

LANDSCAPE DEVELOPMENT FOR  
NAVAJO HILL OF MESA VERDE NATIONAL PARK

by

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B. S. National Lin-shie University, Nanking, China 1946

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A THESIS

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## TABLE OF CONTENTS

INTRODUCTION .....	1
History of Mesa Verde National Park .....	1
Location of Navajo Hill .....	2
PRINCIPLE OF DESIGN .....	2
PROCEDURE OF DESIGN .....	3
GENERAL PLAN .....	6
COMMERCIAL AREA AND ACTIVITY CENTER .....	6
GRADING AND PLANTING PLAN .....	9
CONSTRUCTION DETAILS .....	9
CONCLUSION .....	14
ACKNOWLEDGMENT .....	15
PLANTING LIST .....	16
REFERENCES .....	17

## INTRODUCTION

The purpose of the study underlying this thesis was to design a site plan and landscape development for overnight visitor facilities on Navajo Hill in the Mesa Verde National Park, in southwest Colorado. Landscape plans have been made for the development of this area with careful considerations for the existing topographic and climatic conditions.

### History of Mesa Verde National Park

The Mesa Verde, meaning green table, was given its name because of its juniper and pinyon pine trees that give it a verdant tone; it is fifteen miles long by eight miles wide. Mesa Verde National Park was established to preserve the ruins of hundreds of dwellings which prehistoric Indians built on mesa tops and in the caves of a score of rugged canyons. It rises 1,500 feet above the surrounding valleys.

For about 1,300 years agricultural Indians occupied the Mesa and surrounding regions and from the hundreds of ruins that remain archeologists have compiled one of most significant chapters in the story of prehistoric America. The agricultural Indians began to drift into the area shortly after the beginning of the Christian Era. At first the culture was simple but there was constant progress and by 1,200 A. D. they had reached a high cultural level. In 1906 the Congress set aside an area of approximately 50,000 acres on the Mesa Verde as a national park. Today this area is recognized as the Nation's major archeological preserve. The trip to the top of Mesa Verde is made over a spectacular highway, from which the visitor obtains magnificent views into four states. The memorable ride along the north escarpment is followed by

a beautiful winding drive passing through dense juniper and pinyon forests.

### Location of Navajo Hill

The Navajo Hill site is located nearly in the center of the Mesa Verde National Park. It is nine miles from the northeast park entrance and four miles from the Chapin Mesa the southern park headquarters. The elevations of Navajo Hill vary from 7,880 to 8,140 feet above sea level with Navajo Canyon and Little Soda Canyon on its west and east sides respectively.

### PRINCIPLE OF DESIGN

The present heavy visitation to Spruce Tree Point development and the archeological sites located on Chapin Mesa is threatening park values. For this reason, it is recommended by the National Park Service to move overnight facilities to the Navajo Hill site. Hence it will become the hub of activities from which the visitors can fan out to two important areas, Chapin Mesa and the Wetherill area. The trips to the archeological sites would then be on a day-use basis and much greater protection can be given to these principal park areas.

The objectives of this thesis is to develop plans for Navajo Hill to include a center for concessioner-provided lodging facilities and related services for visitors, park administration, visitor orientation, and natural history interpretive program. The visitor service program has been expanded to provide a complete interpretive program for both archeology and natural history.

## PROCEDURE OF DESIGN

The purpose of this design was to relate the development to the natural setting as simply and economically as possible. To accomplish this, an effort was made to comprehend the scope and scale of buildings and to relate them with the existing terrain.

Preliminary studies were made showing the location and orientation of the various park structures, parking and facilities. Grading and planting studies were also made.

A final plan was then made by combining the more desirable solutions of the various portions of the preliminary sketches. This composite plan is shown in Plate I. It shows the general layout and landscape treatment of the entire area. The rendering was made with watercolor on paper and was drawn to the scale of one inch equaling one hundred feet.

The commercial and activity area were enlarged to the scale of one inch equaling forty feet and this also was rendered with watercolor. It was indicated as Plate II.

Plate III illustrates the grading and planting plan for the commercial area activity center. It was drawn on Vellum tracing paper to the scale one inch equaling forty feet.

Construction details are shown in Plate IV with pencil on Vellum tracing paper.

EXPLANATION OF PLATE I

General Plan

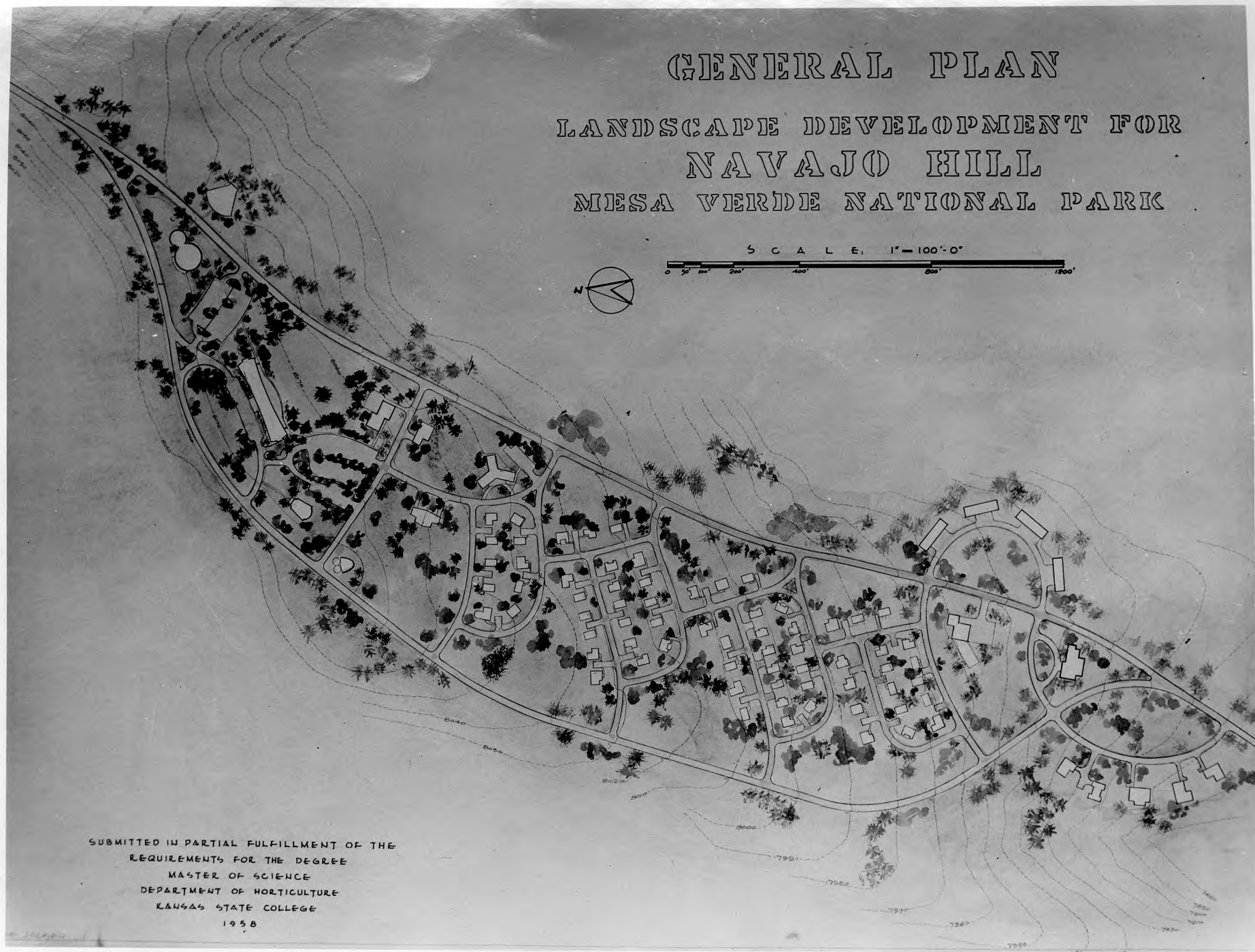


# GENERAL PLAN

## LANDSCAPE DEVELOPMENT FOR NAVAJO HILL MESA VERDE NATIONAL PARK

S C A L E 1" = 100'-0"

0 50' 100' 200' 400' 600' 800' 1000'



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## GENERAL PLAN

The main purpose of Navajo Hill is for overnight visitor facilities. It was assumed that accommodations will be required for approximately six hundred visitors and an additional residential development for housing concession personnel and the park staff. The hotel was located on the highest elevation of the site to command a good view in two directions. Other features to be included in this area are: a campfire circle, natural history museum, a concession with groceries, an all-faith chapel, a service station, and a first-aid and fire station. The administration building or park office, three storage buildings and the utility area were located at south end of the mesa, at the lowest elevation in the site since they are to be occupied in winter as well as summer. A park employee's dormitory and five staff housing units were located near this group. Between the hotel or commercial section and the administrative groups, there are three housing groups consisting of sixty-eight housing units for family visitors. The main park road passing this site was relocated to the west of the hill to give a greater area for development. The old road was maintained as a secondary road.

## COMMERCIAL AREA AND ACTIVITY CENTER

All public service facilities including overnight housing, a centrally located hotel, concessions, service station, natural history museum and campfire circle were grouped together within walking distance to avoid mass migrations by car. A post office and a visitor orientation counter were provided for on the ground floor of the hotel. An all-faith chapel was located 240 feet west of the hotel. Three concessioner-employees' housing were



EXPLANATION OF PLATE II

Commercial Area and Activity Center

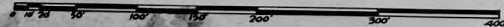
# COMMERCIAL & ACTIVITY AREA

## LANDSCAPE DEVELOPMENT FOR

### NAVAJO HILL

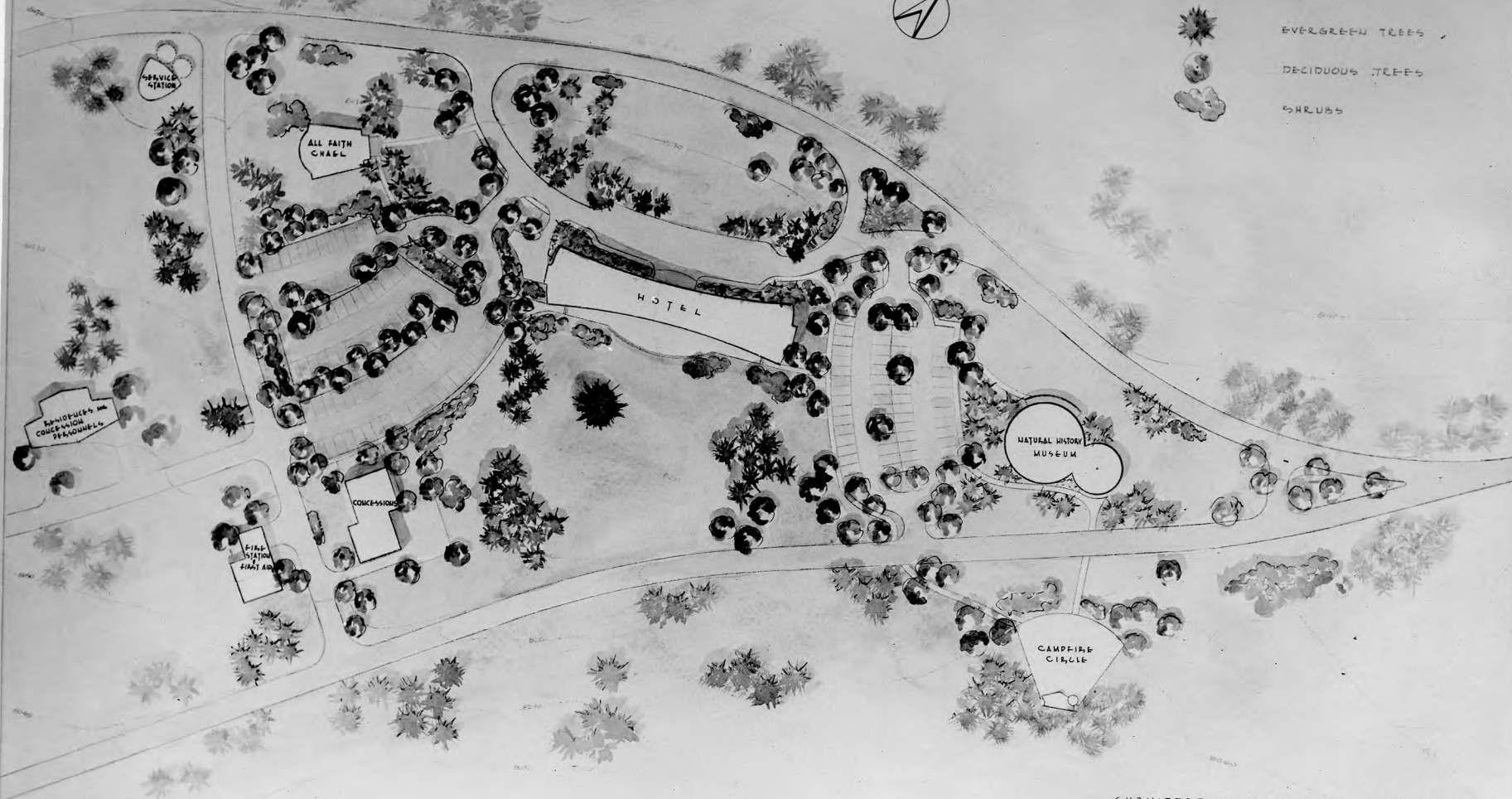
### MESA VERDE NATIONAL PARK

SCALE: 1" = 40'-0"



#### LEGEND

- EXISTING CONTOUR
- PROPOSED GRADING
- SIDE WALK
- EVERGREEN TREES
- DECIDUOUS TREES
- SHRUBS



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located south of this area. Adequate parking lots were located between buildings.

#### GRADING AND PLANTING PLAN

The prevailing winds at Navajo Hill are generally from the northwest and on occasion, there are fairly heavy snows; however, temperatures are not severe. The rainfall is very light.

Grades have been carefully studied by following the existing contours and an attempt has been made to fit the proposed roads and buildings into the best possible site. Care has been exerted to enhance the natural beauty of the area and provide for soil drainage without soil erosion.

In developing the planting plan, the designer has been conscious of the function of tree and shrub plantings as screens for: reducing reflecting surfaces, slowing the force of the wind, enframing vistas, and preventing erosion.

The selection of plant materials has been limited to plants native for the area to retain as many of the existing trees and shrubs as possible. The native plant material is adapted to the very light rainfall and brings the natural beauty of the mesa into the commercial area and activity center.

#### CONSTRUCTION DETAILS

Several construction details for parking guard rails, seats for campfire circles, park signs, wood guard post, and campfire circle stage were shown on the Vellum tracing paper with pencil on Plate IV.

EXPLANATION OF PLATE III

Grading and Planting Plan



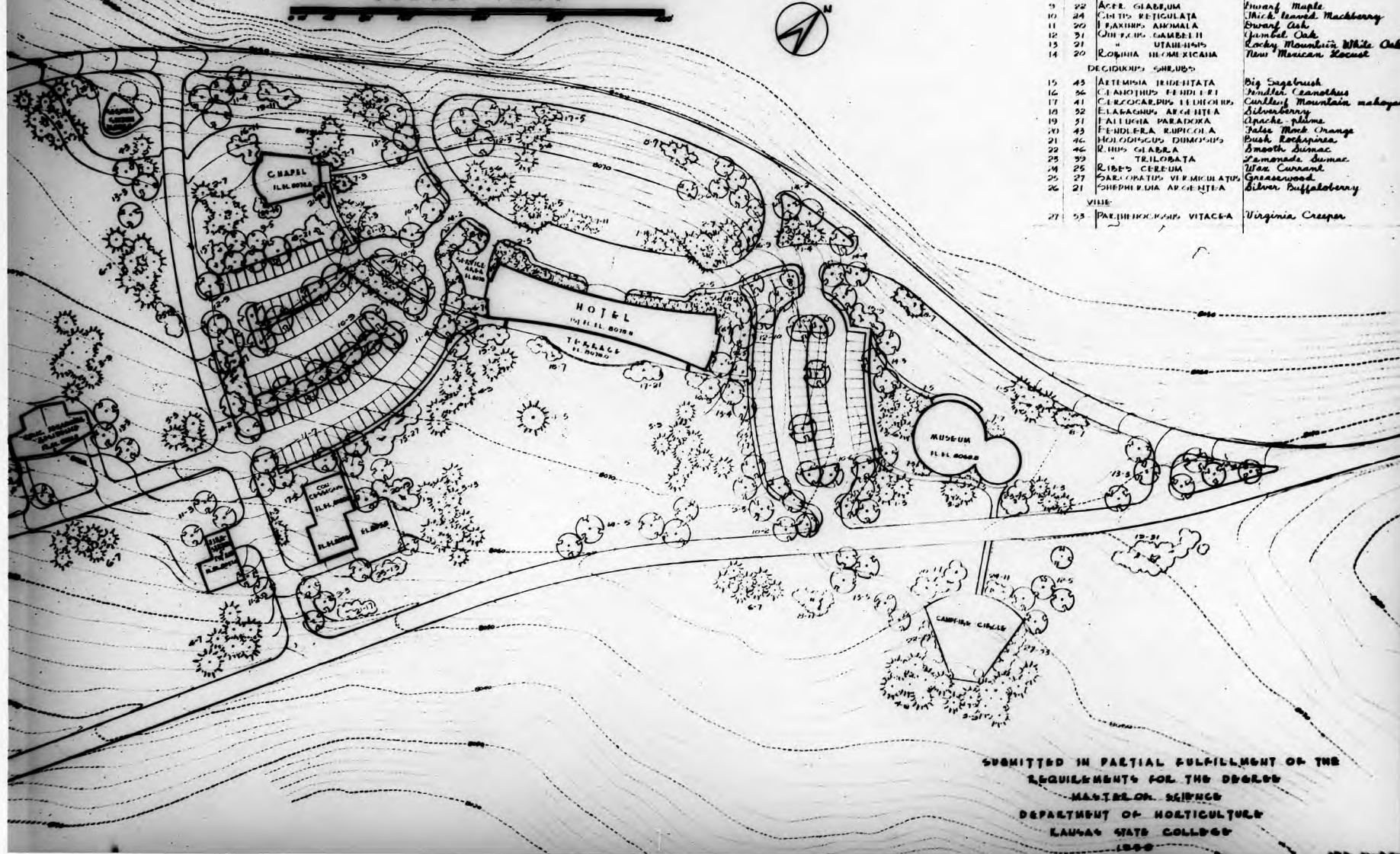
# PLANTING & GRADING PLAN

## LANDSCAPE DEVELOPMENT FOR

### NAVAJO HILL

### MESA VERDE NATIONAL PARK

SCALE: 1"=40'-0"



		PLANTING LIST	
INDEX	QUANTITY	SCIENTIFIC NAME	COMMON NAME
EVERGREEN TREES			
1	28	ABIES MILLENAE	Cherrybark Juniper
2	50	" SCOPULORUM	Rocky Mountain Red Cedar
3	45	" HENRIANA	Utah Juniper
4	80	PINUS EDULIS	Ponderosa Pine
5	30	" EDULIS	Pinyon Pine
6	14	PAUDOCYSTIS GLAUCA	Colorado Douglas Fir
EVERGREEN SHRUBS			
7	75	ABIES MILLENAE	Dwarf Juniper
8	34	YUCCA BACCATA	Basil Yucca
DECIDUOUS TREES			
9	22	ACER GLABRUM	Dwarf Maple
10	24	AMELANORHIZA	Thick leaved Blackberry
11	20	FRAXINUS AMERICANA	Dwarf Oak
12	31	QUERCUS GAMBELII	Juniper Oak
13	21	" UTABENSIS	Rocky Mountain White Oak
14	20	ROBINIA INDIANA	New Mexican Locust
DECIDUOUS SHRUBS			
15	43	ARTEMISIA TRIDENTATA	Big Sagebrush
16	36	CLADONIA FENDLERI	White Lead
17	41	CEROCARPUS LEUCOPHYLLUS	Curlleaf Mountain mahogany
18	10	ELAEAGNUS ARGENTEA	Silverberry
19	51	FAUCONIA PARADOXA	Apache plume
20	43	FENDLERIA RUPICOLA	Yucca Rock Orange
21	46	HELIOPSIS SCUTELLARIA	Yucca Rock Orange
22	46	RHUS GLABRA	Smooth Sumac
23	39	" TRILOBATA	Lemonade Sumac
24	25	RIBES CEREUM	Yucca Currant
25	27	SAROTRAPHIS VITICULATA	Greensand
26	21	SHEPHERDIA ARGENTEA	Silver Buffaloberry
VINES			
27	53	PARLORIANA VITACEA	Virginia Creeper

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## EXPLANATION OF PLATE IV

### Construction Details

Fig. 1 Detail of Parking Guard Rail

Fig. 2 Detail of Seats for Campfire Circle

Fig. 3 Details of Wood Guide Post

Fig. 4 Detail of Park Signs

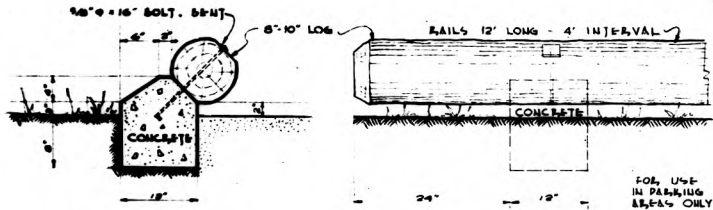
Fig. 5 Detail of Campfire Circle Stage

# CONSTRUCTION DETAILS

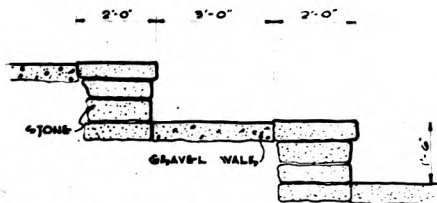
## LANDSCAPE DEVELOPMENT FOR

### NAVAJO HILL

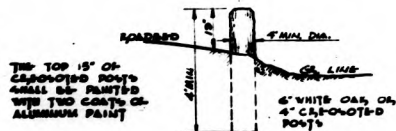
### MESA VERDE NATIONAL PARK



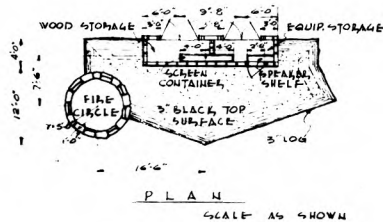
DETAIL OF PARKING GUARD RAIL



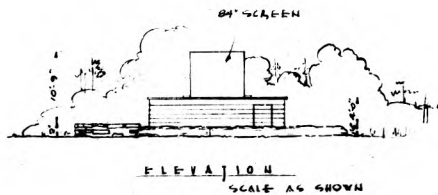
DETAIL OF SEATS FOR CAMPFIRE CIRCLE



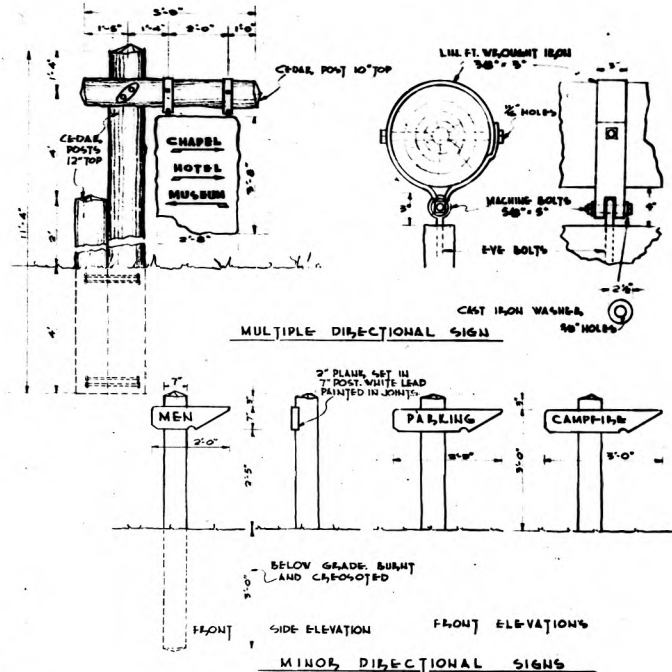
DETAIL OF WOOD GUIDE POST  
NO SCALE



PLAN  
SCALE AS SHOWN



DETAIL OF CAMPFIRE CIRCLE STAGE



DETAIL OF PARK SIGNS

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## CONCLUSION

This was a problem of relating many types of buildings of different function and architecture to the topography of the site. The designer's one limiting factor was the provision for large numbers of visitors without destroying the naturalness of the area. The designer feels that the plans are functional, well adapted to the site, provide for a maximum of beauty, and that they present a satisfactory solution for the problem.

## ACKNOWLEDGMENT

The author wishes to thank Professor Leon R. Quinlan for his invaluable instructions in solving problems and for his constructive criticism and suggestions. Also to the personnel of the Western Office of the National Park Service as well as the Superintendent of Mesa Verde National Park for their cooperation in the selection of topographic maps, references and informations.

## PLANTING LIST

## SCIENTIFIC NAME

## COMMON NAME

## Evergreen Trees

<i>Juniperus monosperma</i> Sarg.	Cherrystone Juniper
<i>Juniperus scopulorum</i> Sarg.	Rocky Mountain Red Cedar
<i>Juniperus utahensis</i> Lemmon.	Utah Juniper
<i>Pinus edulis</i> Engelm.	Pinon Pine
<i>Pinus ponderosa</i> Laws.	Ponderosa Pine
<i>Pseudotsuga glauca</i> Mayr.	Colorado Douglas Fir

## Evergreen Shrubs

<i>Juniperus communis</i> L.	Dwarf Juniper
<i>Yucca baccata</i>	Datil Yucca

## Deciduous Trees

<i>Acer glabrum</i> Torr.	Dwarf Maple
<i>Celtis reticulata</i> Torr.	Thick-leaved Hackberry
<i>Fraxinus anomala</i> Wats.	Dwarf Ash
<i>Quercus gambelii</i> Nutt.	Gambel Oak
<i>Quercus utahensis</i> Rydb.	Rocky Mountain White Oak
<i>Robinia neomexicana</i> Gray.	New Mexican Locust

## Deciduous Shrubs

<i>Artemisia tridentata</i> Nutt.	Big Sagebrush
<i>Ceanothus fendleri</i> Gray.	Fendler Ceanoth
<i>Cercocarpus ledifolius</i> Nutt.	Curlleaf Mountain-mahogany
<i>Elaeagnus argentea</i> Pursh.	Silverberry
<i>Fallugia paradoxa</i> Endl.	Apache-plum
<i>Fendlera rupicola</i> Gray.	False Mock Orange
<i>Holodiscus dumosus</i> Heller.	Bush Rockspirea
<i>Rhus glabra</i> L.	Smooth Sumac
<i>Rhus trilobata</i> Nutt.	Lemonade Sumac
<i>Ribes cereum</i> Dougl.	Wax Currant
<i>Sarcobatus vermiculatus</i> Torr.	Greasewood
<i>Shepherdia argentea</i> Nutt.	Silver Buffaloberry

## Vine

<i>Parthenocissus vitacea</i> Hitchc.	Virginia Creeper
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Nomenclature used by the U. S. Department of Agriculture.



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Mesa Verde National Park was established to preserve the ruins of hundreds of dwellings which prehistoric Indians built on mesa tops. The Navajo Hill site is located nearly in the center of the Park. It will become the hub of activities and used for overnight visitor facilities.

The objectives for the development of Navajo Hill was to develop a center for concessioner-provided lodging facilities and related services for visitors, park administrations and visitor orientation and natural history interpretive program.

The designer tried to comprehend the scope and scale of those required different function and architecture to the topography of the site. His one limiting factor was the provision for large number of visitors without destroying the naturalness of the area.

Four final plans were made by combining those more desirable solutions from preliminary studies. They were: the general plan for Navajo Hill, the commercial and activity area, the grading and planting plan of the commercial and activity area, and the construct details.

The designer thinks that the plans are functional, well adapted to the site, provide for a maximum of beauty, and that they present a satisfactory solution for the problem.