in construction and development of alpine areas is important enough to warrant consultation with people who have special skills and knowledge in this respect. If it is possible, it is recommended that an expert in this field be retained to study the recommendations of this report and of the overall commission report in order to comment on the content.

Capable men in this field include Dr. H. Vogelmann, Ecologist, Department of Botany, University of Vermont, and Dr. Edwin H. Ketchledge, State University College of Forestry at Syracuse, New York.

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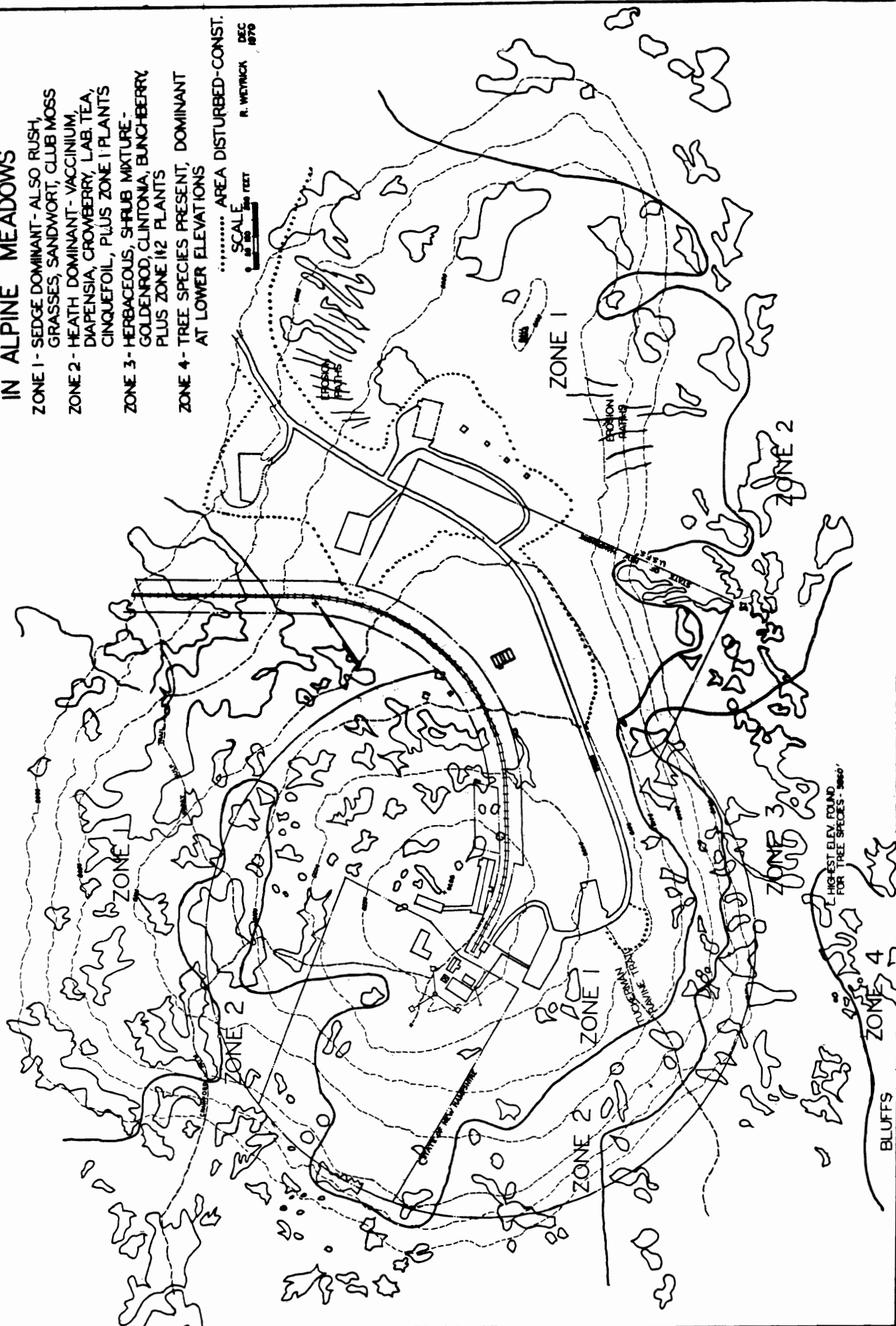
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# MOUNT WASHINGTON SUMMIT VEGETATION IN ALPINE MEADOWS

- ZONE 1 - SEDGE DOMINANT - ALSO RUSH, GRASSES, SANDWORT, CLUB MOSS
- ZONE 2 - HEATH DOMINANT - VACCINIUM, DIAPENSIA, CROWBERRY, LAB. TEA, CINQUEFOIL, PLUS ZONE 1 PLANTS
- ZONE 3 - HERBACEOUS, SHRUB MIXTURE - GOLDENROD, CLINTONIA, BUNCH-BERRY, PLUS ZONE 1 & 2 PLANTS
- ZONE 4 - TREE SPECIES PRESENT, DOMINANT AT LOWER ELEVATIONS

..... AREA DISTURBED - CONST.  
SCALE 0 100 200 FEET  
N. WETNICK DEC 1976



APPENDIX D

CREATION OF MUSEUM, TIP TOP HOUSE

# NEW HAMPSHIRE HISTORICAL SOCIETY

THIRTY PARK STREET

CONCORD, NEW HAMPSHIRE 03301

PRESIDENT  
Herbert Wells Hill

TREASURER  
Timothy W. Woodman

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DIRECTOR  
John F. Page

AREA CODE 603  
225-3381

December 22, 1970

The Hon. Sherman Adams, Chairman  
Commission Mount Washington  
Lincoln, New Hampshire 03251

Dear Mr. Adams:

Pursuant to your recent request, I am happy to pass along my thoughts about the possibility of creating an historical museum in the Tip Top House on Mount Washington.

As I understand it, the Commission proposes to reconstruct the existing building, leaving of the present structure only the stone exterior shell. Assuming that a completely weather-tight box can be created within, it seems to me feasible to develop museum exhibits there. Temperature and humidity control would, of course, be essential to the preservation of the exhibit material, as well as to the comfort of visitors.

Of course it is difficult to make specific comments about the content and design of exhibits without knowing what artifacts might be available for exhibition. In general, however, I would think in terms of furring out the concrete outside walls slightly and installing floor to ceiling plywood panels covered with burlap or "monks cloth". This treatment creates a simple yet flexible backdrop for anything one might wish to hang.

The floor space could be broken up by using moveable, free-standing divider panels also of covered plywood, or by exhibit cases on pedestals.

I feel strongly that the exhibit should have a unifying theme of some kind, and that it should be kept local in emphasis; perhaps this could be achieved by using pictorial material

December 22, 1970

(or, where that is unavailable, photographic blow-ups). Pictorial material would be available in prints (such as those in Oakes's White Mountain Scenery) and the text might be comprised of appropriate quotations drawn from the writings of travelers who recorded at first hand their observations about Mount Washington in various periods from the early days to the present.

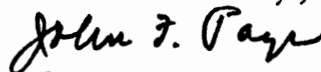
Other artifacts which might become available could be used in conjunction with the pictorial material and text, but these should be carefully selected to complement the story, rather than existing independent of it. Smaller articles (or those which are fragile) would have to be displayed behind glass, but I would think it essential to keep the number of exhibition cases to a minimum.

It would seem to me desirable, assuming the Commission determines to go ahead with this project, to engage the services of a professional exhibits designer and those of a versatile museum worker with imagination to do research, and to locate and prepare material for exhibition. In fact, I would favor placing greatest emphasis on the background research, without which the designer's efforts are comparatively ineffective, and the installation "tail" is apt to end up wagging the content "dog".

I would commend to the Commission's attention the approach taken by the Merrimack Valley Textile Museum in North Andover, Massachusetts. There a thoroughly researched and carefully-designed exhibit (on a limited subject) is effectively installed, and has been very well received. Like the proposed Mount Washington exhibition, the exhibit focuses on an in-depth look at a limited subject.

It is gratifying to know that the Commission is considering a worthwhile project, and I feel certain that, if carried through, it would reflect great credit on the state of New Hampshire, as well as being a potential tourist attraction in its own right.

Yours sincerely,



John F. Page  
Director

JFP:ms

APPENDIX E

REPORT OF SUMMIT ELECTRIC POWER REQUIREMENTS

POWER REQUIREMENTS FOR THE  
DEVELOPMENT OF THE SUMMIT  
OF MOUNT WASHINGTON

I. VOLUME OF POWER REQUIRED

A. Base Station (Water Pumping)	100 KW		132,000 KWH/YR.
B. Summit			
1. General Lighting, Kitchen, Etc.	50 KW	57,000 KWH/YR.	
2. Heating			
a. Tip Top & Summit House	150 KW	340,000 KWH/YR.	
b. Domestic Water & Sewage Storage in Winter	25 KW	71,000 KWH/YR.	
Subtotal	225 KW		468,000 KWH/YR.
TOTAL POWER REQUIRED	325 KW		600,000 KWH/YR.

II. COST OF SUGGESTED ARRANGEMENT FOR  
CONVEYING ELECTRIC POWER FROM  
MARSHFIELD TO SUMMIT

A. Distribution Power Line to Base Station	\$ 28,000.00
B. Service Cable from Base to Summit	
1. Cable	
2. Connecting & Anchoring	
3. Grounding	
4. Installation	\$ 153,000.00
C. Substation at Marshfield (Necessary Under G.V. Rate)	
1. Transformer	
2. Installation w/pad	
3. Switching & Misc. Equipment	\$ 8,000.00
D. Transformer at Summit	\$ 7,000.00
	TOTAL \$ 196,000.00
	5% ENGR. SAY 9,000.00
	GRAND TOTAL \$ 205,000.00

### III. COMPARISON OF COST PER KWH FOR POWER

#### A. Public Service Company of New Hampshire - 1.78¢/KWH (Power Cable)

<u>MONTH</u>	<u>KW</u>	<u>KWH</u>	<u>HOURS</u> <u>USE</u>	<u>BILL</u>	<u>¢/KWH</u>
JAN.	175	53,000	302	\$ 879.40	1.65
FEB.	175	55,000	314	895.00	1.63
MAR.	160	50,000	313	820.00	1.64
APR.	155	40,000	258	720.25	1.80
MAY	245	60,000	245	1,081.75	1.80
JUNE	215	46,000	214	893.05	1.94
JULY	200	44,000	220	845.20	1.92
AUG.	200	47,000	235	873.10	1.86
SEPT.	225	53,000	235	977.65	1.85
OCT.	245	60,000	245	1,081.75	1.80
NOV.	165	37,000	224	711.85	1.92
DEC.	<u>175</u>	<u>55,000</u>	<u>314</u>	<u>895.00</u>	<u>1.63</u>
	2335	600,000		\$10,674 00	Avg.-1.78

#### B. Mt. Washington T.V., Inc. - 10¢/KWH

The State is now paying 10¢/KWH for electricity at the summit. The present generating equipment is not capable of supplying the demand of the proposed summit renovations. It would be necessary for the Mt. Washington T.V. Company to install additional equipment to meet the requirements of this project. However, the State would have to assume its share of the cost of this additional equipment. An approximate estimate for this has been shown in the amortized table below.

#### C. Self Generation - 15.4¢/KWH

This estimate of the cost of self generation includes the installation of three D3-43, 250 KV, Turbo charged, after cooled diesel generators. Two would be used intermittently and one would be used for standby power. This includes installation, switching, operation and a replacement based on a life span of ten years.

### IV. COMPARISON OF COSTS/KWH/20 YRS.

SOURCE	PER KWH	TOTAL KWH / DEMAND	CAPITAL COSTS AMORT. 20 YRS. @ 5%		TOTAL COST OF POWER	COST/ KWH FOR 20 YRS.
			AMOUNT	TOTAL COST		
P. S. Co. of N. H.	1.78¢	213,600	205,000	329,000	542,600	4½¢
T.V. Station	10¢	936,000	10,000	10,000	946,000	10.1¢
Self Gen.	15.4¢	1,441,440	181,000	246,180	1,687,620	18¢

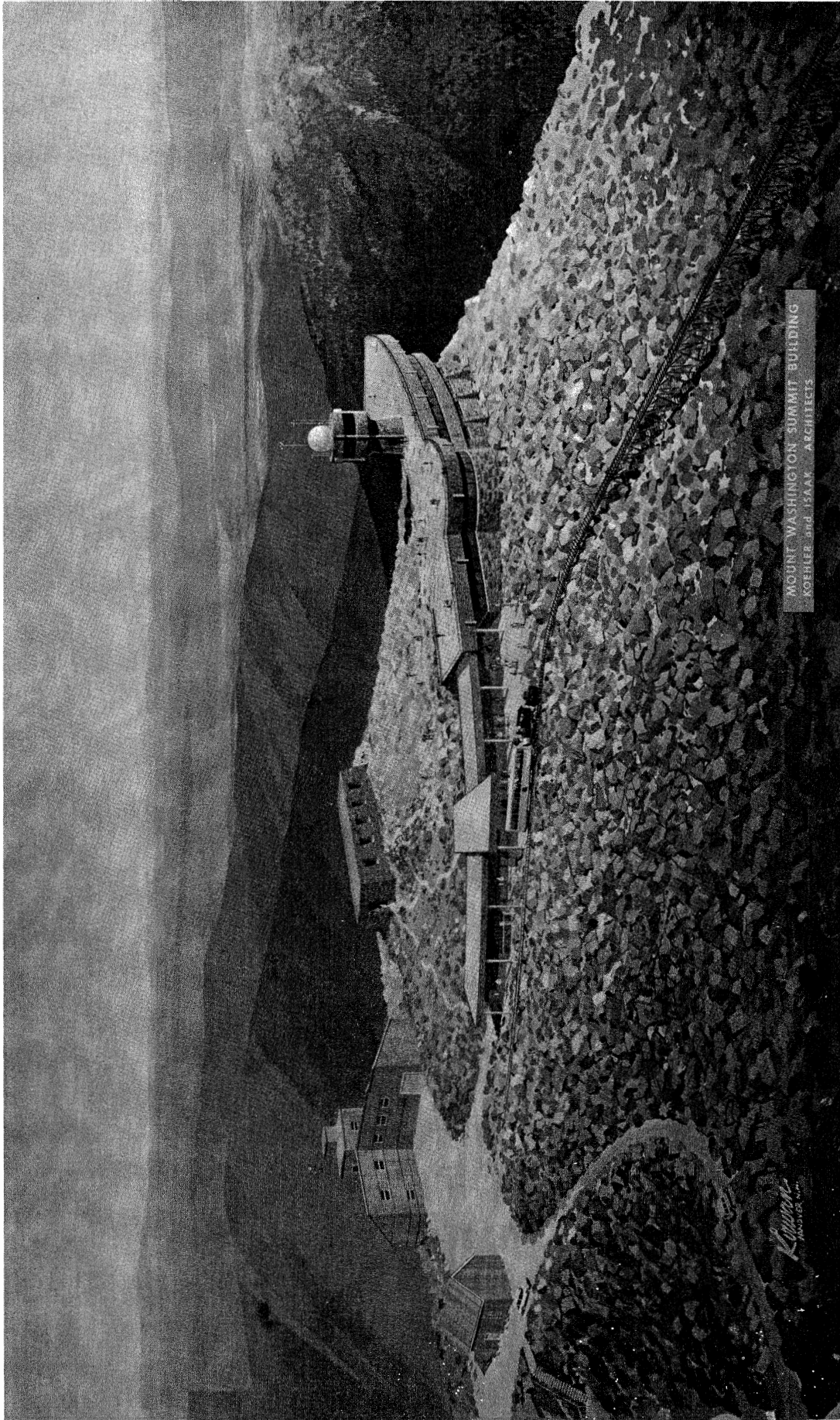


OPTIMUM TIMETABLE FOR IMPLEMENTATION OF THE 10-YEAR MASTER PLAN

- January 1, 1971 - Completion of preliminary design phase for summit structures (for presentation by Commission to General Court).
- July 1, 1971 - (Estimated time of approval of 10-year plan by General Court.) Begin preparation of contract plans for all approved facilities (engineering time estimated at 8 months).
- March, 1972 - Contract construction biddings to take place.
- May, 1972 - Initiate first summer of construction, work to include excavation, foundation work and steel framing. Include removal of northern section of Summit House in contract as required to complete first step of new building construction.
- May, 1973 - Initiate second summer construction season. Work to include new summit structure, roof and floor slabs, roofing, siding, windows to completely enclose the building. Construction of power transmission cable to summit to begin.
- Spring and Summer 1974 - Initiate third summer construction season. Complete interior finish, mechanical systems and site work. Power transmission system completed and put into service. Transfer Observatory personnel and equipment to new building. Restore Tip Top house. Construct new water system to Summit from Marshfield.
- May, 1975 - Remove old Observatory Building and restore summit site to natural condition. Initiate operation of new building by State.
- May, 1976 - Make joint plans for removal and relocation of Yankee Network Building and relocation of all transmitting facilities either to a new low silhouette building or to the new building. Plans to be submitted.
- July, 1977 - Initiate engineering program to accomplish removal of Yankee building and construct facilities.
- May, 1978 - Initiate construction of substitute transmission facilities.
- May, 1979 - Complete construction of substitute facilities and remove existing structures.

**APPENDIX G**

**PROPOSED BUILDING PLANS**



MOUNT WASHINGTON SUMMIT BUILDING  
KOEHLER and ISAAC ARCHITECTS

*Kaiser*  
MOVIES

