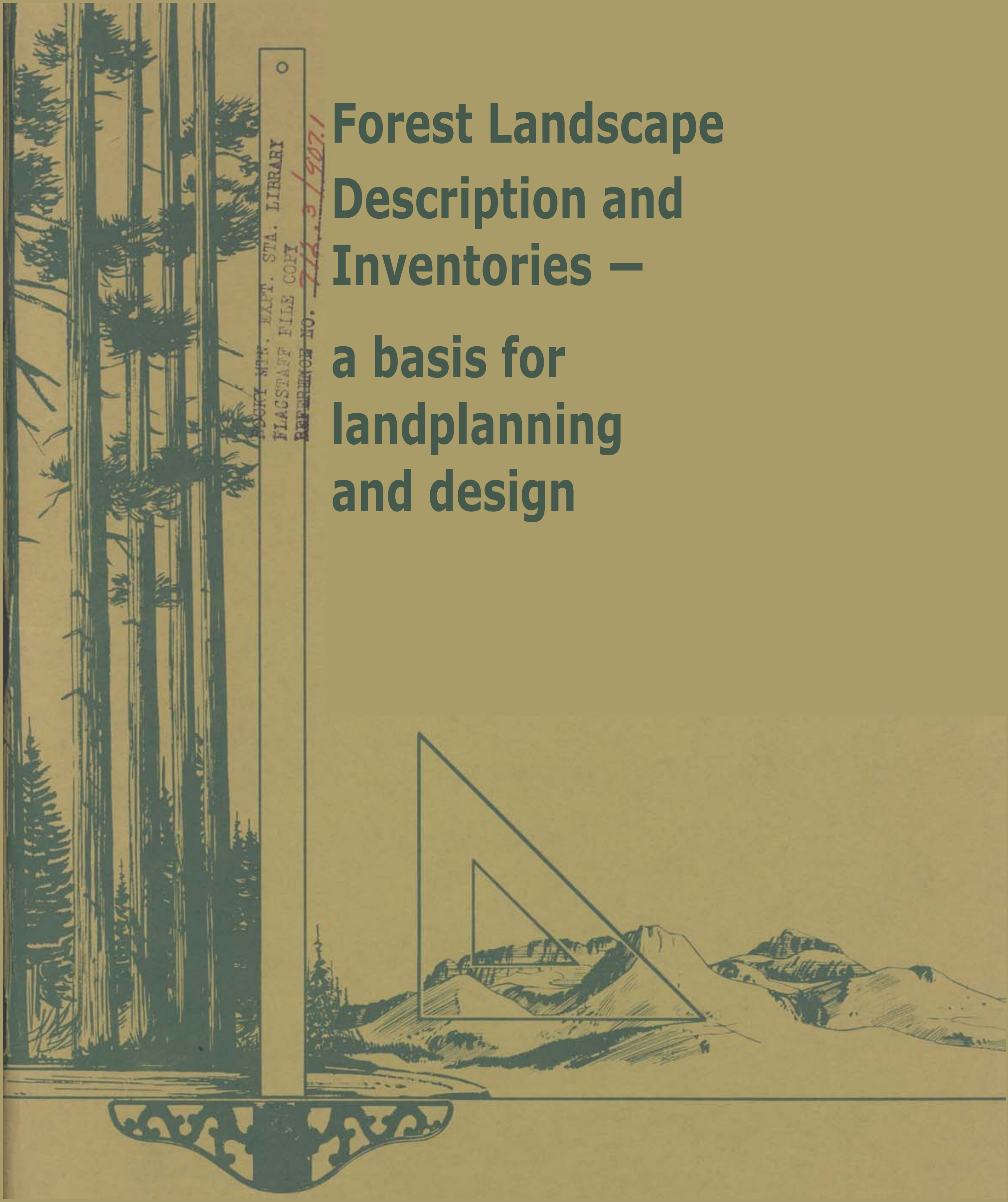

Forest Landscape Description and Inventories — a basis for landplanning and design

Pacific Southwest Forest and Range Experiment Station
Forest Service, U. S. Department of Agriculture, Berkeley, California

U. S. D. A. Forest Service Research Paper PSW-49 1968

Litton, R. Burton, Jr.

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Forest Landscape Description and Inventories

a basis for land planning and design

R. Burton Litton, Jr.
Associate Professor, Landscape Architecture
University of California

Summary Report on Cooperative Agreement
Supplements No. 80 and 96 F. S. Master Contract
No. A5fs-16565 between

Pacific Southwest Forest and Range Experiment Station
Forest Service, U. S. Department of Agriculture
P. 0. Box 245, Berkeley, Calif. 94701
and
College of Environmental Design, Department of
Landscape Architecture, University of California, Berkeley

U. S. D. A. Forest Service Research Paper PSW-49
1968

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R. Burton Litton, Jr.

Contents

DURING much of the past 4 years, I have been studying the nature of the forest landscape as a visual entity as part of a cooperative study of the Forest Service and the University of California. The objectives of this study have been:

— to recognize the impact of the landscape as a critical ingredient in recreation use and travel,

— to devise means of recording and expressing the landscape resource,

— to consider the relationships between resource management and the visual resource, and

— to pose areas of future research concerned with better and more comprehensive use of the landscape.

This report summarizes conclusions about what to look for and ways of recording landscape attributes. The approach is from the discipline of design, but throughout the study it has been evident that designers must depend upon other disciplines to validate their impressions and carry out their proposals. I hope this discussion of the scenic content of the landscape will contribute a common vocabulary for inter-disciplinary effort and aid those who must inventory scenic resources. We seldom all mean the same thing, or see the same thing when discussing or observing the landscape.

Recognition of the Scenic Resources

Description and inventory of the landscape are best achieved by use of a limited number of terms. To help define these terms, we must turn to sketches and photographs. But even these are at best a poor substitute for the three-dimensional reality of the landscape. Furthermore, reliance on graphic means of explanation recognizes that the design vocabulary is a general one, and that there is no systematic design terminology for exclusive application to the landscape. Besides limiting the number of words selected for definition and application, then, we must accept another limitation — an implicit one — that the landscape is considered as a visual, physical entity and not as a state of mind or abstract emotional quality.

Calling the landscape a scenic resource assumes that it has esthetic value. From this assumption, it follows that the discipline of design can provide a particular point of view as to what constitutes the landscape, what affects visual perception of it, and how it may be categorized.

FACTORS OF SCENIC ANALYSIS AND OBSERVATION

Six factors affect the landscape as it is seen or affect the observer as he looks at the landscape.[1] They are distance, observer position, form, spatial definition, light, and sequence. All of these factors are variable; they may change with the passage of time, and some may be changed voluntarily through manipulations which affect the resource and the observer. Three — form, spatial definition, and light — are concerned essentially with the landscape per se, and man can do little or nothing to alter them. The other three — distance, observer position, and sequence — are concerned essentially with the observer in relation to the landscape, and we can alter or manipulate these relationships.

DISTANCE

If we think about opportunities to view landscapes, we can conclude that it is possible to establish an optimum proportion between the scale of the landscape, or segments of it, and distance from viewpoint. Perhaps we cannot agree as to what constitutes "optimum proportion," but a review of possible relationships should be helpful.

It may appear irreverent to suggest that the problem is one of ability to "see the forest for the trees." Another problem is whether the observer can select distances from which a particular objective may best be seen. A pedestrian or boater has a chance to select viewing distances; the motorist does not. Careful planning of roads or trails, however, can consider routes which set a series of distance relationships, or zones, chosen to enhance anticipated visual harvesting of scenic resources.

A conventional way of designating distance zones is to divide the landscape into a series of three planes or grounds: foreground, middleground, and background.

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[1] *Litton, R. Burton, and Twiss, Robert H. The Forest landscape: some elements of visual analysis. Soc. Amer. Foresters Proc. 1966: 212-214. 1967.*

Figure 1 — Distinct foreground, middleground, and background planes. (Sierra Nevada from White Mountains, Inyo National Forest, California.)

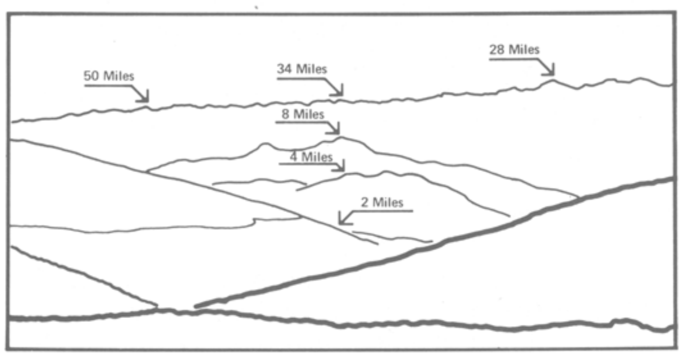


Figure 2 — Distance diagram for figure 1.

This division provides a convenient isolation of parts for analysis or comparisons (figs. 1, 2). The terms are derived from painting or pictorial arts, in which they indicate that a painting may be divided into these planes whether the illusion of space created within the frame is a few feet or many miles.

In describing landscapes, however, it is a useful simplification to establish distance zones by designated measurements. Then the visual significance of a road or waterfall, for example can be examined and its relationship to landscape appraised within a fixed frame of reference. Accordingly, three zones are proposed:

	Near Boundary	Far Boundary
Zones:	- - - - - - - - - - miles	- - - - - - - - - -
Foreground	0	¼ - ½
Middleground	¼ - ½	3 - 5
Background	3 - 5	∞

These ranges of zones are arbitrary in that no allowance is made for atmospheric, seasonal, or diurnal variations, except through discrimination in choosing the boundary. But I have found these distances applicable during months of field work in the National Forests and environs of California, Oregon, Washington, Arizona, New Mexico, Georgia, and Florida in the years 1964 - 1967. Throughout this report these distance ranges are used in considering what may be seen.

Foreground

Foreground has a simplicity in designation not to be found in either middle or background: the simplicity of the observer's presence. The observer is in it. The amount of detail which can be seen is a function of time and speed, but maximum perception of detail can only occur at close range. Surface patterns of bark, juxtaposition of tree trunks, the nature of the understory vegetation, the roadway and its edges are examples of what might be seen here. The observer is able to relate himself to the size of the parts, such as an individual tree, and he begins to sense a scale relationship between himself and the landscape. Aerial perspective is absent or insignificant in foreground, and the intensity and values of color are to be seen in maximum contrast, contributing to the sense of presence. Another contribution to sense of presence is that wind motion in trees or on grass can be seen in this close-in area but seldom beyond. Other sensed experiences are also a part of this intimacy: the sounds, smells, and tactile experiences that are most acute here.

This intimacy gives rise to two possible disadvantages. The foreground may mask what lies beyond. And attention to detail may detract from the landscape matrix of which the foreground is but the frontal part. In either case, the context of the larger landscape may be lost, or at least momentarily so. Yet these possibilities can also be considered an advantage. Involvement with foreground provides one means of developing a sequential visual experience with travel over time.

Middleground

Middleground, or the intermediately distant landscape, is most critical. Here the linkage between parts of the landscape may be seen. Within the foreground we see a single hill, but middleground distance offers a chance to see that a series of hills are joined together into a range, or that a drainage pattern becomes apparent through its support of a particular plant community. The emergence of shapes and patterns, and the visual simplification of vegetative surfaces into textures should take place here. It is in this range that the joining of parts can be clearly seen. Consequently the middleground aspect can often best show whether man-made changes rest easily or uneasily on the landscape.

Aerial perspective in the middleground distance, softens — or "grays down" — color contrasts. The simplification resulting from this softening effect of aerial perspective, makes the middleground a visual foil for the greater complexity and detail of foreground.

Middleground skyline silhouettes (and the middleground per se) become an interesting combination of detail and generalization. Wind motion along the middle distant skyline can be seen, but elsewhere at this range it disappears. Tree species often can be distinguished by their form against the sky.

Middlegrounds are especially critical not only because they tend to dominate the view, but also because they may include large acreages of forest resources. In a landscape inventory made on the Sierra National Forest, for example, middleground made up about two-thirds of the total visual corridor.

As a summary, an analogy to archeological exploration might be drawn concerning middleground distances. Aerial observation from a distance has revealed patterns of historic occupation, such as Roman roads in England, which could not be seen on the ground even though detailed evidence indicated their existence. So observation at middle distance can reveal landscape units or articulation between units which cannot be understood at close hand.

Background

Simplification is background's distinction. The distant landscape or the expansive view reduces form to simple outline shape and removes any (or most) sense of surface texture or detail; the open sky adds an ethereal quality. This simplification may make either foreground or middleground stand out more clearly.

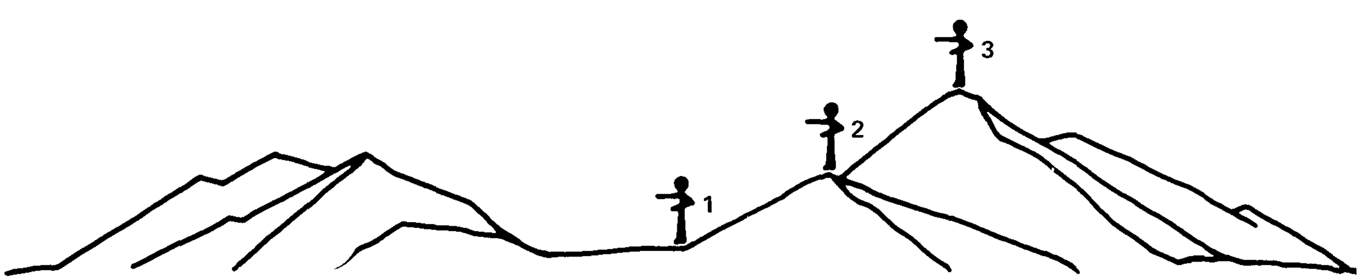
Aerial perspective, which flattens and minimizes color contrast, is the key explanation of background simplification. As distinctions between color hues diminish in the background, they tend to be replaced with values of blue or gray. Only gross patterns stand out: dendritic drainage defiles, the margins of forest, land masses in juxtaposition.

Skylines or ridge lines against other land surfaces are the strongest visual elements of the background. This repetition of the smaller linkages of the middleground again supports the extending, expanding nature of distant landscape.

Finally, a dilemma should be mentioned. We must recognize that as observers travel, the background may become middleground or foreground. The concept of grounds is a static one and the observer is mobile. Nevertheless the mapping of distance effects as grounds is an obvious, and simple, way to provide planners and designers the information they need for application to specific situations. They can see where modification of the landscape may lead to incompatible relationship of forms or to undesirable artificiality. And they can see where changes may enhance the natural landscape — by opening new vistas or by revealing details that aid comprehension of the local ecology, geology, economy, or history.

OBSERVER POSITION

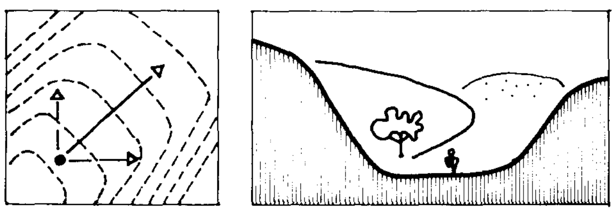
Observer position is a term adopted in this report to describe the location of the observer as he looks upon a visual objective, particularly with regard to being below, at the same level as, or above the visual objective. These possibilities will be referred to as (1) observer inferior, (2) observer normal, and (3) observer superior as indicated by the following sectional diagram:



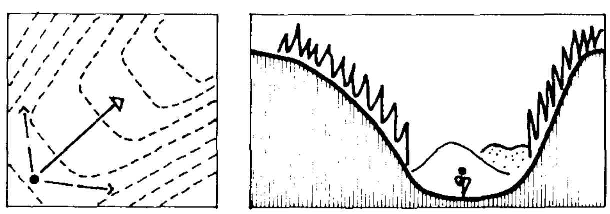
Observer position is preferred to terms like "view point" or "station point," which lack emphasis upon the viewer and his relationship to the landscape. It is an important factor in landscape description because it is subject to manipulation. Observer positions may be consciously selected, for example, in the routing of a proposed trail or road. Considering this factor, then, promotes a broader purpose than concern for only the road itself.

Observer Inferior

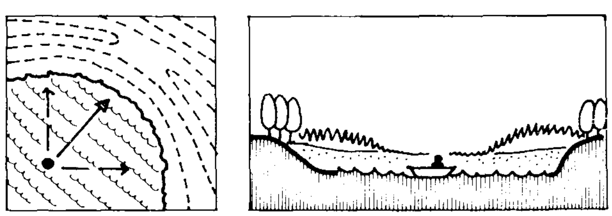
Observer inferior position exists when the observer is essentially below the surrounding or nearby landscape. Saying "essentially below" is necessary to be realistic; there is literally always something to be seen below eye level. Of the three possibilities, this one is most restrictive with respect to closure and distance. Contour plans with sketch diagrams can demonstrate certain of these restrictions. They show a progression from very tight enclosure with foreground distance to slight enclosure with background distance:



Case 1.
Most Restrictive, possible conditions:
a. Small lake or valley station point
b. Uphill aspect of ravine or canyon
c. Foreground distance limitation



Case 2.
Intermediately Restrictive, possible conditions:
a. Valley or lake station point
b. Downhill aspect of intermediate or distant landscape
c. Middle or background distance limitation.



Case 3.
Least Restrictive, possible conditions:
a. Broad valley or wide lake station point.
b. Aspect from central point or floor
c. Middle or background distance limitation.

Some effects of the observer inferior position are concerned with the visual blockage which occurs because of intervening screens of plants, trees, or land forms. They hide certain features or surfaces, mask relationships between segments of the landscape, or obscure a terminal objective. Two-dimensional diagrams suggest emphasis on blockage of vertical angles of sight, but screening effects should be thought of as in the round. We have the greatest control over screening effects with the observer in inferior position. Observer inferior suggests direction of attention to foreground detail, the emphasis of small parts, and the screening of segments.

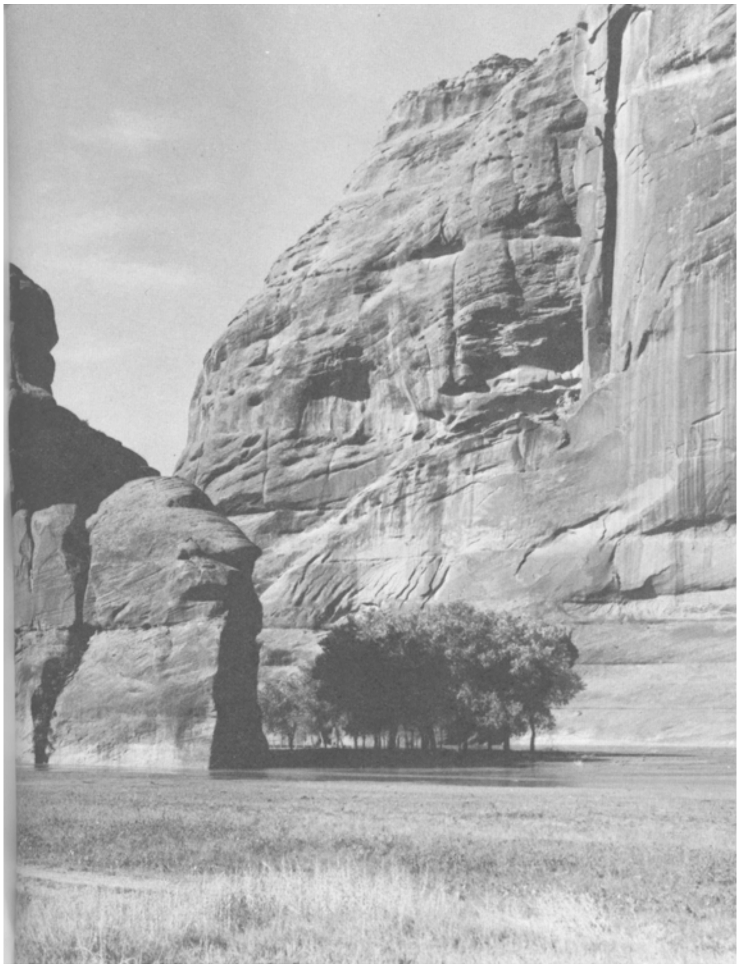


Figure 3 — Observer inferior position foreground distance restriction (Canyon de Chelly National Monument, Arizona.)

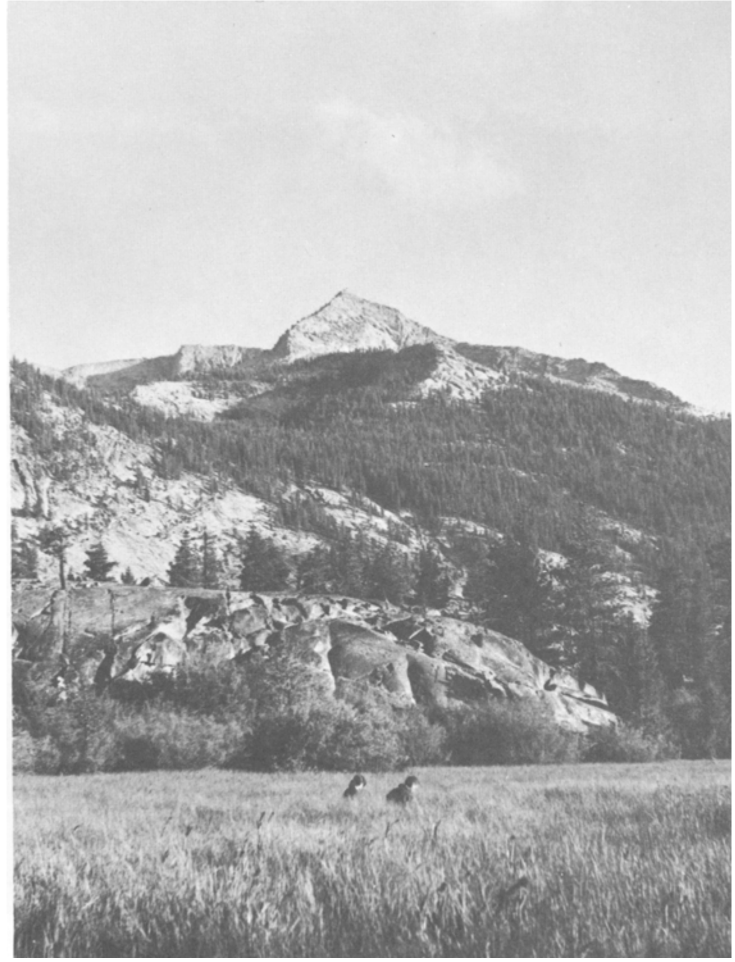
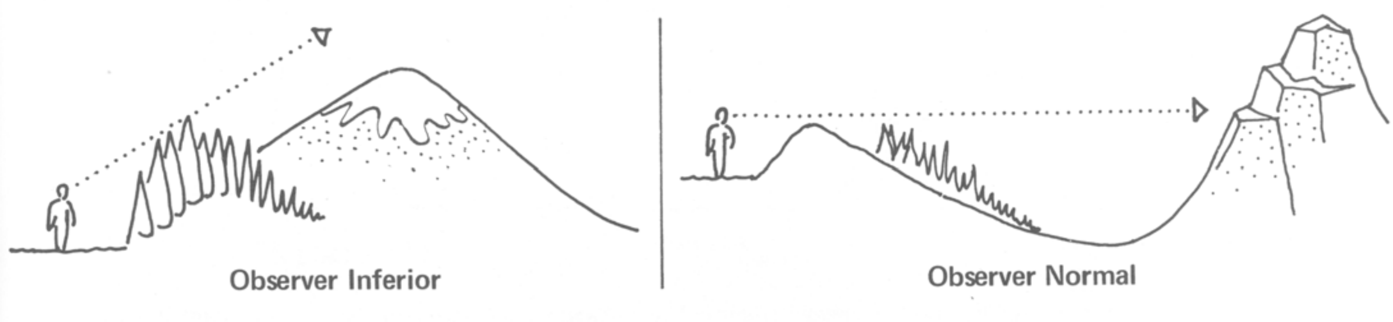


Figure 4 — Observes inferior position, middle-ground distance restriction. (Mt. Shinn, Sierra National Forest, California.)



Observer Normal

The observer normal position obtains when a level line of sight generally coincides with the dominating elements of the landscape. Although the sky is usually a significant part of any landscape view, observer normal generally concentrates attention on the solid or water elements of the landscape rather than the sky. In certain respects, the observer normal position is inclusive because it incorporates some characteristics of both inferior and superior. Consider two cases in which observer position is normal, objective remains the same, but distance and spatial order differ:

Figure 5 — Observer normal position, foreground distance restriction. (Bridgeville Post Road, California.)

Case 1 resembles observer inferior; Case 2, observer superior. Since the diagram has no scale, it can serve to demonstrate that the greater intervening distance and space of Case 2 could be interpreted as representing either middleground or background, but observer normal will tend to stress middleground. Screening effects should be less with observer normal than with observer inferior, but should result in more visual blockage than will occur with observer superior.

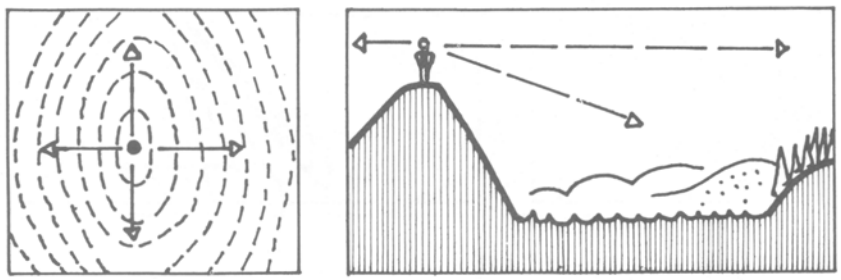
Since the observer normal location can be called "a hybrid between upper and lower parents," it can be thought of as the most comprehensive single choice of viewpoint if choice must be exercised. It aids orientation as the overviews of the superior position do, yet it maintains close contact with enclosing walls as the inferior position does. And this contact, in turn, contributes to recognition of space.

Observer Superior

The classic expression of observer superior is that of a mountain summit or ridge top overview in which maximum opportunities are present for distant views, and an opportunity exists for orientation to the gross structure of the landscape. Observer superior is least restrictive with respect to limitations in enclosure, screening, direction, or distance. It has a characteristic of detachment akin to the detachment of the aerial view. Such a sense of being suspended can result from slope drop-off parallel to lines of sight, tending to diminish the sense of support or platform under the observer, and from the fact that the distant landscape provides the dominant objective. Two plan and sketch diagrams portray possibilities:

Case 1.
Least Restrictive, possible conditions:

a. Peak-top station.
b. 360° view potential, ahead and to all sides.
c. Background distance observable.



Case 2.
Moderately Restrictive, possible conditions:

a. Ridge edge station.
b. 180° or more view potential, rear blockage.
c. Background distance observable.

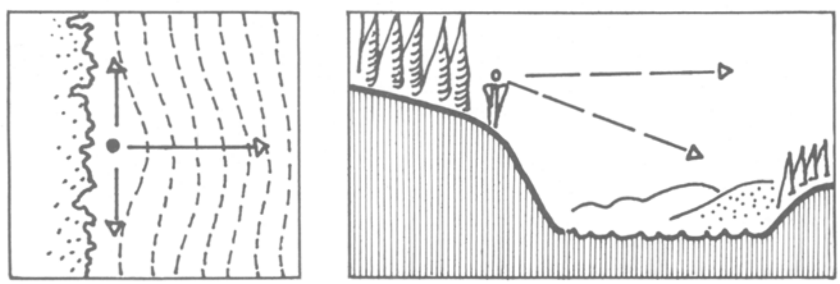
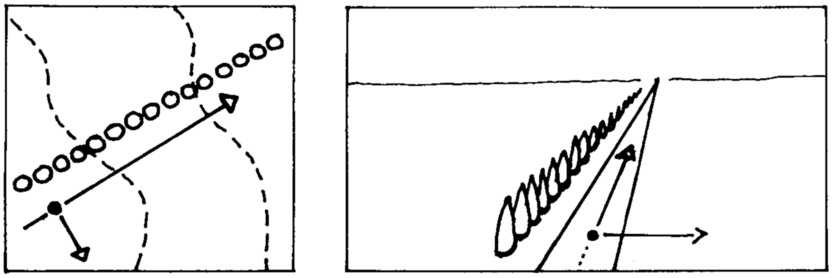


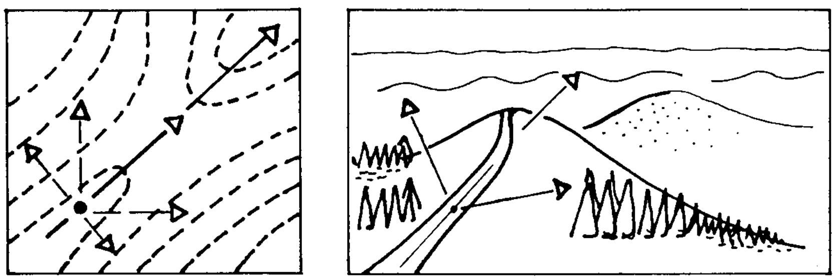
Figure 6 — Observer superior position, foreground emphasis, horizon at middle-ground distance. (Canyon de Chelly National Monument, Arizona.)

Observer superior minimizes visual blockage. Views down upon the landscape will permit a maximum though generalized revelation of content. Achievement of the observer superior position often results from a sequential climax. It supposes a journey or climb which originates in the lowlands, works its way through intermediate terrain, and finally reaches a high point. But a sense of climax can be achieved in many situations that do not involve such a climb. As the sightseer follows a road or trail, three kinds of possibilities exist: tangents, horizontal curves, and vertical curves. Such possibilities can be exploited in road layout or trail design as well as in landscape analysis.



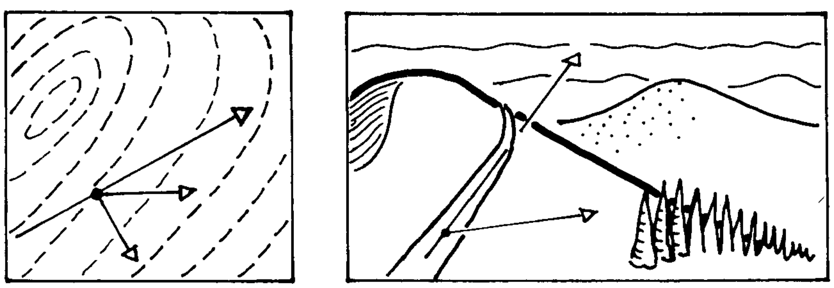
Case 1A.
Tangent, possible conditions:

a. Frontal focus, related to speed and enclosure.
b. Side view to 90° either or both sides of center line.



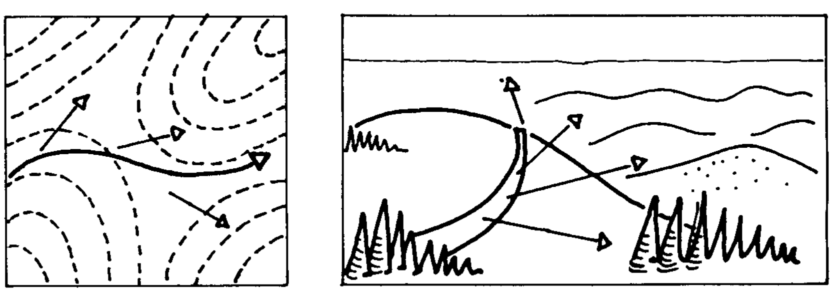
Case 1B.
Ridge Tangent, possible conditions:

a. Frontal focus
b. Side views to 90° each side.



Case 1C.
Sidehill Tangent, possible conditions:

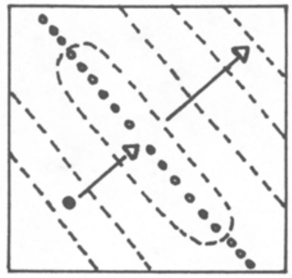
a. Frontal focus.
b. Downhill side view to 90° , uphill restriction.

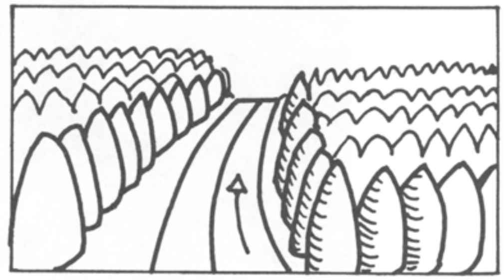


Case 2.
Horizontal Curve, possible conditions:

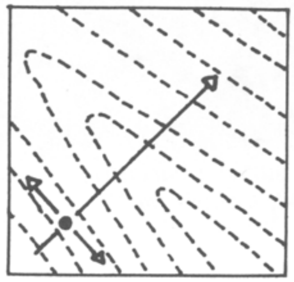
a. Shifting frontal focus
b. Downhill view series emphasis, to 90° to the side.
c. Uphill side view restriction.

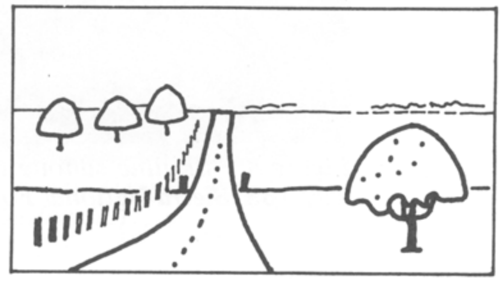
Case 3A.
Vertical Curve, peak-hill crest:
a. Frontal blockage
b. Side views to 90° each side, enclosure allowing.





Case 3B.
Vertical Curve, sag-valley bottom
a. Frontal blockage
b. Side views to 90° each side, enclosure allowing.





FORM

Form in the landscape is primarily topographic form and refers to the three-dimensional convex elements of the geomorphic base. A list of a few geological terms will indicate some specific kinds of forms that are known through common experience and should suggest a variety of different images:

range	butte (mesa)	escarpment
mountain	knoll	crag
cinder cone	dome	cliff
hill	crest	island
bald	ridge	spit

Figure 7 — Isolated form, contour distinction against horizontal base. (Church Rock, Moab, Utah.)

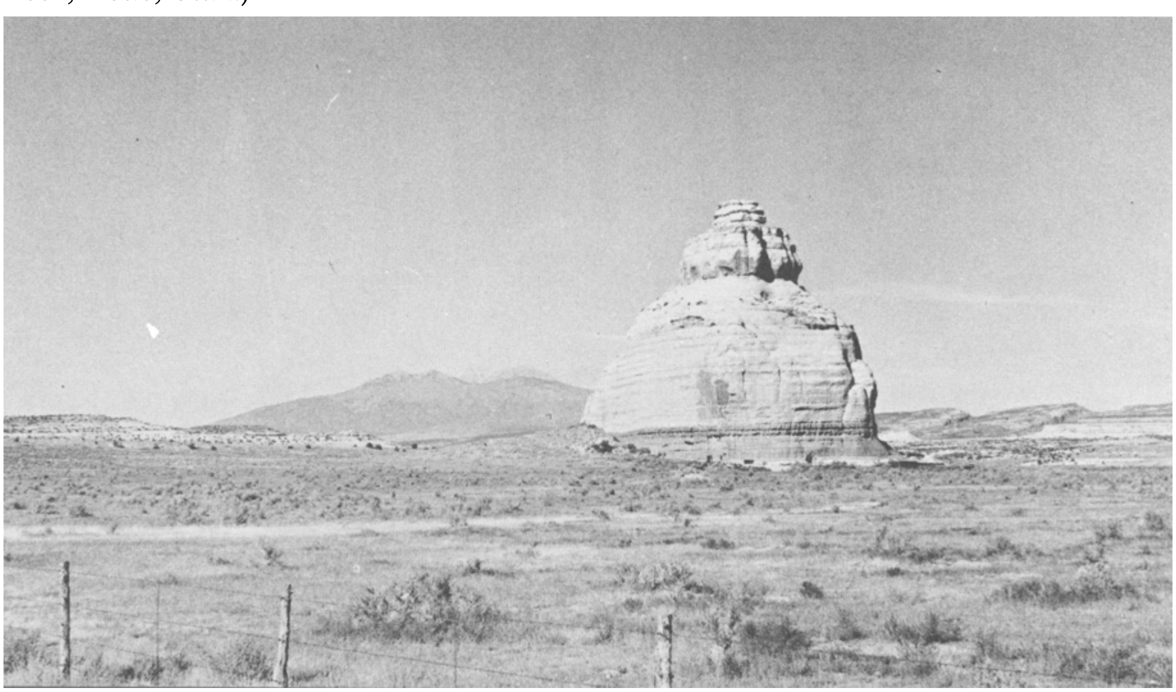


Figure 8 — Skyline silhouette, surface variations of cover. (Toll House Hill, Highway 168, Sierra National Forests California.)

Contrast is the necessary condition to reveal a dominant form, and the contrast may result from isolation, size, contour distinction or silhouette, or surface variations.

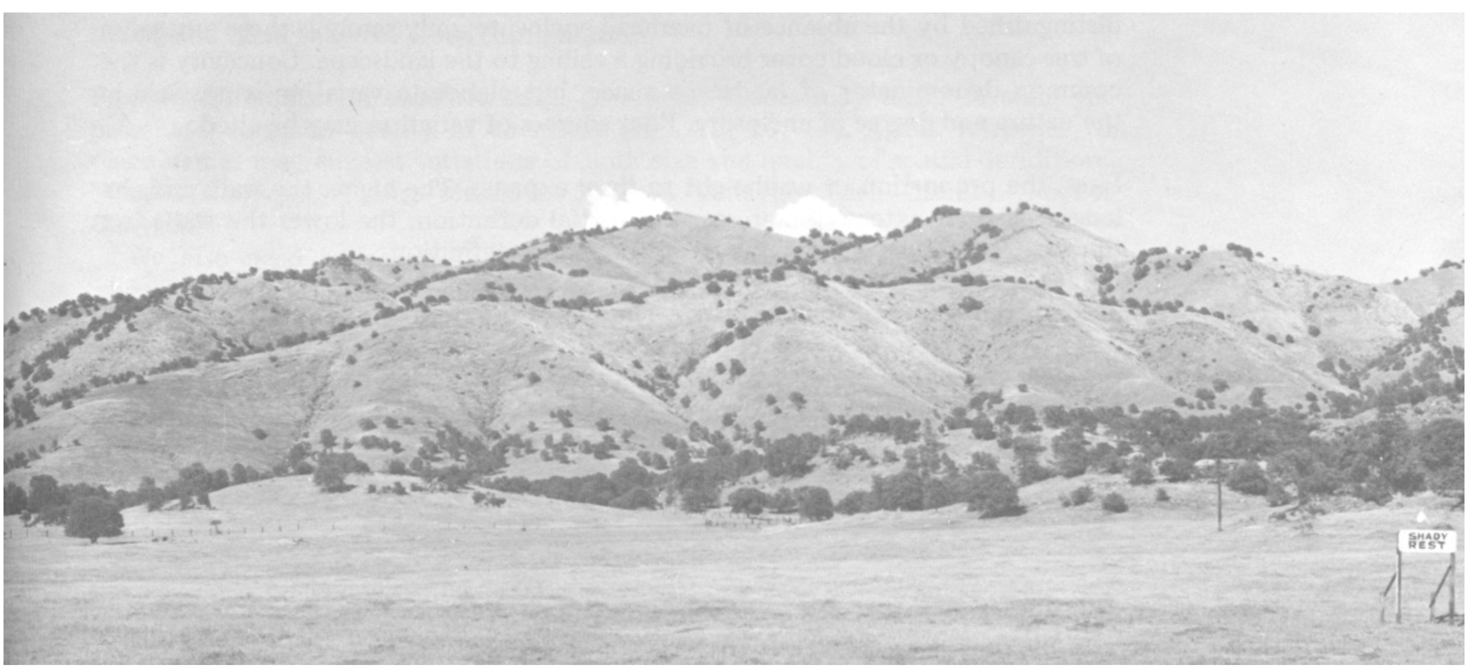
Individual land forms within ordinary landscapes will be found to demonstrate some, if not all, of these significant contrasts. Although Church Rock (fig. 7) may seem to dominate by size in a photograph, its isolation and distinctive silhouette also set it apart. Local place names often point to other examples of such contrast: "Lover's Leap," "Mt. Baldy," "Rock Slide," "Eagle Rock." Mount Rainier would be an example of size domination over adjacent landscape; yet its distinguishing characteristics also include those of contour outline and surface differences. Both contour distinction and surface variations may direct the observer's attention toward steep slopes or other features (fig. 8).

Figure 9 — Tree as isolated form. (El Dorado Hills, Highway 50, California.)

Figure 10 — Vegetative patterns, shapes overlayed on form. (Upper Twin Lake, Sawmill Ridge, Toiyabe National Forest, Bridgeport, California.)

Vegetation may be the chief source of contrast due to variations in surface. Trees as individuals or in limited groups, particularly in the presence of plains or placid land forms, can themselves be primary forms in the landscape (fig. 9). But the vegetative cover more often appears as a pattern of two-dimensional shapes laid over the three-dimensional base (fig. 10). "Shape" is used here to imply two-dimensional meaning — a differentiation from "form." Vegetation obviously is not two-dimensional, but it gives that visual impression, appearing to be a thin skin when compared to vertical differences in the land forms it covers. Vegetative cover may also strengthen the visual contour of land form (fig. 11). The margins or edges of dissimilar vegetative types are the significant contrast lines where drainage patterns, slope, or implication of soil changes may be seen. Riparian vegetation, as an example, can obscure a water course yet reinforce land form

Figure 11 — Hill forms with edge definition by trees. (Shady Rest, Highway 168, East of Clovis, California.)



through contrast with the plant cover of drier upland slopes. Escarpments and similar abrupt surfaces which are essentially barren, or likely to be so, also achieve some of their visual strength through contrast with adjacent plant-clothed areas.

In addition to shape overlays (or patterns) of vegetative cover over form, the textural nature of trees and other kinds of plants can provide a sense of scale to elements of form. Our experience leads us to recognize tree size in relationship to the human body; the presence of trees, or their simplification to texture in the distance, can, therefore, provide a clue as to the scale of land forms and their distance away. A grass-covered knoll or a slick granitic dome could be thought of as abstract in absolute size unless something of familiar size were present to provide a yardstick for scale. Some degree of familiarity and astuteness on the part of the observer is implicit, however. Environmental circumstances that produce dwarfism in trees, an unusually large species such as *Sequoia sempervirens*, an unusually large land form, or other conditions could confuse the observer's ability to judge scale.

A first step toward recognition of dominant topographical forms would be to check topographic maps, looking for abrupt changes in contour, isolated departures from general patterns, or margins of vegetation. Listing such discontinuities will show where visual attractions may be expected in the landscape.

SPATIAL DEFINITION

Spatial definition within the landscape or landscape spaces refers to the three-dimensional concave elements of the geomorphic base, vegetative enclosure, or a combination of both. This concept denotes limited or bounded space rather than boundless expanse. Again a list of a few geological terms will indicate some specific kinds of spatial definition and should suggest a variety of different formal images:

basin	ravine	dale
valley	gorge	meadow
canyon	cirque	glade
crater	pocket	swale

There can be a corollary between spatial definition and form but one cannot predict which may dominate.

Spatial definition in a landscape varies greatly. It may be vague as compared to architectural space with its precise floor, wall, and overhead ceiling planes. Outdoor spatial definition is nonetheless determined by floor and wall planes and is distinguished by the absence of overhead enclosure; only rarely is there any sense of tree canopy or cloud cover providing a ceiling to the landscape. Concavity is the common denominator of landscape space, but elaborate variation is possible in the nature and degree of enclosure. Four sources of variation may be cited.

First, the proportion of wallheight to floor expanse. The higher the walls and the lesser the floor extent, the greater the spatial definition; the lower the walls and the greater the floor extent, the lesser the spatial definition.

Second, the nature of the enclosing walls and of the floor. Walls and floor can add to or detract from recognition of spaces: Walls may be sheer rock cliffs or gentle wooded slopes; the bounding edge may be continuous or interrupted; floor may be a flat grass plane or a complex surface of grass, chaparral, erratic boulders, and scattered trees. Special mention should be made of lakes and ponds. These

Figure 12 — Space — small scale, positive and simple enclosure. (Ely Meadow, Shaver Lakes Sierra National Forests California.)

particularly commanding base planes or floors are normally expected to be contained within a positive vessel of space. Not only is impounded water the only truly flat and potentially simplest surface to be expected in the landscape, its changing response to light and weather gives it what might be termed a life of its own.

Third, the configuration of the floor as it meets a boundary of trees or earth face. A small meadow of simple elliptical outline is more immediately visualized than a large dendritic valley with central inclusions. Again water should be singled out. Its edge, as the junction between liquid and solid materials, delineates an extremely strong and lucid shape or floor configuration.

Fourth, differences in absolute sizes. Landscape spaces may differ in scale yet present a common quality of enclosure (figs. 12, 13, 14). Again, reference to place names may suggest variations of both size and quality of spatial definition: "Grand Canyon," "Long Meadow," "Green Valley," "Glen Aulin," "Pocket Canyon."

We also need to consider how the observer best senses spatial definition. The total extent of a landscape can usually be understood most clearly when the observer is high on the lip of an edge wall, looking down upon the floor and walls. Though valuable for orientation, such knowledge is not to be confused with a more realistic sense of enclosure. The maximum expression of spatial definition can be expected with the observer on the bottom of the space (on the floor plane) and adjacent to some part of its vertical enclosing surface.

Figure 13 — Space — intermediate scale, discontinuous enclosure. (Broder Meadow, Sequoia National Forest, California, U. S. Forest Service photo.)

Figure 14 — Space, large scale, positive enclosure. (Slinkard Valley, Monitor Pass Road, Toiyabe National Forest, California.)

Scale, as relationship sensed between the size of an observer and his surroundings, can be most clearly seen within a well-bounded space. A sense of scale is due essentially to limitation: limitation of area or extent, limitation of elements to be seen, and limitation of competition for the observer's attention. Scale tends to be an abstract quality, but it becomes more tangible when spaces are created through timber cutting, range clearing, or vegetation-type manipulations. The idea of "opening-up" a vista could be approached more objectively if conceived with the understanding that accompanying changes of spatial definition and scale are fundamental changes. Citing examples of made-spaces is not to be confused in importance with the coordinating function of large-scale spatial definitions which provide a basic part of the landscape's visual framework.

LIGHT

An understanding of light and its effects is essential to predict the visual consequences of land-use decisions. We tend to overlook the importance of illumination of the landscape. That is, we recognize that the quality of daylight will be whatever occurs at a given time, and that we are powerless to change it. But the effects of light change profoundly during the course of a single day and during the course of the seasons. The nature and magnitude of those changes must be understood if we are to analyze their role in masking or emphasizing natural or man-made changes in the landscape itself. We can seek understanding in terms of color, distance, and direction.

Color

Color, the basic manifestation of light, is expressed in two ways: through <u>hue</u> and through <u>value</u>. Hue is that quality of color through which an object is called red, green, yellow, etc. This is likely to be the commonly expressed meaning of "color." Value is that quality of color through which an object is called dark or light — its tonal quality in terms of resemblance to black, white, or an intermediate gray. Separation of hue from value may seem more academic than realistic, but both are important to landscape perception.

Chromatic color (resembling pure hues seen separated in a rainbow) is a rarity in the landscape and becomes significant because it is unique. It is usually seasonal or temporary: the brilliant greens of spring foliage or grass; the strong yellows, oranges, or reds of autumn foliage; the brilliant blues of sky or water associated with clarity of atmosphere and water. Saying these examples represent pure or chromatic hues is inaccurate. What they do represent is heavy saturation of certain hues which become visually dominant in relation to the grayed hues more common in nature. Such modified hues are due to the presence of white, black, or other colors and could be exemplified by designations such as:

"spruce green" — (black modification)
"chaparral green" — (gray or complementary hue modification)
"earth brown" — (black, gray, or complementary hue modification)

Climatic or other conditions may influence observation. Flat lighting of an overcast day will enable subtleties of color to be seen without competition of shadow, but over-all intensities and contrasts will be diminished. Riparian plants are often distinguished by greater color brilliance than plants in drier, upland areas.

Leaf texture and surface reflection will also contribute to changes in color response of vegetation.

Color-value effects in the landscape may be said to predominate over color-hue effects through being more common either in point of time or in areas of coverage. Although exceptions are inevitable, the following kinds of contrasts in color value are common enough to be called rough rules:

1. The sky is invariably lighter than earth elements, clouds being infrequent exceptions.
2. Grasslands are lighter than tree or shrub cover.
3. Soil is likely to be lighter than tree or shrub cover, or only infrequently darker.
4. Disturbed soil has a distinct value contrast compared to undisturbed soil or plant cover. In the Sierra Nevada, disturbed soil is generally lighter.
5. Hardwoods are lighter than coniferous trees.
6. Overcast sunlight or flat lighting diminishes value contrasts; intense or full light increases value contrasts.

These listed sources of contrast in color value will be seen to have particular application to margins or edges between materials of varying reflective or absorptive surface. This application in turn, points to correlations with form, shape, and their degree of distinction.

Distance

Aerial perspective affects both color hue and value of the landscape in the distance. The effect results from scattering of light rays so that objects farther away have a more blue or gray cast, and the contrasts of light and dark diminish toward uniformity. This effect was mentioned as influencing judgments concerning distance.

Direction

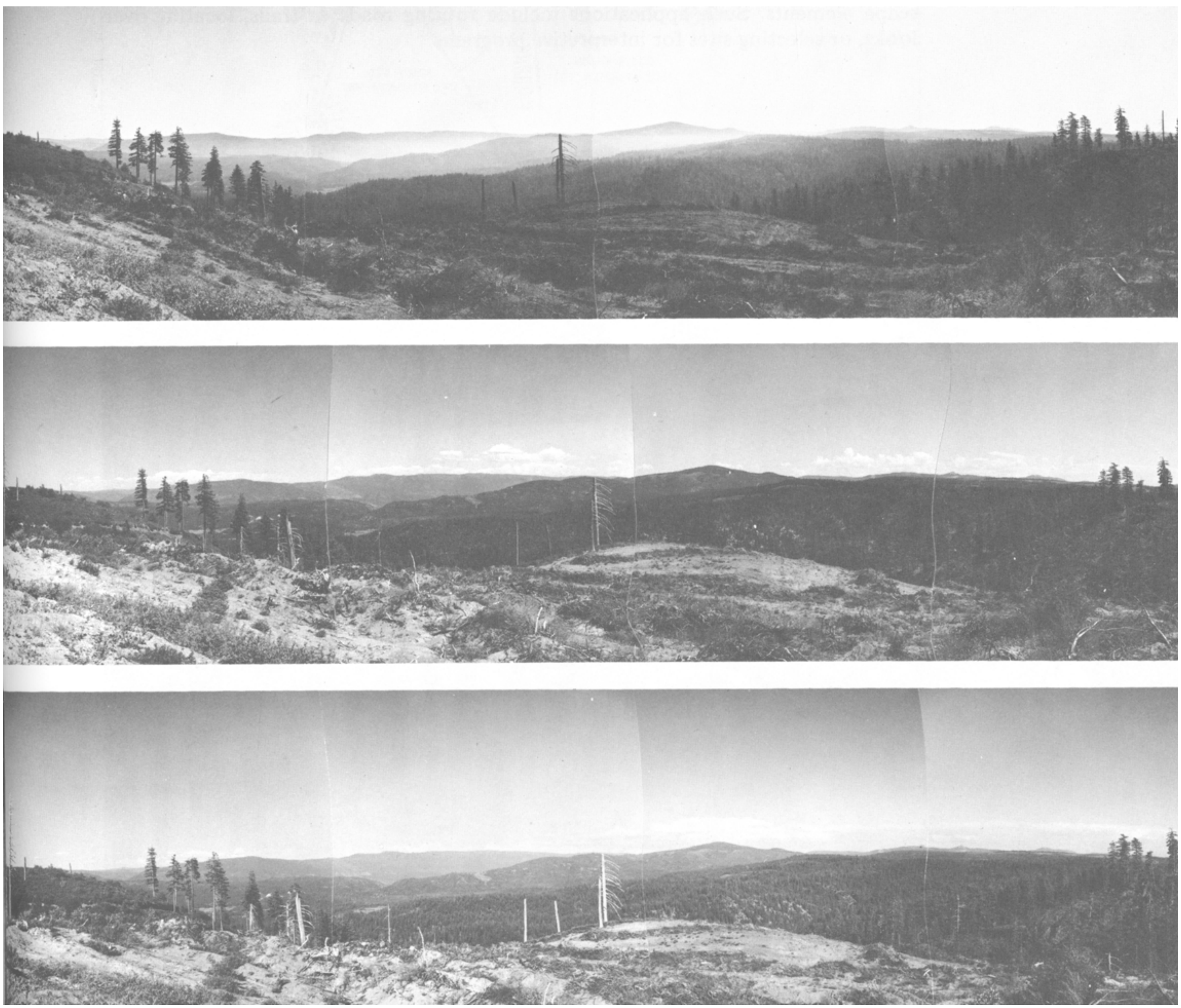
Direction of light in striking the surface of the landscape can be described as back light, side light, and front light. Back lighting is particularly associated with early or late daylight, and front to side lighting with mid-day; but if the observer is able to change his position with respect to the sun, any direction may be possible (fig. 15).

The orientation and gradient of land surfaces also will modify directional relationships. North-facing slopes are more likely to be obscured by shade and shadow than south slopes. East or west slopes of comparable gradient can expect a similar amount of sun or shade but at opposite times of the day. The order of least to most anticipated direct light on slopes would then be: (1) north, (2) east and west, (3) south. In turn, this relationship suggests a progressive order to opportunities for acute observation.

Back lighting, when the sun is in your eyes, makes details of the landscape and its surface become obscure. Top or outside edges are emphasized. Surfaces are obscured by long blanketing shadows, and often by a pool of bright light that sets up a barrier between observer and distant objects. One dramatic exception to the masking shadows cast by opaque objects in back lighting is the luminescence of light passing through translucent objects, particularly exemplified by thin broad-leaf foliage (fig. 16). Back-lit hardwoods in autumn color, especially in the presence of surrounding dark conifers, will appear to contain their own source of illumination.

Side lighting and front lighting may well occur at the same time unless the surfaces of the landscape are so simplified that only a single or dominant face is presented to the light (figs. 15-18). The major difference is that side lighting produces a greater sense of modeled three-dimensionality than front lighting. In front lighting, shadows are shorter, shading falls away from the observer, and more surface tends to be in full light. Hence an apparent flattening or simplification of surface affects our ability to detect variations. Photographers have long recognized these effects and recommend side lighting rather than front lighting to bring out modeling and texture.

Figure 15 — Influence of direction of light; A, backlit panorama, 8:30 a.m., edge emphasis, minimum detail; B, sidelit panorama, 12:30 p.m., distinct patterns at 5-6 miles; C, frontlit panoramas 4:30 p.m., distinct patterns at 5-6 miles. (Bucks Summit, Plumas National Forests California.)

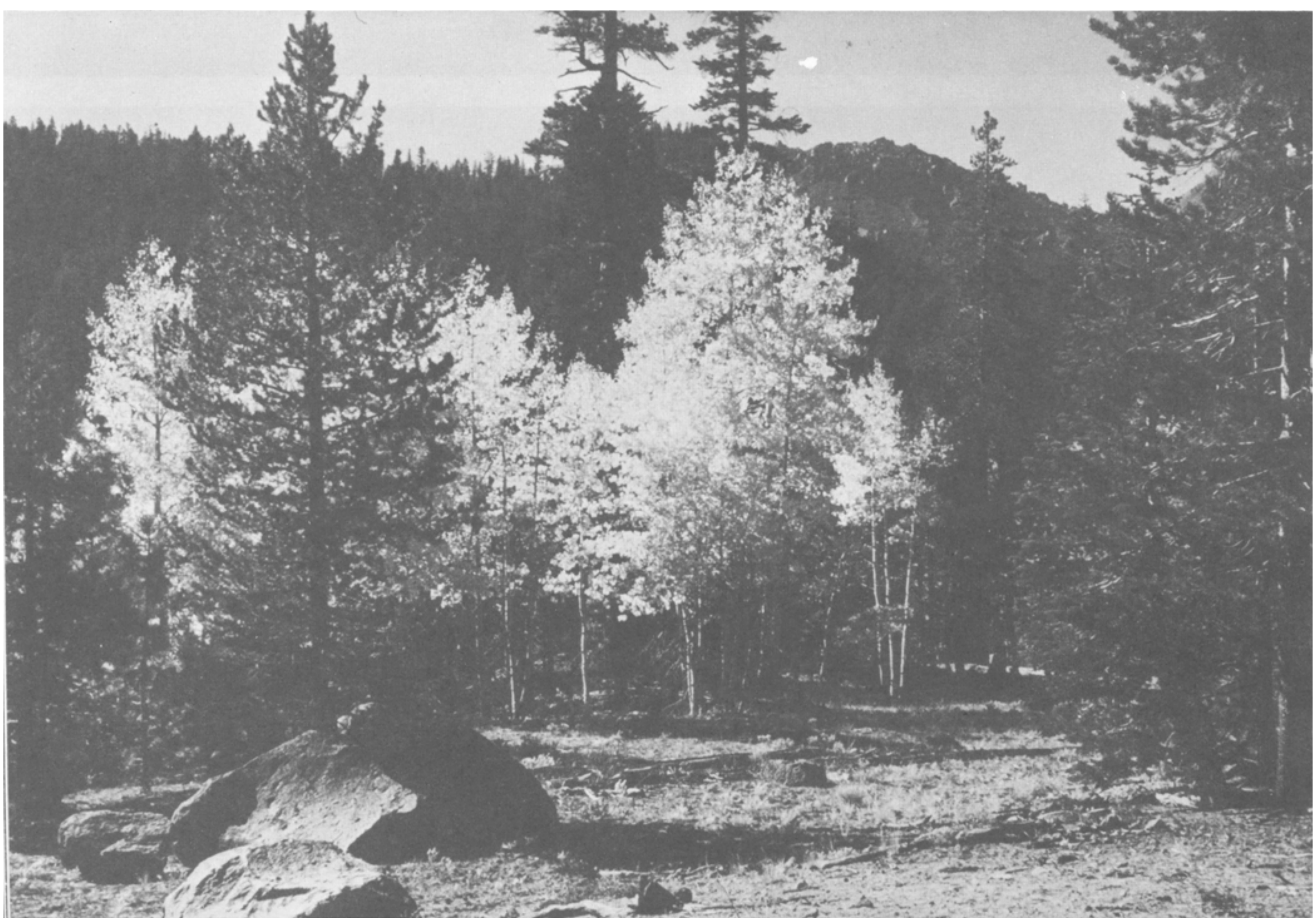


Direction of lighting seldom negates skyline silhouettes. When seen by side or front light, silhouettes maintain the maximum contrast of any landscape features because of the contrasts between solid elements and the fluid, filmy color of the sky. Contrast is also maintained by back lighting except for the special case of the corona in which the intense brightness impairs visual acuity.

We have seen that shadows help emphasize form. Long shadows interspaced with full light can be particularly effective in revealing the modeling of form, space, and shape. Obtuse angles of incidence are implied in this situation. Lower intensities of light may also contribute to the sense of form and space through more highly developed shading. Higher light intensities produce reflected rays and tend to burn out nuances of shading.

Is there any single "best" lighting of outdoor scenes? Probably not, because a comprehensive understanding of light influences should recognize a full range of possibilities over an extended period of time. If extended observations are not possible, then side lighting should be taken as the criterion, for it may contribute to the clearest single impression of landscape. Despite time-dependent changes, and vagaries of weather, there are regularities in the effects of light. If understood, these regularities can be used by the alert resource manager to dramatize landscape elements. Such applications include routing roads or trails, locating overlooks, or selecting sites for interpretive programs.

Figure 16 — Aspens, transmitted light against shadow. (Lassen National Park, California.)



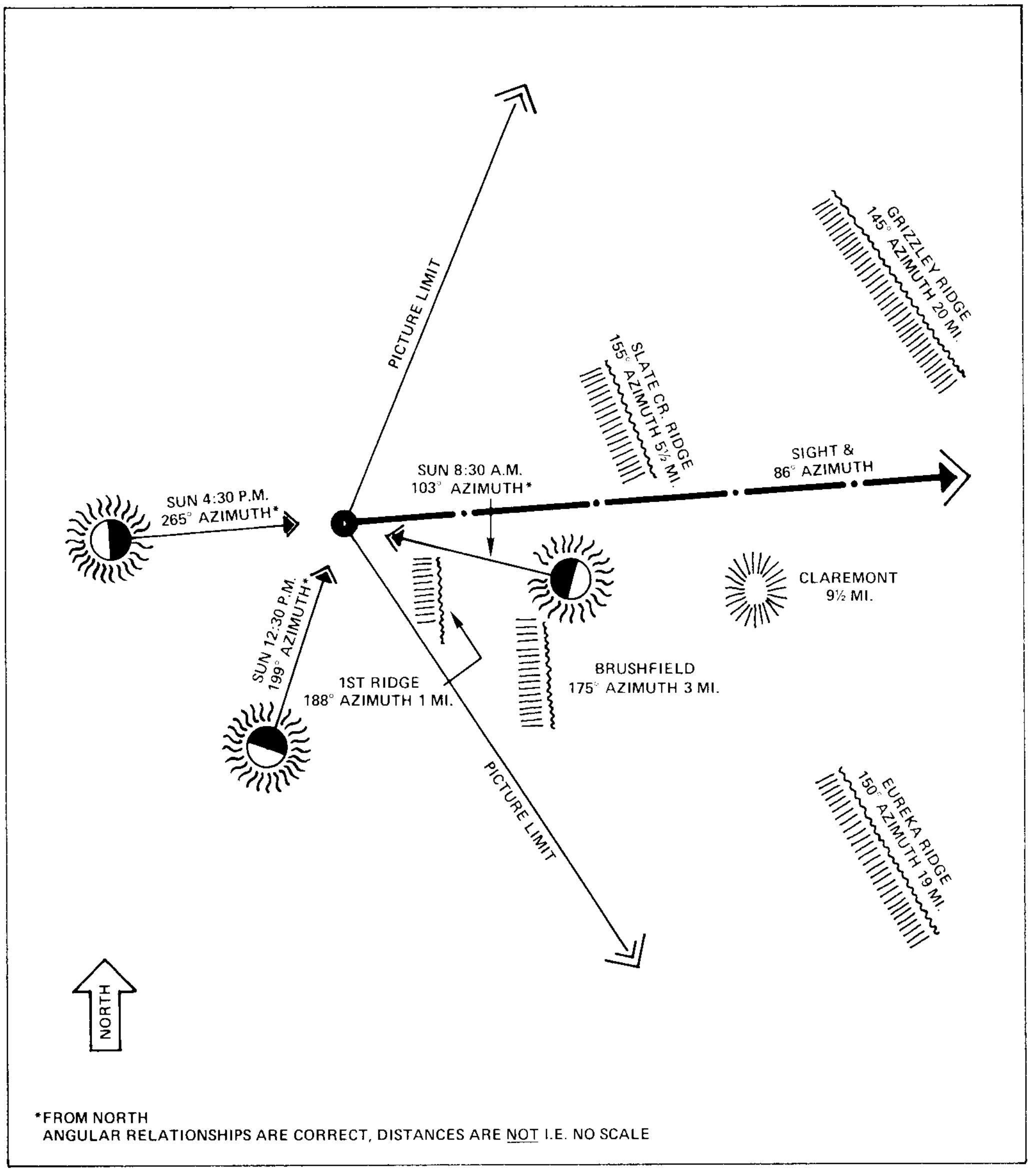
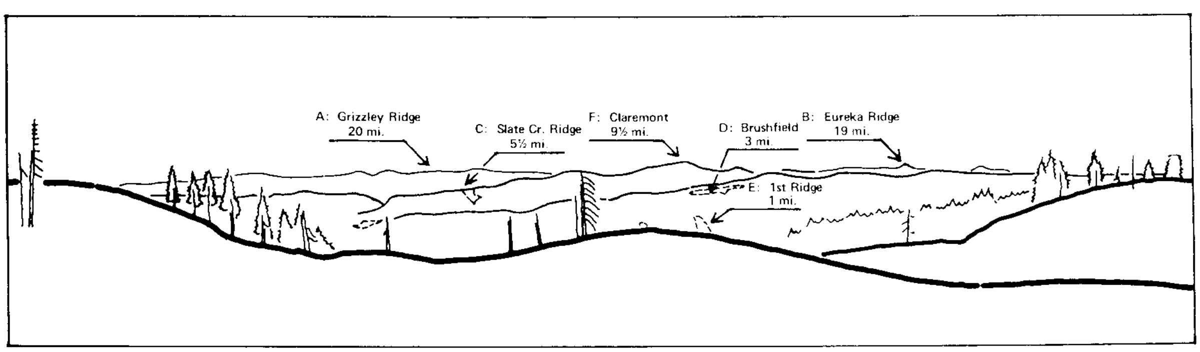


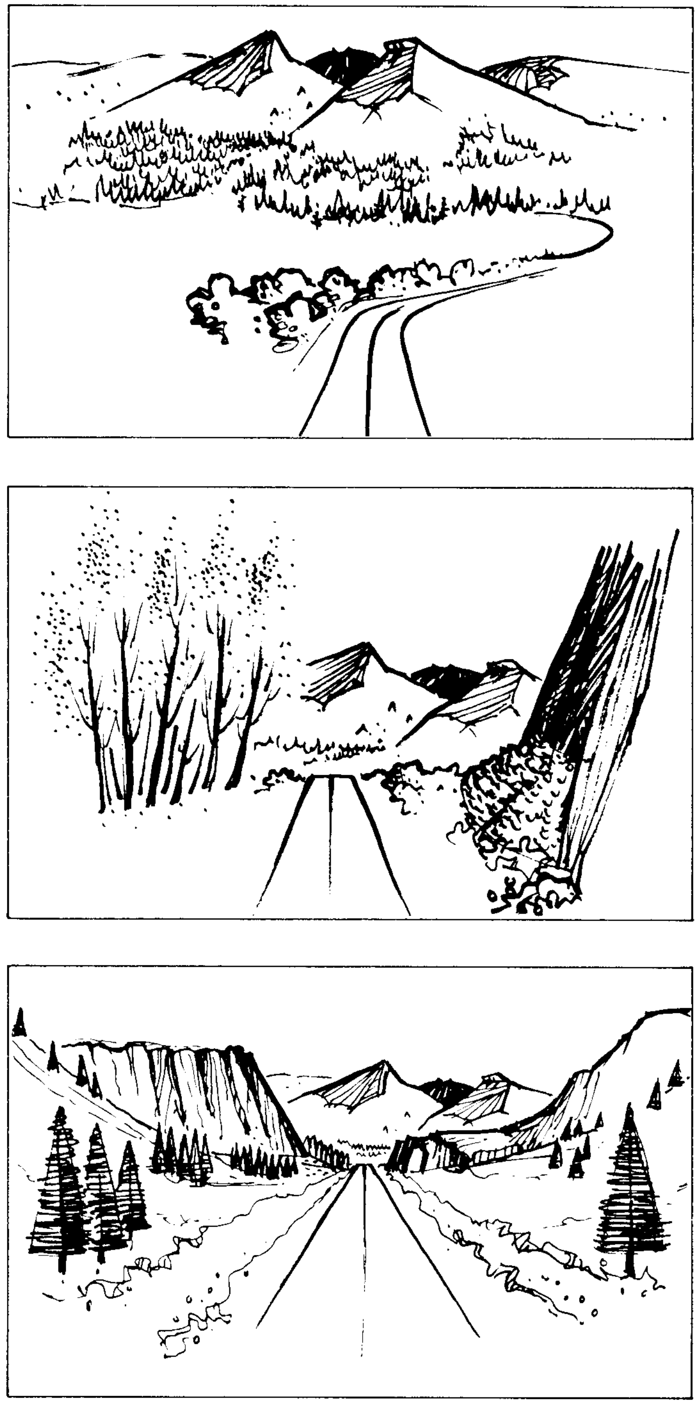
Figure 17 — Plan diagram of photo figure 15.

Figure 18 — Distance diagram for photo figure 15.



SEQUENCE

Sequential visual experiences — the progressive interplay of forms, distances, spaces, lighting, and observer position — can enrich appreciation of the landscape (fig. 19). Thus analysis of sequence along a road or trail enhances landscape description. Even though only part of the total may be seen at a given moment,



Elapsed time: 1¼ minutes

Elapsed time: 1 minute

Elapsed time: 0 minutes

Figure 19 — Sequential views, 1¼ minutes at 60 m.p.h. — read up. (Devils Gate Pass Sketches, Toiyabe National Forest, California.)

memory and anticipation can supply flanking parts of a continuum made up of parts which can be seen to contain some amplitude of contrast. Recording contrasts in landscape attributes, then, is a most promising way to bring sequence into description of the landscape resource along routes of travel. The record can be useful not only in analyzing existing routes, but also in layout of proposed routes.

Historical gardens as diverse as those of medieval Japan and baroque France were designed with recognition of principles of sequential changes in purpose, form, space, and scale. In this way designers provided the visitor with the maximum opportunity to experience change and contrast within the boundaries of the garden. From study of the Japanese garden as a source of planned spatial experiences, Thiel has developed notational methods of recording the sequential factor for application to contemporary design.[2]

His methods, and those of other students of the landscape, were drawn upon for the inventories discussed later in this report. In addition, I have found it helpful to work with a check list of possible sources of contrast (see appendix) which may be systematically considered in recognizing and recording the sequential changes. Time and distance traveled should be included in the record.

COMPOSITIONAL TYPES

Recognition of compositional types that recur in the landscape provides a visual framework for observation. The word "composition" is used here with the meaning derived from Runes' definition of composition: "The putting together and organization as in work of art; or the product of such organization."[3] This is not to say that the landscape is defined as a work of art, but rather that it can be seen to have certain characteristics of a work of art. Seven compositional types are proposed:

1. Panoramic landscape
2. Feature landscape
3. Enclosed landscape
4. Focal landscape
5. Undergrowth landscape
6. Detail landscape
7. Ephemeral landscape.

The first four may be called fundamental and are of larger scale; the second three may be called secondary or supportive, of smaller scale or transitory in nature. Each has a visual framework which is basically consistent despite great variations of dimension, character, and clarity.

Diagrams will be used to abstract the visual design compositions in an attempt to aid identification and — together with photographs — to suggest possible variations within the types.

In classifying scenic resources by compositional types, we often find that the perimeters of the visual framework break down or cannot be clearly seen. What do we call the landscape continuum which lies between types? The tentative answer is to suggest that there is a landscape matrix or general continuity for a given geomorphic province or region. Within such a region, the compositional types may be thought of as occurring in nodes. Or we can specify that only the most visually significant examples of the types clearly constitute the scenic

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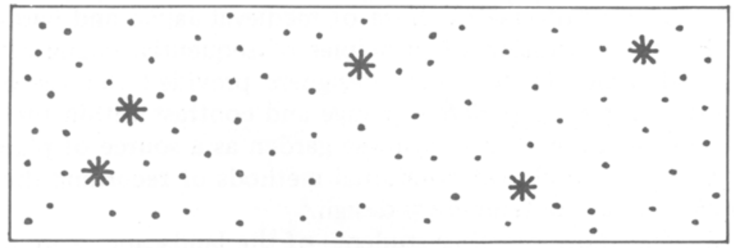
[2] *Thiel, Philip. A sequence-experience notation for architectural and urban spaces.* The Town Planning Review *32(1): 33-52.e 1961.*

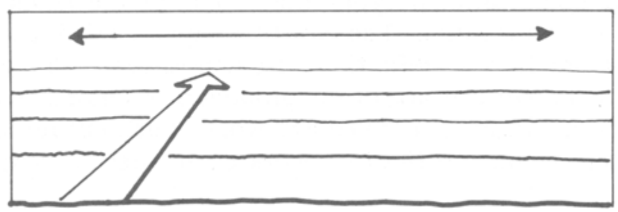
[3] *Runes, Dagobert De and Harry G. Schrickel,* The Encyclopedia of the Arts. *1,064 pp. New York: Philosophical Library. 1945.*

resource. But one important point needs to be made: the landscape matrix has a visual role comparable to that of background foil whereby contrast should reveal the landscape compositional nodes more clearly. A diagram may explain this concept — stipple indicating the matrix and asterisks indicating occurrences of particular types:



PANORAMIC LANDSCAPE

We tend to think of a panorama as the composition to be seen from an ocean liner: a 360° view limited only in the continuous line of the horizon. On land, a panoramic landscape may often be limited to about 180° , a response due to being at the edge of such a composition and to peripheral vision:



The line emphasis is upon horizontality as the dominant characteristic, and the general attitude of the major lines of the composition seems essentially perpendicular to the lines of sight. There is little or no sense of boundary restriction. The inference of considerable distance is present, and foreground or middleground impose no limitation on the horizontal composition of panoramic landscapes. As an expression of distance and openness, the sky and cloud formations assume important, and at times dominant, roles of modifying the stabile character of horizontality.

The 126° panoramas from Bucks Summit (fig. 15) are examples, and others abound at oceanside, on plains, and from ridge tops (figs. 20, 21, 22).

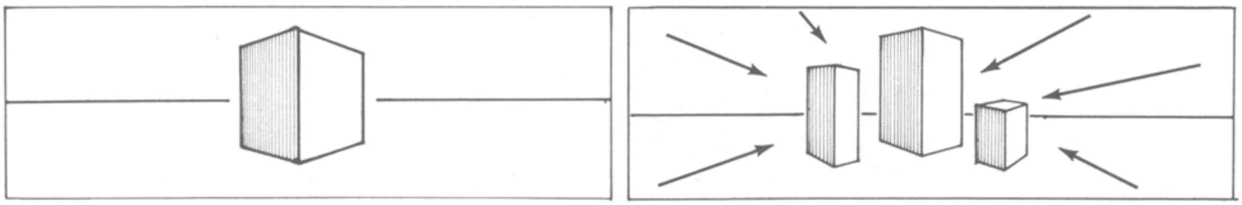
Figure 20 — Ocean panorama — abstract expression, observer eye level 8 ft. above surface. (Drakes Beach, Pt. Reyes National Seashore, California.)

Figure 21 — Flat plain panoramas observer eye level 8 ft. above surface. (River Camp, San Joaquin Valley, California.)

Figure 22 — Ridge top panorama, observer superior, cloud-skyline emphasis. (Lewiston areas Trinity National Forest, California.)

FEATURE LANDSCAPE

A landscape dominated by a distinctive feature is a powerful aid to orientation of travelers. Throughout history landmarks have served this purpose, and recognized landmarks are often given descriptive names that identify the feature landscape. This compositional type is one of the most diverse because it can be found at so many different scales — from monumental imposition to intimate local identity. "Mount Rainier" suggests a feature of grand proportions. "Lone Pine" suggests a significant local feature. Diversity may also stem from differing forms or groups of forms. Sometimes a group of forms may function as a single unit predominating over the surrounding landscape: "Twin Peaks," "Ten Lakes," "Three Gossips."



In the feature dominated scene, lines of visual tension or attraction should converge upon the single element or upon the grouped elements. Equally important, surroundings should be definitely subordinate. The size of a landmark in relation to its surroundings (its scale), the distinction of its configuration, and its juxtaposition with adjacent forms or planes establish the area of subordinance. We see, therefore, that a feature has a sphere of influence that needs to remain intact or that can tolerate only certain changes without deterioration of the composition. No rules can be offered as to what might constitute a damaging change, but identifying and plotting the margins of the visual envelope around a feature is the first critical step toward assessment of what can or cannot be allowed. And no generalizations can be drawn about compositional structure of feature landscapes, but examples can suggest a range of possibilities (figs. 23-26).

Figure 23 — Dominant cone form, massive scale. (Mt. Shasta, Shasta National Forest, California. U. S. Forest Service photo.)

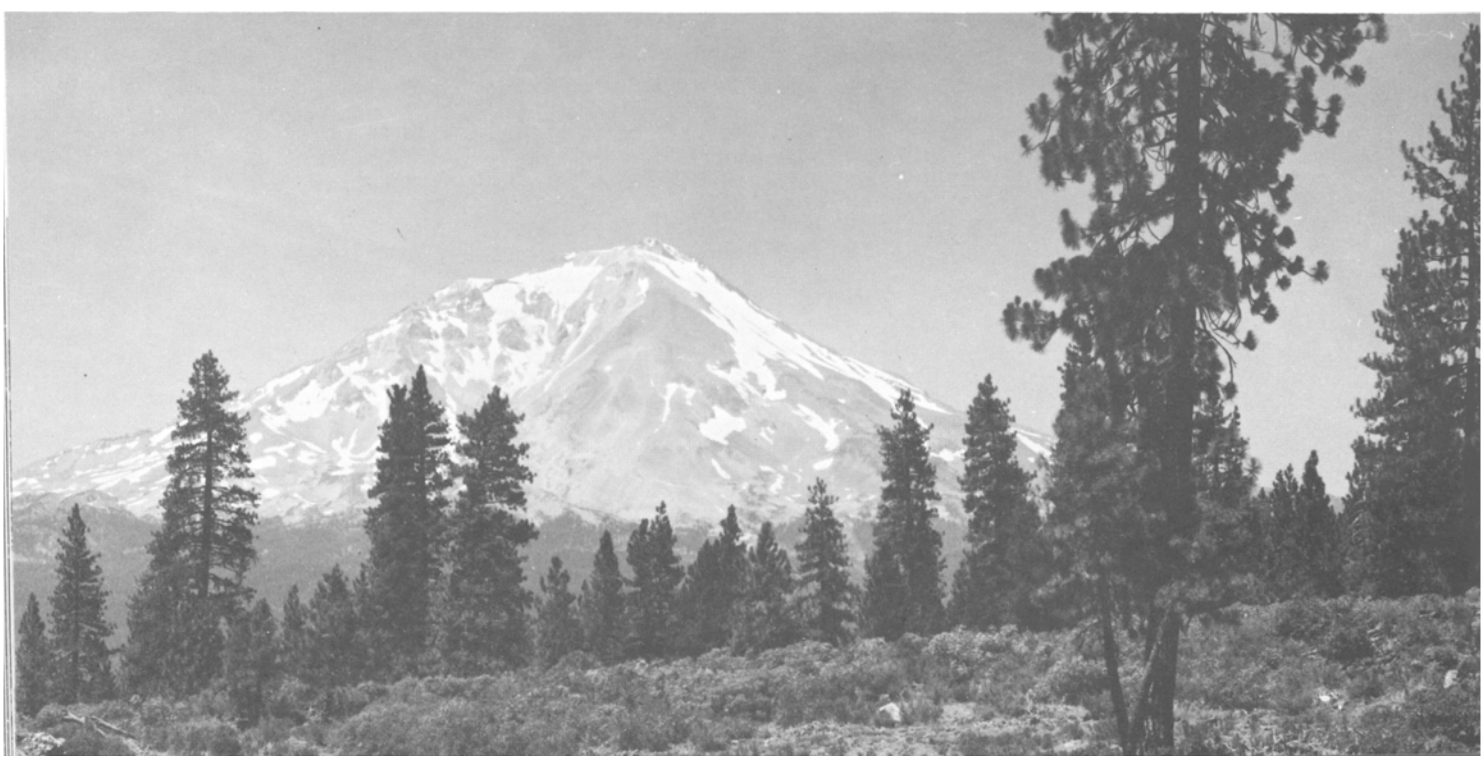


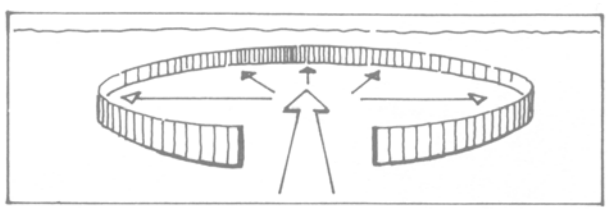
Figure 24 — Dominant cone form, medium scale, contrast to base plain. (Steptoe Butte, Washington.)

Figure 25 — Dominant vertical form, small scale, vertical consistency. (Whitakers Forest, adjacent to Kings Canyon National Park, Sierra National Forest, California.)

Figure 26 — Dominant sinuous form, color value and mutton contrasts. (Tuolumne Cascade, Yosemite National Park, California.)

ENCLOSED LANDSCAPE

An outdoor space in which unity is dependent upon recognition of bowl-like form or the continuity of sides around a base plane, is an enclosed landscape:



The lines of visual attention should first be drawn into the central void of an enclosed landscape and secondarily encompass the side walls, ricocheting about the edge definition of the floor if it is conspicuous (figs. 27-29). Water's edge is such a conspicuous definition, and the surface plane of a lake encircled by earth forms is one of the most sharply drawn examples of enclosed landscape. Even this sharpness, however, can break down if the expanse of floor plane is so great as to cause the off-shore wall to become insignificant or invisible. In general, expanse or distance becomes the visual enemy of the enclosed landscape, and it may be replaced gradually or sequentially with a panoramic composition.

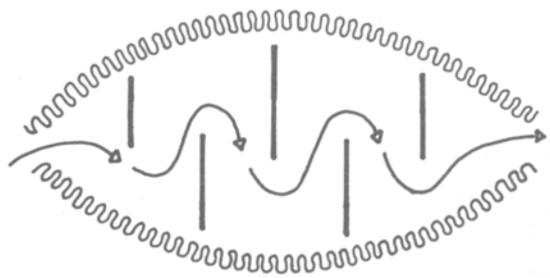
The enclosed landscape is a contrasting counterpart of the feature landscape but often may be less dramatic since the total structure of a space suggests a more subtle quality than that of feature domination. Subtlety of enclosure may be a

Figure 27 — Enclosed landscape, grass base plane, small scale. (Quail Flat, Sierra National Forest, California.)

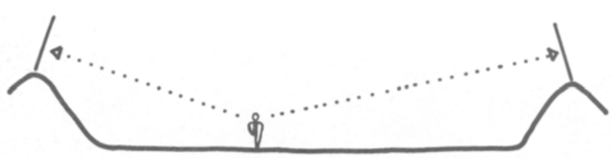
Figure 28 — Enclosed landscape, lake base plane, medium scale. (Woodys Lake — Chattahoochee National Forest, Georgia.)

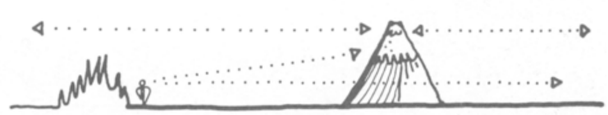
Figure 29 — Enclosed landscape, meadow-riparian zone base plane, large scale. (Leavitt Meadow, Toiyabe National Forest, California.)

matter of variation in the nature and the scale of the walls and floor. Or visual barriers inside the space may obscure parts of enclosure walls at some points of observation:



Although as diverse in scale and definition as feature landscapes, the enclosed landscape usually has rather more definite boundary. Enclosure tends to be a physical barrier, whereas feature domination constitutes only a sphere of visual influence:

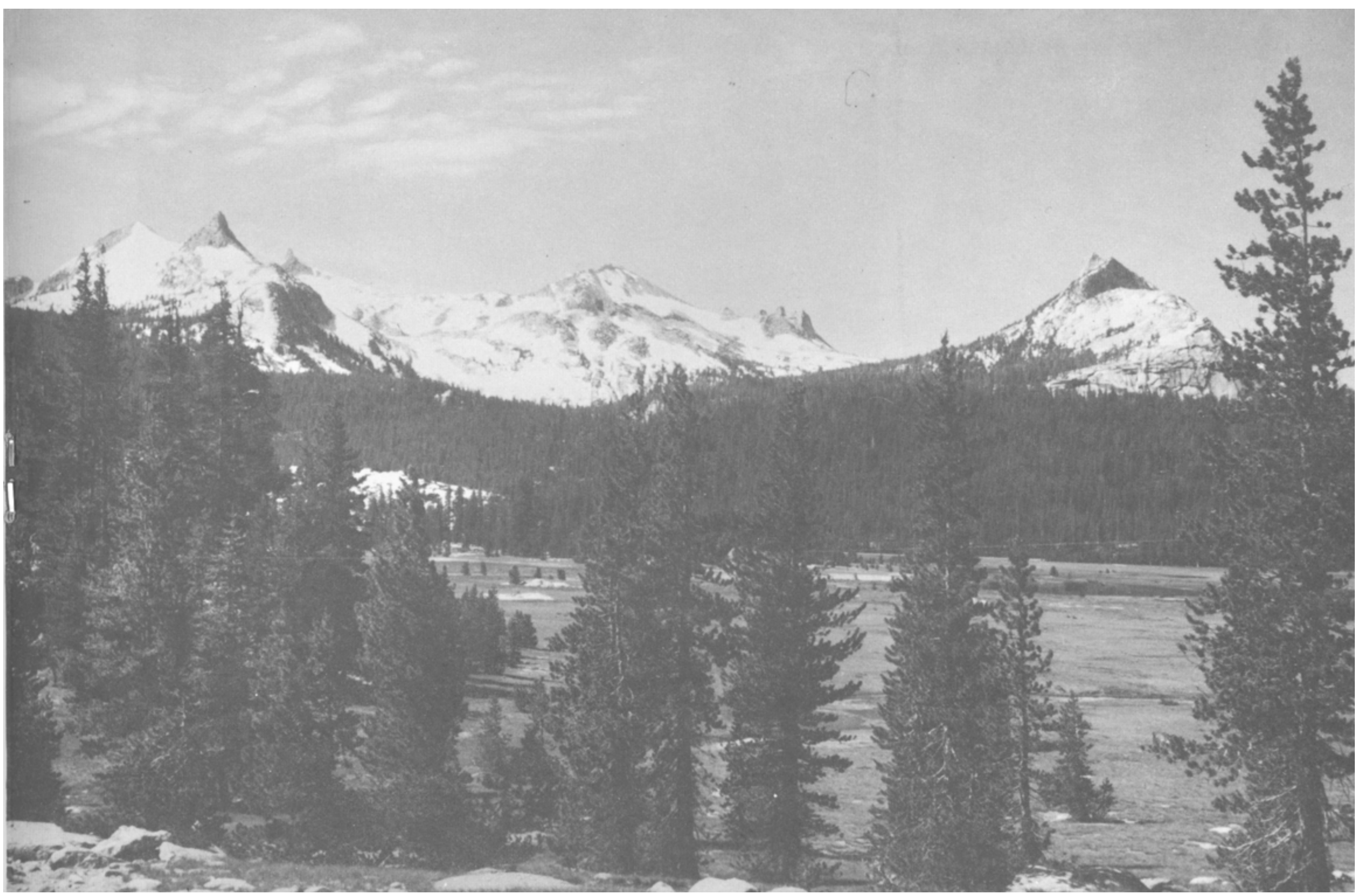




Many intergrades can exist between compositional types, and though we need not explore them all, two seem especially appropriate at this point. First, a minor feature or landmark may become significant within the embracing framework of a space (fig. 30) because of the visual restriction of the enclosure. Second, the side-by-side occurrence of feature domination and enclosed landscape is a dominant-subordinate relationship; the feature provides identity — and often a descriptive place name (fig. 31).

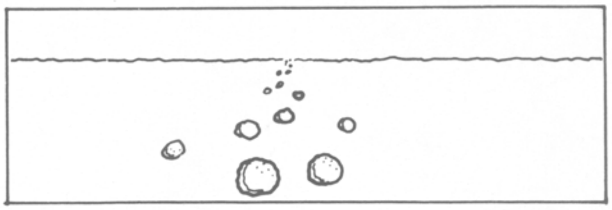
Figure 30 — Minor features within restriction of small enclosed landscape. (Richard Russell Scenic Highway, Chattahoochee National Forest, Georgia.)

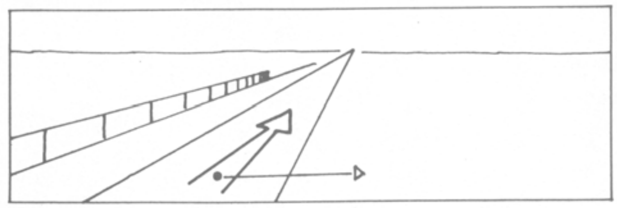
Figure 31 — Dominant feature ridge as partial side of enclosed landscape. (Cathedral Range-Tuolumne Meadow, Yosemite National Park, California.)



FOCAL LANDSCAPE

A series of essentially parallel lines or of elements seen in alignment create a focal landscape. Parallel lines or aligned objects, in appearing to converge to a focal point, guide the eye toward their apparent origin:





Observer position must be such that lines of sight parallel lines of the focal landscape. The degree to which the composition may seem to converge toward a point is highly variable (figs. 32-35). Four possibilities are common in the forest landscape:

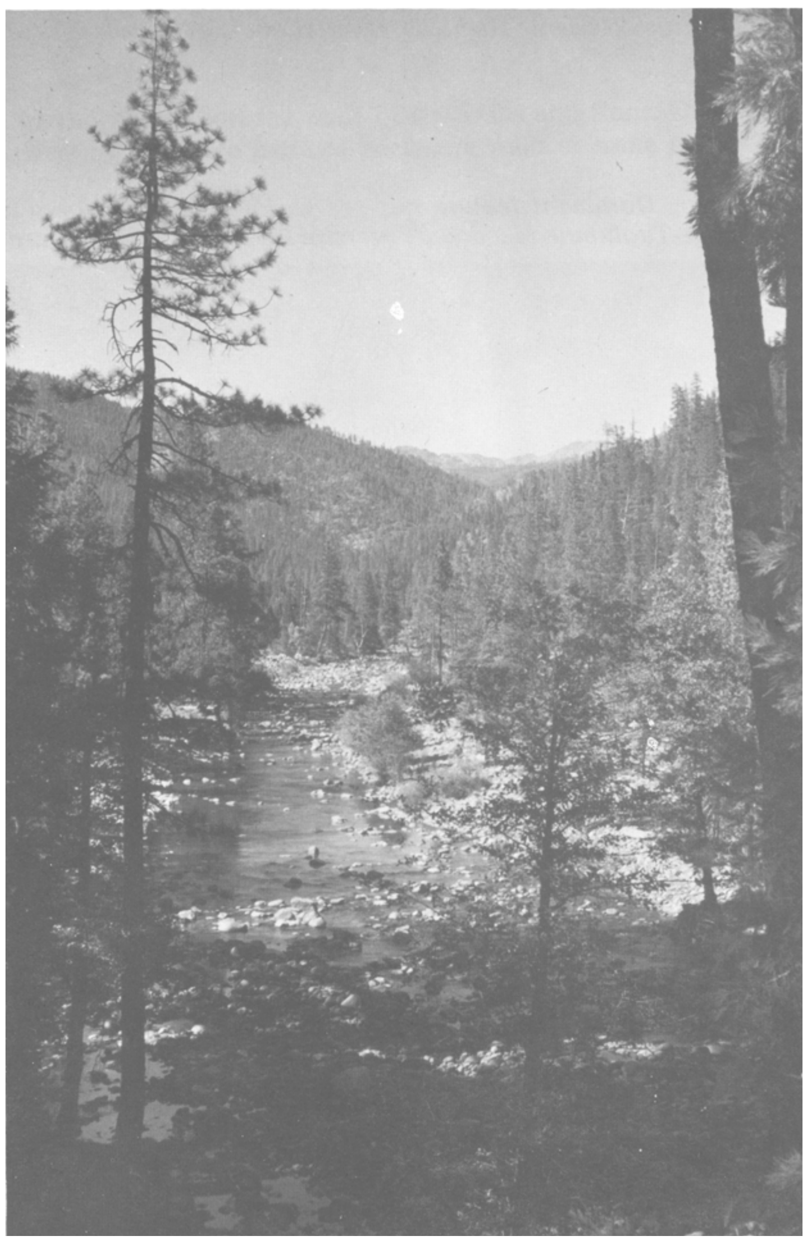


Figure 32 — Focal landscape, stream course with self-closure terminus. (Shasta River, Trinity National Forest, California.)

Figure 33 — Focal landscape, aligned elements, feature terminus. (Virginia Lake Road and Conway Summit, Highway 395, Toiyabe National Forest boundary, California.)

Figure 34 — Focal landscape, creek course within a panorama. (Bodie Road, south to Mono Lake, California.)

Figure 35 — Focal landscape, road aligned on feature terminus. (Tuolumne Pass Road, Cathedral Peak, Yosemite National Park, California.)

1. Point convergence

2. Feature terminus

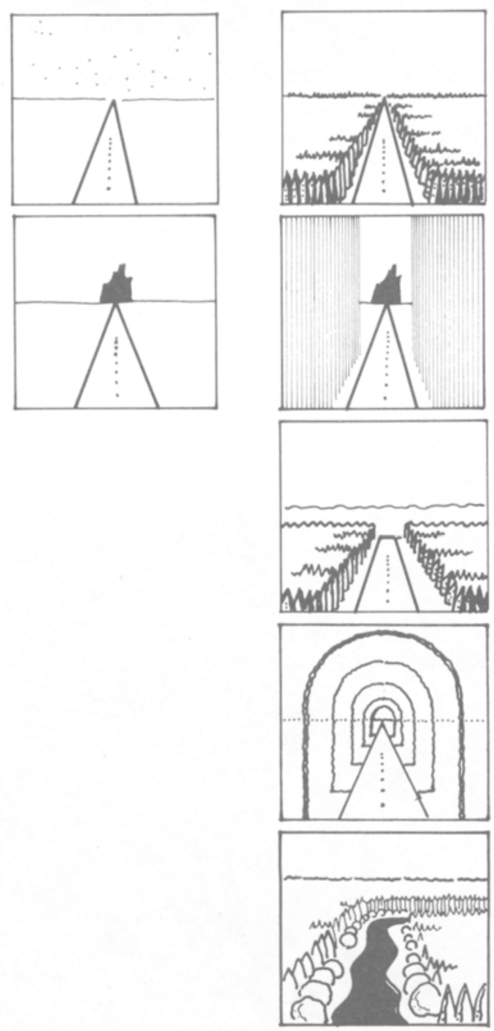
3. Portal

   (At vertical curve)

   (Tunnel-portal)

4. Self-enclosure

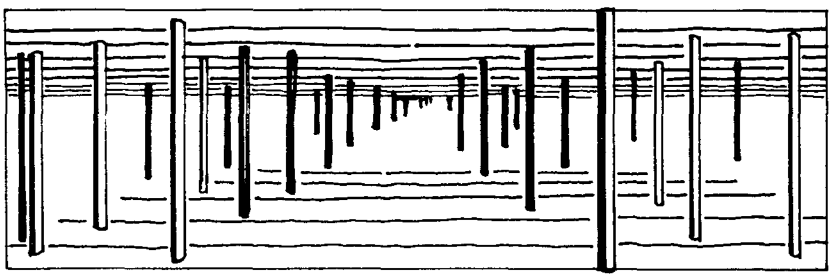
   (At horizontal curve)



Both point convergence and feature terminus may occur with or without side enclosures; that is, either may be overlaid on an open panoramic landscape or can occur as corridors on a flat plane. Portal or self-enclosure compositions can occur only in the context of enclosed landscape. Line and spatial characteristics of each should be apparent in the above diagrams. A stream course or a road tangent are the most likely places to look for the focal landscape. Perhaps the most commanding or effective focal composition occurs when a landscape feature is present as a visual terminus.

CANOPIED LANDSCAPE

Canopied landscape refers to the compositional character of the landscape to be found under the crown cover or within the forest. Such compositions tend to be of relatively small scale. Leaf canopies create ceiling planes, and perspective closure of tree stems or screens of understory shrubs and young trees or land forms develop side enclosures:



The scale and the detail within overhead and side restriction mean that a canopied landscape can be most readily seen and comprehended by an observer on foot. The automobile driver has insufficient time to see details adequately. He is also removed from them. And his attention is continually directed ahead.

Nevertheless, we should recognize that road channels within the forest represent the closest contact that many sightseers have with the forest. More accurately, the road (or trail) guides and controls observation. There are three basic possibilities. First, the broad, open corridors of major highways and freeways — four lanes or more, divided or undivided. Second, the medium corridors of primary or secondary roads designed for moderate speeds. Third, the small corridors or undergrowth tunnels of minor or minimally improved roads.

The first two tend to minimize forest contact. Their wider clearing channels push back the tree edge, and higher cuts and fills divorce the road from the forest floor. Seldom, if ever, can a leaf canopy make a ceiling over the roadway. Superhighways, particularly multiple-lane undivided roadways, impose the greater impacts.

Minor or minimally improved roads for use at slower speeds allow tree edges to become, nominally, the road edge. Lower cuts and fills maintain contact between road and forest floor. The tunnel enclosure of leaf canopy over the road can be a practical possibility.

Transferring the characteristics of the slower-speed road to high speed roads has little chance to succeed. Lane division and use of broad median areas can help maintain contact with forest stands. But we should recognize that each road type imparts a different scenic quality to the stand — more light or less; more enclosure or less; more closeness or less. One is not better than the other. Each offers a difference which should be retained for variety and contrast (figs. 36-39).

To make the most of the automobile observer's opportunities to see or sense the forest within which he travels, we can watch for and map three sources of contrast: forest type changes and differences; crown class and stand variations, and spatial variations — corridors and tunnels. Only the most marked contrasts will register with the more rapidly moving observer. The more subtle ones are reserved for the pedestrian.

Forest type changes generally provide obvious visual contrast. A change from hardwood to conifer type should be apparent to any observer. But differences between conifer types, for example, can be so subtle as to escape notice except by the most astute or well-informed observers. Then changes in stand or crown character may provide visual impact. Descriptive terms from forestry are rich in implications of contrast — open and closed crown canopies, even-aged and uneven-aged stands, dominant and suppressed crown classes.

A good example of such contrast is the distinct junction of two forest types — a black oak-Jeffrey pine mixture and a pure red fir stand along Highway 168 (fig. 40). The gross visual impact is that of an open, sunny space adjacent to a tight, shaded corridor. An abrupt margin emphasizes differences between the types. Other contrasts reinforce the image. In early spring (when the photograph was taken) the color impression of the oak area is bronze-buff; that of the fir corridor, blue-green. Crown closure is about 40 percent in the oak-pine; 85 percent in red fir. Shrubby ground cover in the open oak-pine contrasts with grass in the fully stocked fir stand. The canopy, or ceiling plane, is lower in oak-pine.

Figure 36 — Canopied landscape, tree tunnel as spatial definition. (Napa Valley, Highway 29. Photo by Bernard Shulte.)

Figure 37 — Canopied landscape, forest corridor as spatial definition. (Highway 168, Shaver-Huntington Lakes, Sierra National Forest, California.)

Figure 38 — Canopied landscape, pure conifer type. (Highway 36, Van Dusen River, near Grizzley Creek, California.)

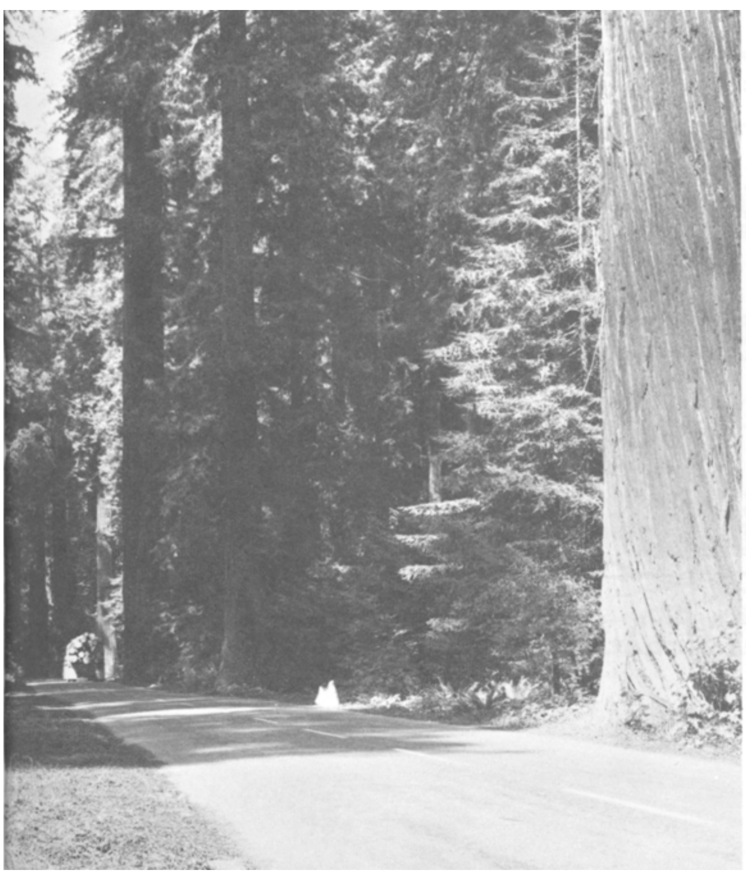


Figure 39 — Canopied landscape, mixed hardwood type. (Anna Ruby Scenic Area, Chattahoochee National Forest, Georgia.)

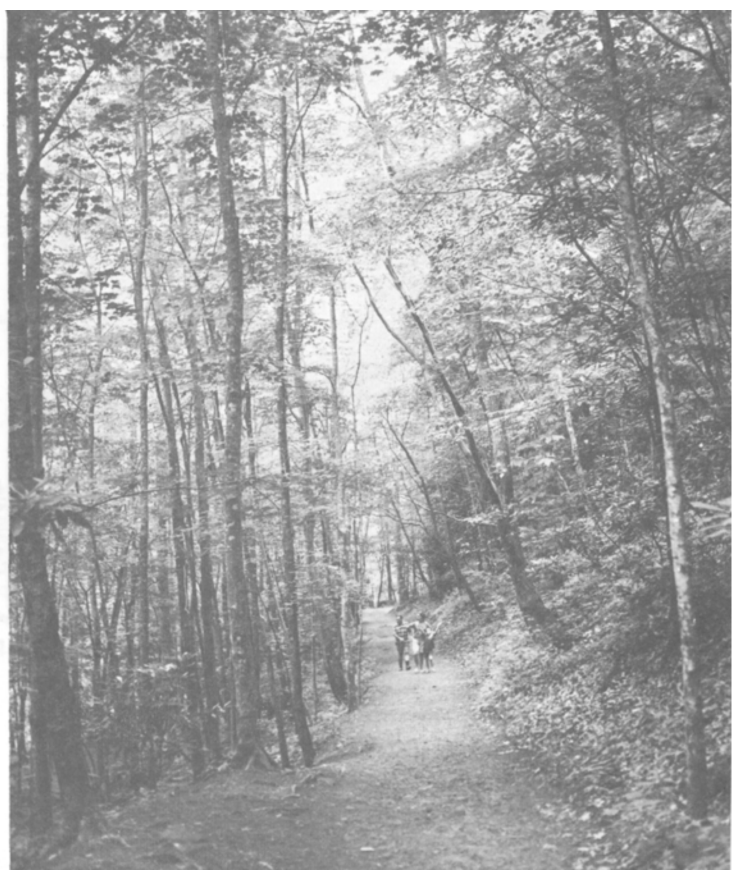
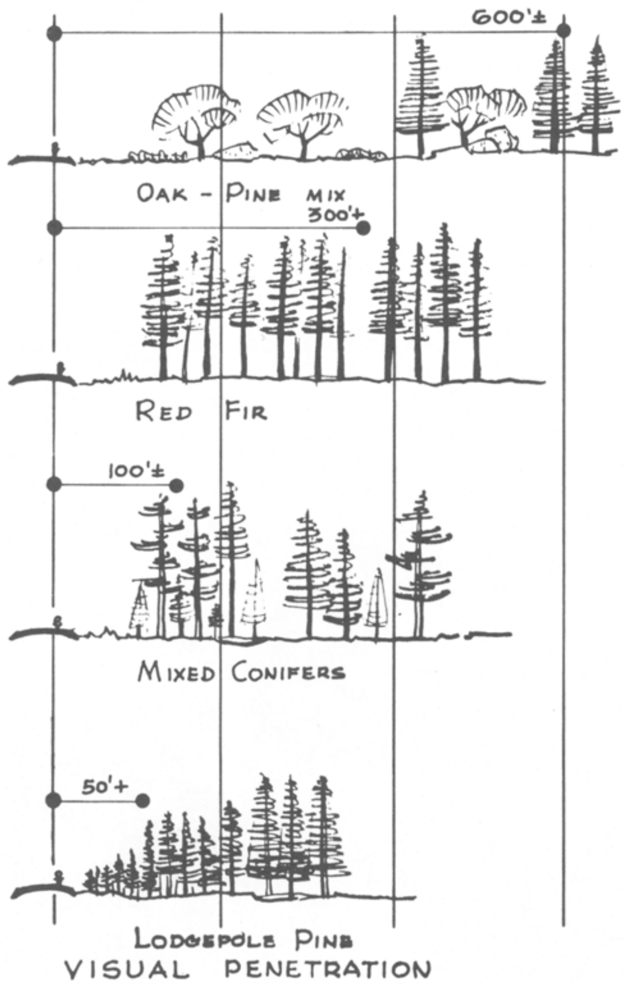


Figure 40 — Canopied landscape, junction between dissimilar forest types and stands. (Highway 168, Shaver and Huntington Lakes, Sierra National Forest, California.)

Estimates of visual penetration can point up the spatial character of forest stands. In the inventory of scenic resources along Highway 168, for example, the depth to which it was generally possible to see was estimated at several points along the 16-mile route. Averages of these estimates in four forest types permit useful comparisons:



It was possible to see twice as far into the oak-pine as into the red fir. Visual penetration into mixed-conifer and lodgepole pine types was much shorter. Both these types included all age classes of trees. In mixed conifer, the different species occupied virtually all of the air space with overlapping crowns, and the stand was fully stocked if not overstocked. In lodgepole pine, young trees, doghair thick, overstocked soil along the road edges; older trees beyond this young growth formed several stories.

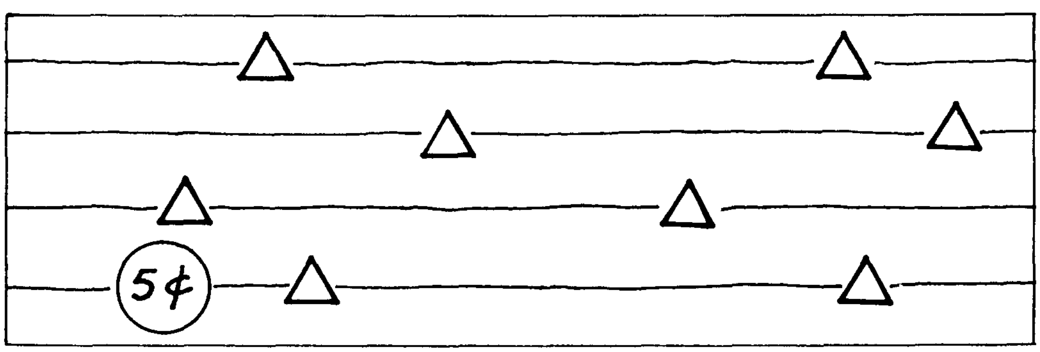
Such simple observations of stands that flank the road remind us that road width does not end visually where grading and clearing stop. More important, the observations pin down variations in relative enclosure that travelers can be expected to see — and hence help identify and describe the canopied landscape.

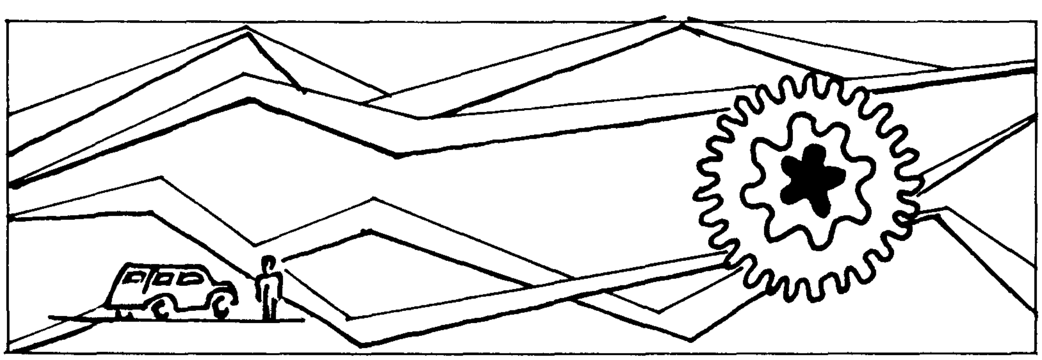
Subtle as this compositional type is, it can provide variety within other landscape types and it can be manipulated, as by judicious thinning, to enhance contrasts — or even to create them. Appreciation of the canopied landscape may require a good deal of knowledge. But this requirement is more an opportunity than a handicap. It is a chance for interpretation that makes a journey meaningful.

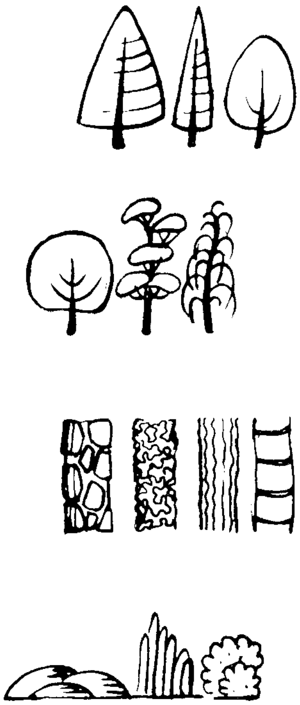
DETAIL LANDSCAPE

The minor details, or minutiae, of a single view also may contribute meaning to a visual experience. Taken together, the minutiae often form a compositional type which as a sample of the larger scene, deserves special attention. Like the canopied landscape, this detail landscape requires a pedestrian pace and an eye for special amenities.

The detail landscape may be a segment of an overall pattern; it may be an angular composition with a single dominating form in contrast:



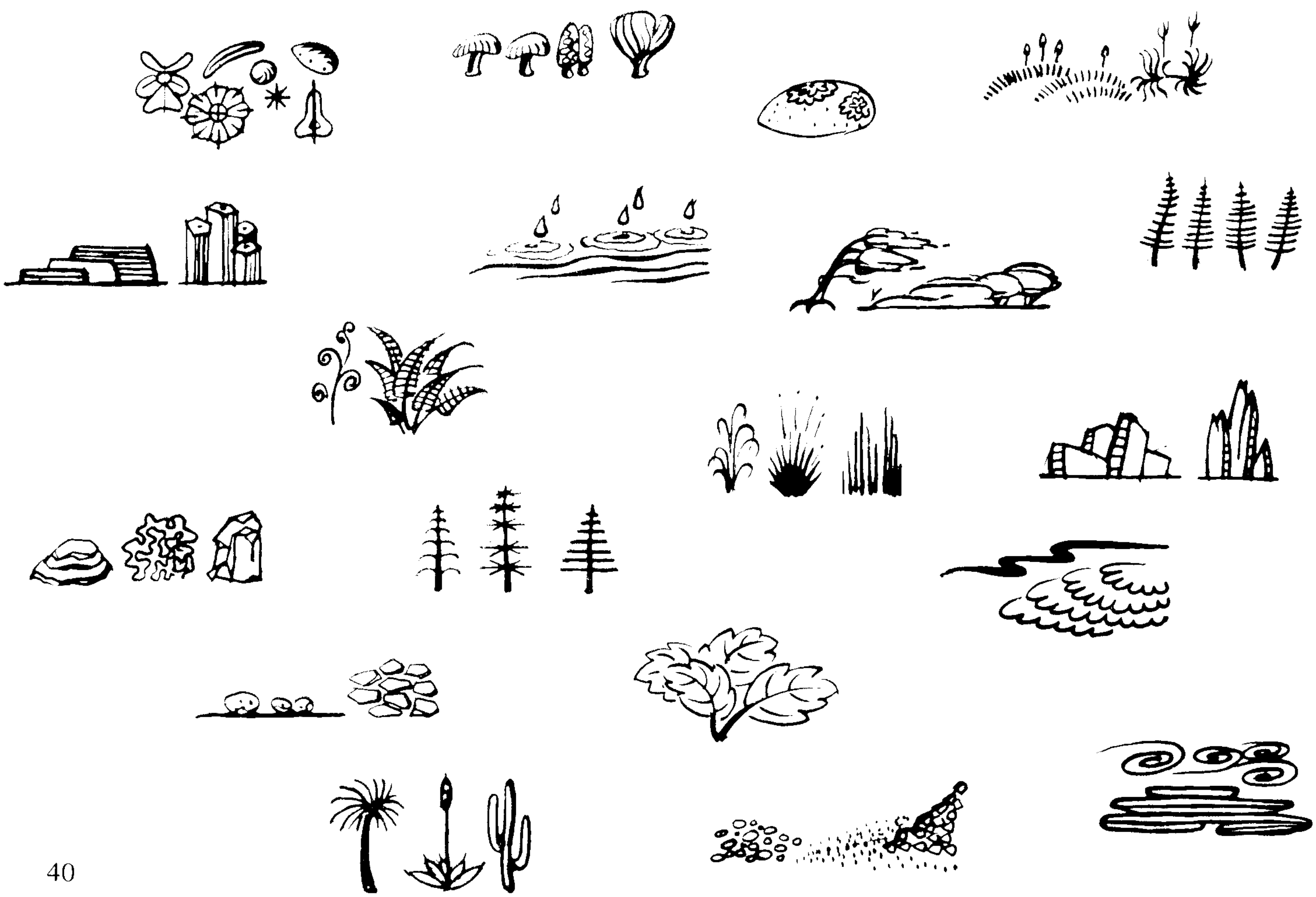




But a diagram is not much help in explaining the nature of this compositional type. We are concerned primarily with scale rather than with the disposition of elements into a design composition. The possibilities of form, shape, and pattern and their arrangement are infinite.

What distinguishes this compositional type, then? It is consistent in being a typical expectation of the general landscape within which it exists. A segment of the rain forest floor cannot be confused with a bit of desert pavement. Ansel Adams and Edward Weston have included in their work photographs of details which demonstrate an essence of place. And throughout history, details from nature and the landscape have been a prime source of suggestion to design. More than a mere sample, the detail landscape can be a symbol.

Observers may differ in their affinity for minutiae, but a conscious effort to look for symbolic details will seldom go unrewarded. Plants — from lowly fungi, lichens, and mosses to individual shrubs and trees — display forms, shapes, and patterns in unimaginable variety. Plant parts repeat environmental themes, or set up counterpoint, in bark, leaves, flowers, and fruit. Rock deposits and outcrops, weathering patterns and water in creeks, seeps, and trickles — all these contain design elements which combine to reflect in microcosm the larger landscape. Color, inseparable from the nature of details, may at times be a dominant characteristic. Choice of detail is dependent on scale, which may vary from an area of a few square feet to a cubic volume of much larger surfaces. An observer's ability to concentrate attention sets the limits. Whatever the choice of visual attention, the detail landscape (figs. 1145) is a representative specimen taken within the restriction of pedestrian concern.



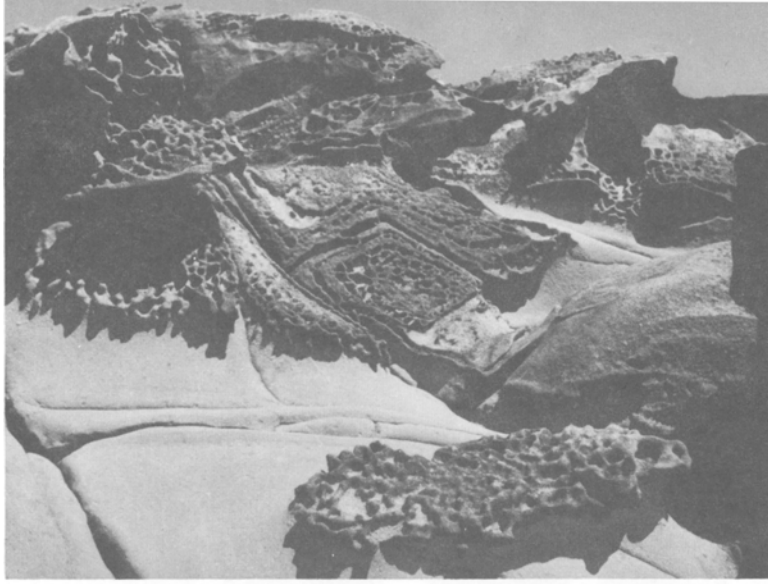


Figure 41 — Detail, reticulated pattern, weathered sandstone. (Salt Point Ranch, Fort Ross, California.)

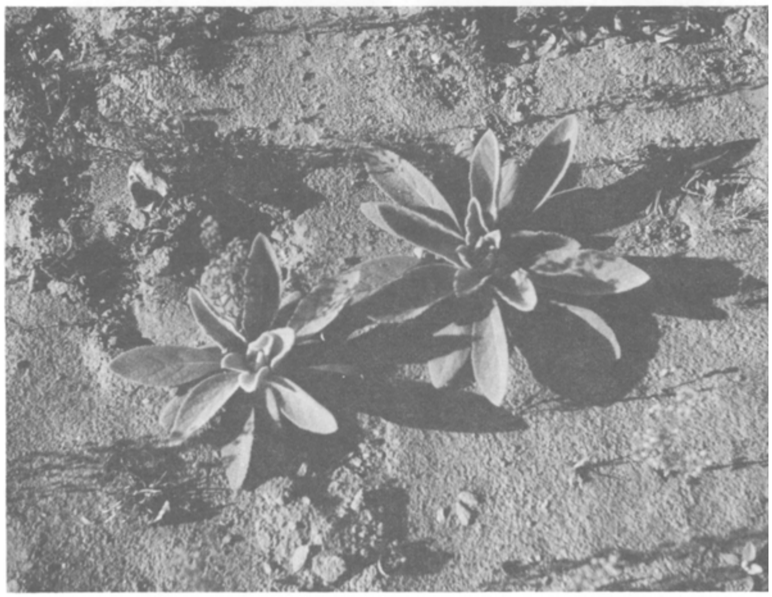


Figure 42 — Detail, rosette patterns, sand bar plants. (Dry Creek, Healdsburg, California.)

Figure 43 — Detail, sinuosity, environmental distortion. (Sonora Pass, Stanislaus National Forest, California.)

Figure 44 — Detail, rock and water forms. (Dana Fork Tuolumne Creek, Yosemite National Park, California.)

Figure 45 — Detail, angular outcrop and spheroid tree form. (Mt. Diablo State Park, California.)

The ephemeral landscape could be called the landscape of the double take — its significance or content may be overlooked. It depends on transitory effects. They may last for seconds, minutes, hours, or even days. Certain effects can be encountered only at particular seasons of the year; others know no season. To be seen, they may require observation sharpened by special interest, an intensity of visual awareness seldom achieved in Western cultures.

Five groups of influences give ephemeral effects to the landscape — or for brief periods cause the ephemeral landscape to exist. They are (1) atmospheric and weather conditions, (2) projected and reflected images, (3) displacements, (4) signs, and (5) animal occupancy. We have already touched upon certain of these influences, but they bear repetition because they bring a special quality to the appreciation of landscape.

Atmospheric and weather conditions (fig. 46) are most extensive. They can be assigned to four sub-divisions: cloud and fog formations, precipitation, vagaries of light, and wind-motion effects. Many of these influences will be self-evident, and only a few of the vast number of possibilities are noted for their visual contrasts and enrichment:

> Cumulus clouds as billowing, complimentary forms above the horizontal plane of a panoramic landscape.
>
> Fog spilling through a gap, defining the bottom of an enclosed landscape.
>
> Hoarfrost or backlit raindrops outlining tree branches in the foreground distance.

Figure 46 — Ephemeral landscape, weather condition, low cloud cover. (Childs Meadow, Lassen National Forest and National Park, California.)

Sunset coloration on a feature landscape; rainbow arched over space.

Scintillation of light bouncing off wind-driven aspen leaves.

Formation of sand ripples in shallow water; their evolution by wind over sand.

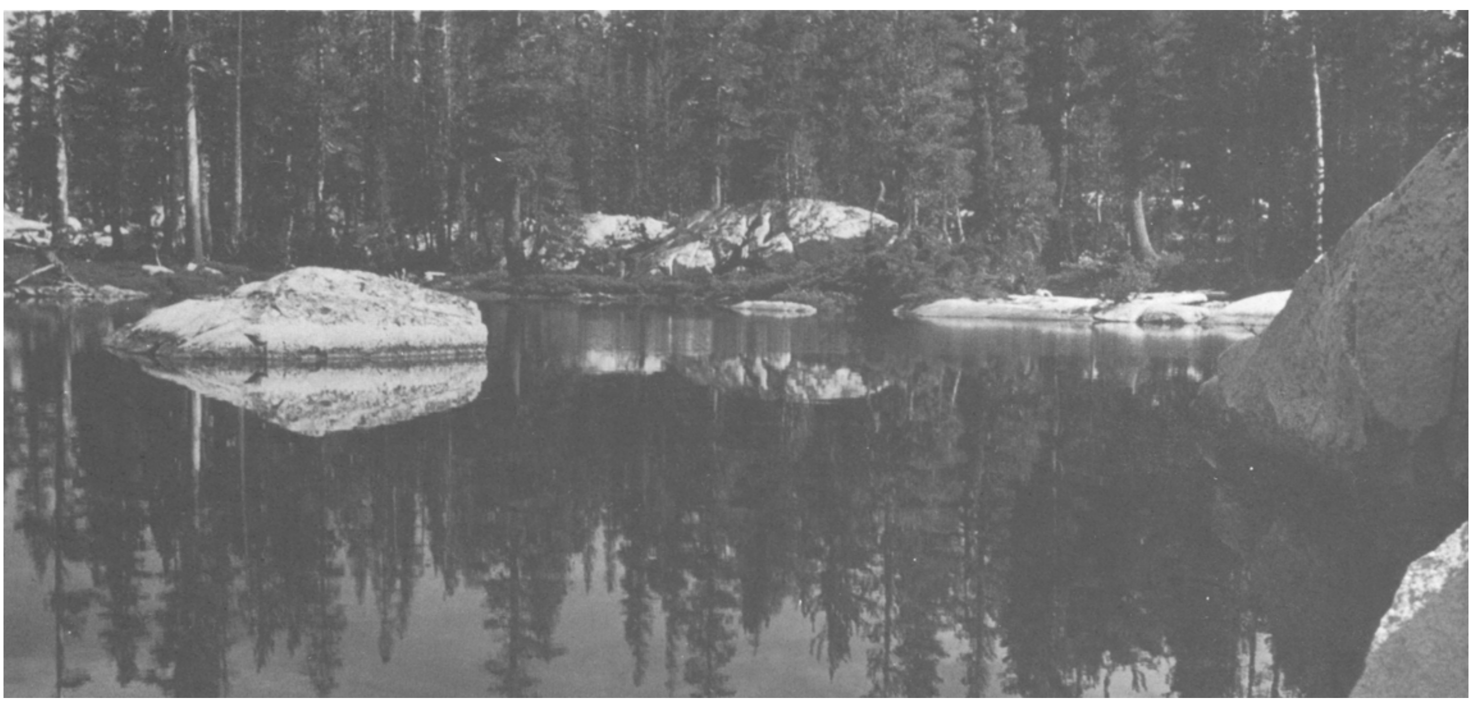
Cloud shadows sweeping across a broad and placid middleground landscape.

Projected and reflected images (fig. 47) are secondary images of plants, terrain features, or clouds. They may be seen as shadows projected by light upon solids or as reflections upon water. The light source may be either the sun or moon. Or, light itself may be reflected from a water body or other surface without involving the image of some solid element.

Shadows or reflections of an object are seldom seen complete, and hence they tend to be accepted as normal visual reinforcements of the object itself. To actually look at shadow pattern requires specific intention — and the advantages of a simple plane for projection which will minimize distortion of the image. In the Ginka kuji, a medieval Japanese garden, a smooth sanded surface was prepared for receiving sun-or-moon-cast shadows of trees which could be seen from the adjacent veranda. Reflections on pond surfaces were similarly and consciously enjoyed.

Reflections should normally be more conspicuous than shadows. They have the color attributes of the original though somewhat darker. On still water, the reflected shape is a mirror image of the real form. If the observer position and the reflecting surface are suitable, the secondary image can be complete and can enhance ease of recognition.

Figure 47 — Ephemeral landscape, reflected images. (Ten Lakes, Yosemite National Park, California.)



Light reflections simply as redirected light rays are conspicuous enough since they appear as highlights at edges or on surfaces. Like shadows, though, they probably are accepted as part of a normal expectation rather than as subjects of actual observation. Also, discomfort to the eyes may thwart the conscious effort to look at light reflections.

Displacement (fig. 48) has to do particularly with the parts of plants which have been detached from their place of growth and are found in a new context: leaves upon the ground or floating in water, fruit fallen to the earth, or flower petals shattered and dropped to ground or water. Wind-fallen trees, shed bark, and driftwood may also be included as displacements. Except for driftwood, such dislodged pieces tend to be ignored visually once they leave their expected place. But there is a difference in visual impact depending upon whether the observer is driving or walking. For example, leaves and flowers in place are readily seen from the automobile; after dislodgement, they are still visually available but most of their value will be to the pedestrian.

Signs (fig. 49) refers to indications of former life or occupancy by animals or plants. Animal and bird tracks, beds and bird nests, spider webs and insect egg cases, bird feathers and snake skins — all attest to the fact that living creatures have been present or may be nearby. Dead tree snags and standing skeletons of last summer's annuals indicate life that was or will be again. The water dimples left by a rising fish are also signs that are easily seen though the maker may escape notice. Signs, like elements of the detail landscape, are pedestrian concerns for the most part. And similarly, they can enrich appreciation and awareness of the larger landscape.

Figure 48 — Ephemeral landscape, displacement, hawthorne fruit on the ground. (Berkeley, California.)

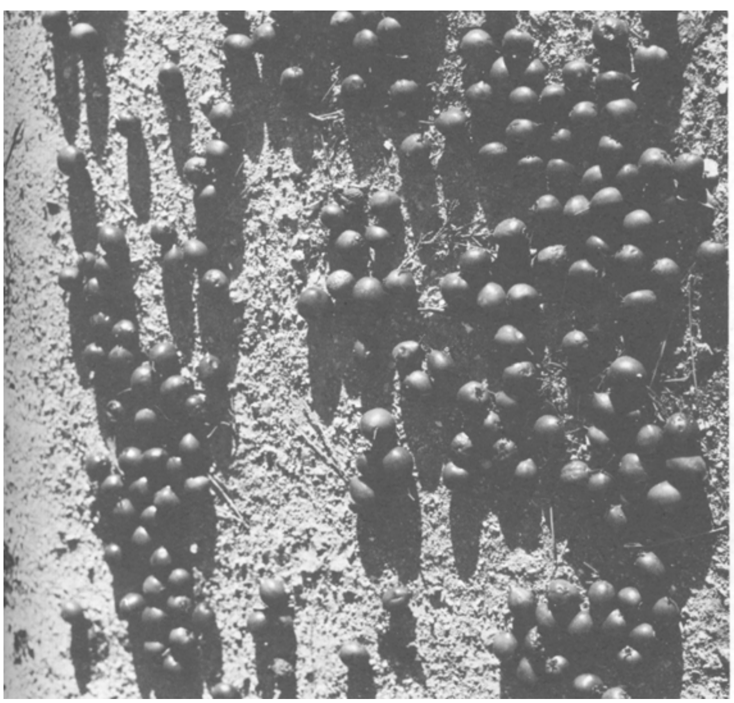
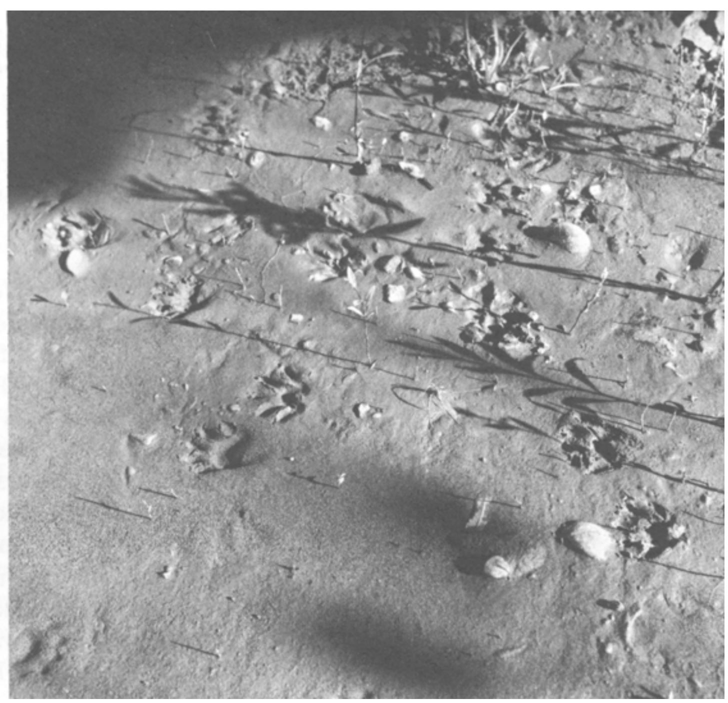


Figure 49 — Ephemeral landscape, signs, raccoon tracks. (Dry Creek, Healdsburg, California.)



Animal occupancy is a transitory influence only in the sense that sightings are apt to be short-lived, or require special insight on the part of the observer. The animals are a permanent or seasonal segment of the total living landscape but invisible to many who pass by. Certainly the full complement of animal occupants will be unknown to most. Signs can suggest existence of animal habitats but they too are subtle symbols.

Even though the ephemeral landscape may be beyond susceptibility — or desirability — to control, it adds so much to appreciation of the environment that land managers and landscape architects should develop a special sensitivity to this compositional type and thus to recognition of the full complexity of the landscape.

Landscape Inventories

The previous sections described factors of scenic analysis and their representation in compositional types. But this analysis remains to be made feasible in the form of technique applicable to real forest situations. To aid landscape architects and land managers, two case studies are presented here. They provide documentation of analytical factors — distance zones, observer position, etc. — and compositional types for planning purposes. No one annotation method seems adequate to record a complete range of all the elements that make up the landscape. Therefore, several methods of documentation are shown.

One common basis employed is a visual corridor plotted on a topographic map. This procedure makes use of existing roads — or a single route — from which the visual limits are plotted. However, the approach is a matter of convenience. The same kind of plotted base showing the scenic corridor can be projected for a proposed road or trail.

A criticism of visual corridor plots is that they fall short because they do not include an evaluation of areas beyond the corridor. I can only recommend that the visual corridor should not be treated as a screen strip or a way to camouflage what may be allowed to happen beyond the corridor. Comprehensive policies for management of the landscape resource must embrace a regional sense of the problem. The visual corridor should be recognized as a sample of a larger regional landscape and not as a device to ignore the remainder or condone neglect beyond the viewed zone.

The two examples show different applications of inventory technique. The first (Shaver-Huntington Lake) develops from a conventional map base, through a series of abstractions and simplifications that may be useful for specialized purposes (figs. 50-55). The second (Pollock Pines-Meyers Grade) develops a record in terms of conventional description and photographic sampling (figs. 56-57). A variety of means were used to collect original field data — in particular, black and white and color photographs, and plotting in 7½ and 15 minute U. S. Geological Survey topographic maps — including use of abstract notation symbols, and landscape analysis check lists. Examples of both abstract notation symbols and a check list will be found in the appendix, but no special emphasis of these procedural steps is made in this report. I acknowledge a basic dependence upon the development of notation systems contained in the work of Donald Appleyard, Lawrence Halprin, Philip Lewis, Jr., Kevin Lynch, John Meyer, and Philip Thiel. Reference to the bibliography will provide sources of detail on their notational procedure.

SHAVER-HUNTINGTON LAKE SERIES

State Highway 168, Sierra National Forest, California.

Length: 15½ miles, travel time: 25-30 minutes.

The route begins and ends with lakes and their basins of contrasting scales. The middle point consists of two ridges or road summits, with a lodgepole pine forest and creek basin between well-defined forest types which are an accompanying sequence of the road and which have contrasting visual and spatial effects (see Figure 54).

Except at the two larger terminal basins and the lesser, midway lodgepole pine basin, the roadway is essentially an enclosed corridor in which foreground and middleground distances predominate. Because of this simple corridor continuity, the variations of the forest types become important in themselves and in the spatial differences they provide. Spatial difference is largely due to limitations of sight into the stands. Depth of penetration is greatest in the black oak-pine forest, owing to open stand, low brush, and granite exposure; second greatest in red fir because of clean boles with virtually no understory; third in mixed conifers at the 5,000-6,000 foot elevation, where seedlings and shade-tolerant species such as white fir tend to occupy much ground and air space; fourth, and most restrictive, is the lodgepole pine type in which new growth of seedlings along the roadside tends to be dense, and the stand is relatively impenetrable both physically and visually.

In the central part of the route, Tamarack Basin is apparent between Tamarack Ridge and the Huntington Maintenance Station summit, the center being marked by Tamarack Creek which is, visually, the only obvious stream on the whole route. Tamarack Creek is easily accessible and is the focal attraction of the basin. The small scale of the basin, with middleground views of 2 to 3 miles to the enclosing ridge, is maintained by the small scale of the lodgepole pine stands. Although the screening effect of the lodgepole stands is quite restrictive, minor changes of vertical alignment in the road in this area allow distinct ridge sightings and occasional views into stand openings. The side slopes of the basin are marked by red fir forest of large trees with distinct blue-green color, contrasting with the basin floor of lodgepole pine forest — small trees with yellow-green color.

A rather subtle scenic theme found throughout the route is in the exposure of the granitic base: the domes of Ely Mountain, of Bald Mountain and vicinity, the erratic boulders which make a number of close-in feature points, and the barren ridge surfaces at Kaiser Ridge and above Big Creek.

The main variation in visual experience due to east-west or west-east travel occurs toward the terminals and is related to downhill movement along side-hill tangents and outside curves. Thus the Huntington Lake basin and water surface sightings are most apparent with west to east travel, whereas the Shaver Lake basin and its water surface sightings are most apparent with east to west travel. Regardless of travel direction, Huntington Lake is virtually hidden as compared to Shaver Lake. Three factors account for the difference: basin form and size, distances from station point, and roadside tree screening. Turnouts or "interest points" are provided at points above both lakes. For all practical purposes, Huntington Lake can be seen only by stopping. Shaver Lake, however, may be readily seen in transit, particularly from the oak-pine forest area west of Tamarack Ridge, 6 to 9 minutes away from the lake. Travelers cannot fail to see that the two lakes are markedly different in scale. But more important, there is an understanding of Shaver which is absent in Huntington. In east-west travel, Shaver is seen *in toto* from a distance of about 4 miles, with the observer in superior position, and 6 to 9 minutes later, close up. Huntington, for the moving observer, occurs as a surprise element and is seen only from near water's edge and level. Kaiser Ridge and the enclosed landscape of the Huntington Lake valley provide a major impression long before Huntington Lake surface can be seen.

Landscape inventories are documented in figures 50, 51, 52, 53, 54, and 55.

POLLOCK PINES-MEYERS GRADE SERIES

U. S. Highway 50, Eldorado National Forest, California
Length: 40 miles, travel time: 1 hour.

View Categories

The original plotting of this scenic corridor — between Bridal Veil Falls and Meyers Summit — was done in July 1965 with William Fischer, recreation planner for the California Region of the Forest Service, and Robert Henley of Eldorado National Forest. The corridor was delineated as a series of view categories to which timber management prescriptions were keyed (fig. 56). The categories and prescriptions were as follows:

LANDSCAPE MANAGEMENT — TRAVEL INFLUENCE ZONE
U. S. HIGHWAY 50 — ELDORADO NATIONAL FOREST

View Categories and Management Prescriptions

(Numbers refer to view categories in figure 56.)

View Category

2. Foreground — Direct: Observer inferior, moderate to steep, forested, undisturbed.

Management Direction	Timber —	Light selection, retain hardwoods. Avoid vertical skidways.
	Roads —	Retain screen lower side. Low standard roads only. Uses — Screen uses, key power lines out of these areas.

3. Foreground and Middleground: Observer inferior, moderate to steep, disturbed, fire scars and plantations.

Management Direction	Timber —	Light selection in timbered areas. Fall all dead trees.
	Roads —	Promote revegetation and healing of road scars. No new roads across open areas until screening can be established.
	Uses —	Screen uses, power lines below ridge tops and no closer than 1 mile from highway.

4. Foreground — Direct and peripheral: Steep to precipitous, forested.

Management Direction	Critical view area, no disturbance permitted by road construction or other uses. No uses permitted. Remove from timber use category.

5. Foreground — peripheral: Steep, undisturbed, forested.

Management Direction	Timber —	Normal selection; retain hardwoods. Screen skidways.
	Roads —	Screen from lower side.
	Uses —	Screen uses.

6. Middleground — Direct and peripheral: Moderate to steep, undisturbed, forested, occasional brush fields.

Management Direction	Timber —	Normal selection to shelterwood on moderate slopes; retain hardwoods. Avoid vertical skidways.
	Roads —	Screen on lower side. Avoid large cuts and fills. Allow no roads across brushfields.
	Uses —	Screen uses. Keep power lines below ridge stops, minimum clearing no closer than 1 mile from highway.

7. Special Feature — Foreground: Rock spire, steep, undisturbed, forested.

Management Direction	Manage as scenic area, allow no visible disturbance to ground or vegetation. Permit trails and rock climbing.

8. Foreground — Direct and peripheral: Observer superior, steep, critical situation.

Management Direction	Same as 4. Any ground or vegetation disturbance will detract.

9. Middleground — Enclosed landscape: View with features.

Management Direction	Allow no visible disturbance.	
	Timber —	Sanitation only if screened out at cutting location. No visible skidways
	Roads —	No visible roads, no disturbance of brushfields.
	Uses —	No power lines, no unscreened uses.

Sequence Zones

The Highway 50 route was also plotted separately between Pollock Pines and Meyers Grade (fig. 57). Nine different sequence zones or segments of the corridor were designated as areas of individual character within the landscape as travel progresses from west to east:

Zone 1. — Introduction and orientation to the Sierra Nevada crest seen 22 miles away from Union Hill. Spatially restricted to the south with open aspects to north and east over the American River valley, this panoramic view to the ridge is maintained intermittently for 3 miles, or about 4-5 minutes.

Zone 2. — Downward descent toward the American River. The road continues along the shaded face; views outward to north and east are of middle distance restriction. A marked difference in forest types begins to register: a dense mixed-conifer stand on the shaded north exposure; an open oak-conifer mixed stand on the sunny face. This zone runs for slightly more than 3 miles, or about 5 minutes.

Zone 3. — River contact made near the Riverton Bridge. A good downward aspect of the river is seen from an easy horizontal curve. There is some marring of the riparian area by invasion of the highway through stream bed disruption and fill overcast. This zone runs for a mile, or about 1½ minutes.

Zone 4. — Road shifts from shady to sunny side of the river at the Riverton Bridge. River contact is intimate, and uphill travel has the advantage of being on the streamside lane. There is a general continuity of riparian vegetation — alders and maple. Conifers predominate to the shady side; oaks predominate to the sunny side. Variations of the stream course are closely followed by road alignment. Summer homes and a few restaurants are along the stream but do not seriously break its continuity. This zone runs for 10 miles, or about 15 minutes.

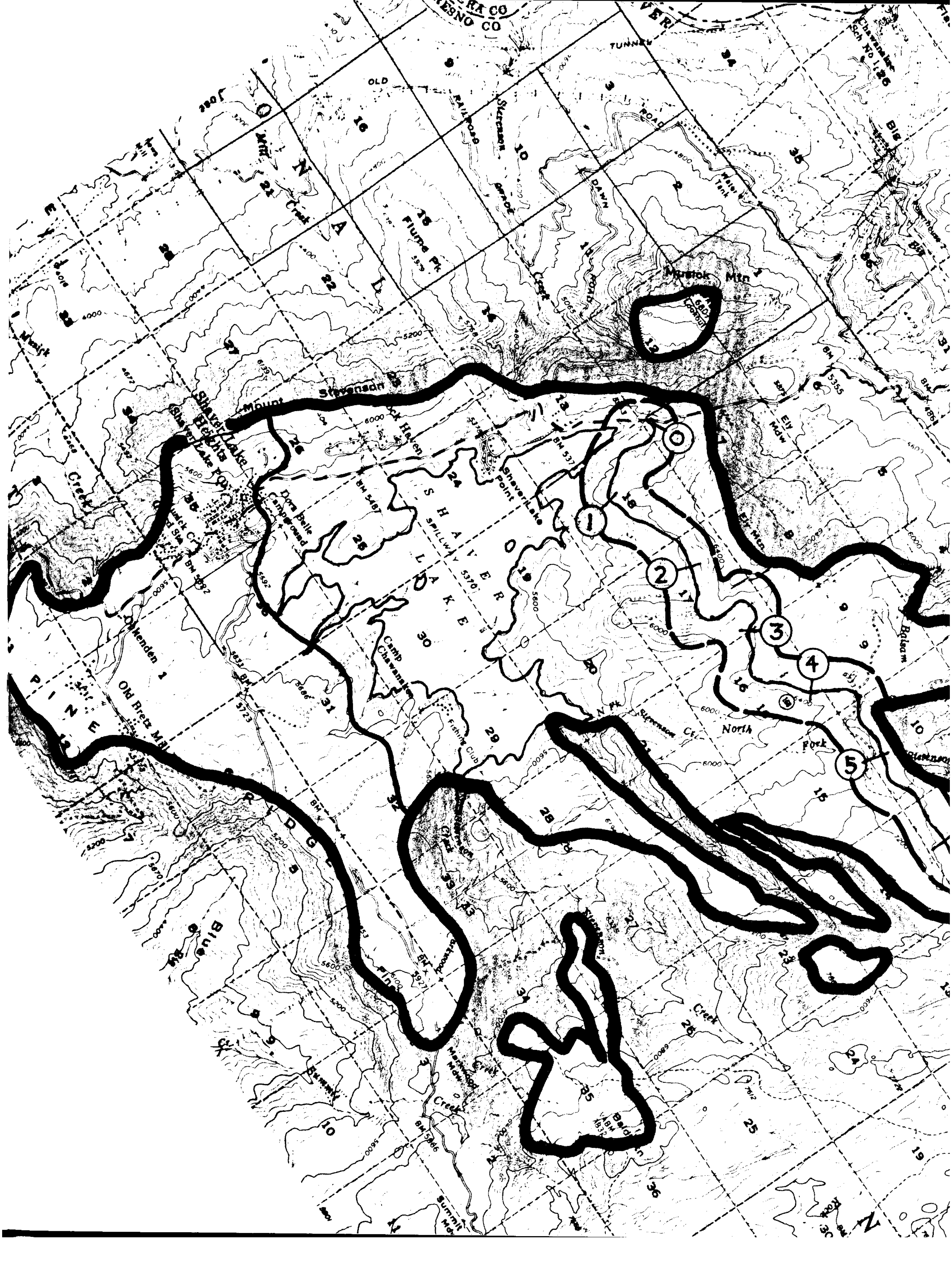
Zone 5. — Sugar Loaf, a rock spire feature, marks departure from stream course contact. Sugar Loaf is visible from about 1/3 mile on either side — if the light is advantageous. This feature is at Kyburz, where there are some scattered buildings and crude handling of the intersection leading to the highway maintenance station. Eagle Rock, a rock cliff feature, is immediately above Kyburz. The cliff marks the beginning of a consistent timber corridor, which runs for 7½ miles, or about 11 minutes.

Zone 6. — Visual contact with the granitic character of the Sierra crest begins as the turn is made above Pyramid Peak Guard Station. This view is an enclosed landscape at Strawberry with a series of inclusions: scattered buildings, Lover's Leap cliff feature, pine corridor with exfoliating dome adjacent, creek crossing at Twin Bridges, and grade ascent on Ralston Peak face. Horse Tail Falls may be seen (with effort) from near grade top, and the enclosed landscape is reiterated from the upper turn and lip of the space. Granitic exposure is marked, reinforced by brushfields and scattered pines. This view is confirmation of the ridge panorama seen from Union Hill — Zone 1. It is clearly a climax at this stage of the route. The zone runs for 4 miles, or about 6 minutes.

Zone 7. — A short transition area at the top of Ralston ridge is marked by an abandoned ski run and subtle awareness of Camp Sacramento. The old ski run suggests a need for better recognition and handling of such facilities for off-season appearance. This zone runs for about a mile, or 1½ minutes.

Zone 8. — An ecological change is manifested in this zone as a fir-lodgepole pine corridor. There is close contact with the forest stand and some sense of canopy closure. One blatant sign intrusion is encountered. The zone runs for 4½ miles, or 7 minutes.

Zone 9. — Emergence from the fir-pine channel brings travelers to the Meyers Grade climax panorama of the Tahoe basin. Outward views north are long — over Lake Tahoe, middle distance views to east and south into the local space of Lake Valley and its defining ridges. Some signs of the South Shore clutter are evident but not yet acute because of the distance. The descent, and northerly oriented attitude into the basin, runs 5 to 6 miles, or 8 to 10 minutes.



SHAVER LAKE
Mount Stevenson
Musick Mtn
Dora Belle Campground
Camp Chawanakee
Shaver Lake Point
SPILLWAY 5370
Fishing Club
Old Bretz Mill
North Fork
Stevenson Cr
PINE RIDGE
Flume Pk
TUNNEL
OLD RAILROAD
ROAD
Water Tank
Ely Mdw
Balsam
Creek
0
1
2
3
4
5

Huntington Lake Game Refuge
HUNTINGTON LAKE
GAME REFUGE
Mushroom Rock
Big Creek
Canyon
Camp Sierra
Kaiser Ridge
Nellie Lake
Boneyard Meadow
Tamarack Meadow
Cutts Meadow
Strawberry Lake
Cedar Creek
Boy Scout Camp
TUNNEL

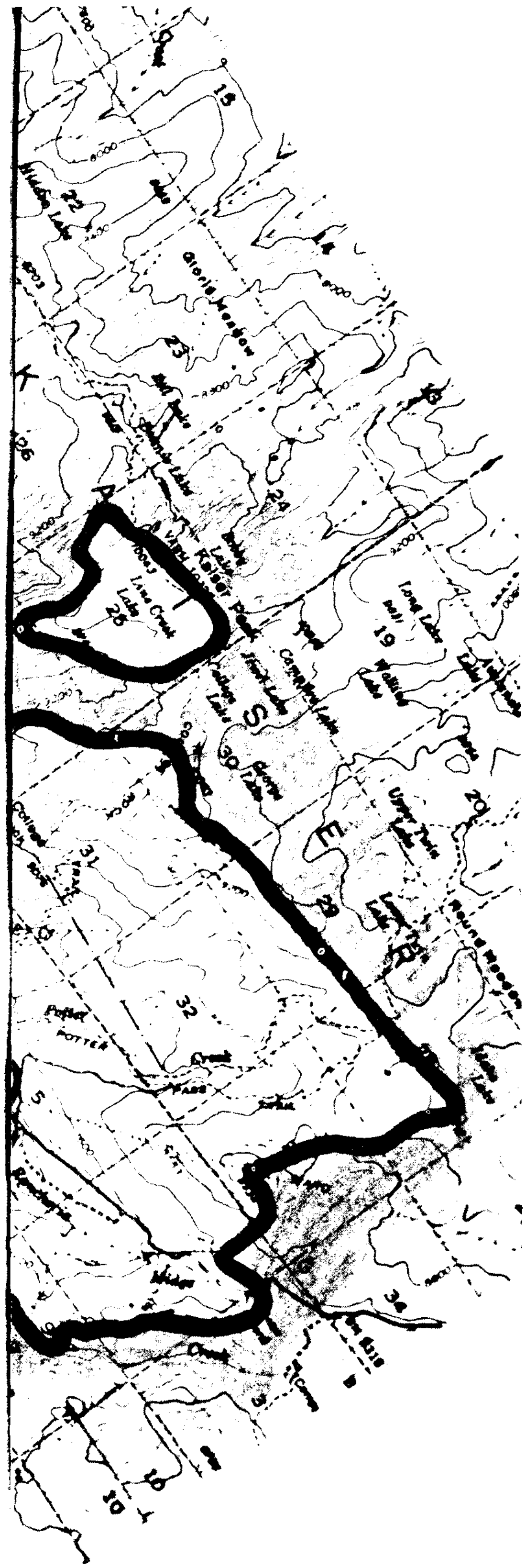


FIGURE 50

LANDSCAPE INVENTORY VISUAL CORRIDOR

SIERRA NATIONAL FOREST SEGMENT, HWY. 168
BETWEEN SHAVER LAKE & HUNTINGTON LAKE, CALIF.

NORTH

0 ½ 1 2 3 MILES

SCALE

LEGEND:

MILEAGE MARKS

FOREGROUND BOUNDARY (¼ MI. FROM ROAD)

MIDDLEGROUND BOUNDARY (3 MI. FROM ROAD)

VISUAL CORRIDOR BOUNDARY

AREAS:

FOREGROUND (WITHIN ¼ MILE OF ROAD)
5150 AC.

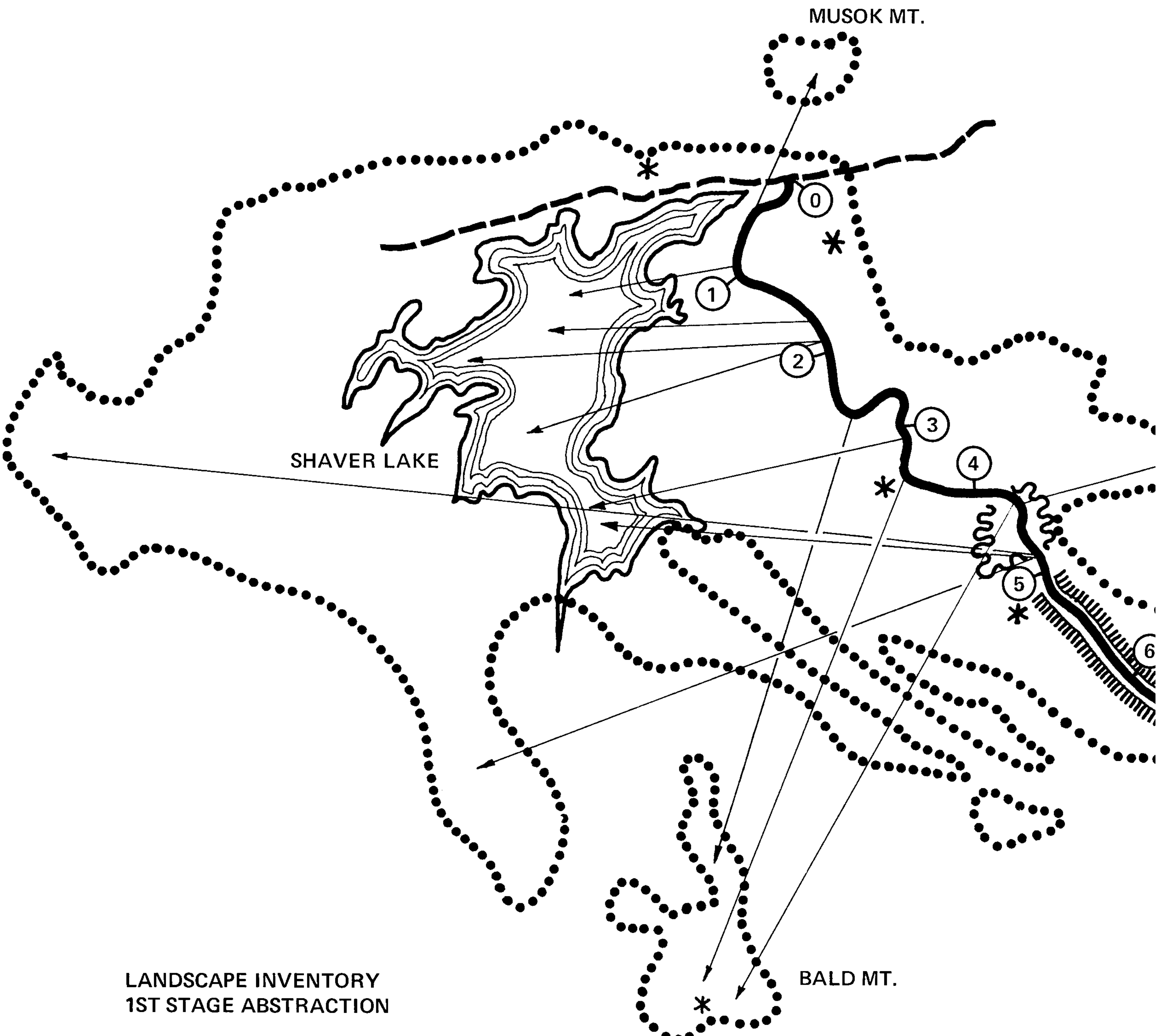
MIDDLEGROUND (BETWEEN ¼ & 3 MILES FROM ROAD)
22540 AC.

BACKGROUND (OVER 3 MILES FROM ROAD)
6520 AC.

WATER AREAS 3320 AC.
HUNTINGTON LAKE 1270 AC.
SHAVER LAKE 2050 AC.

TOTAL AREA, 37,530 ACRES

BASE MAP SOURCE: USGS, 7½ MINUTE SERIES



LANDSCAPE INVENTORY
1ST STAGE ABSTRACTION

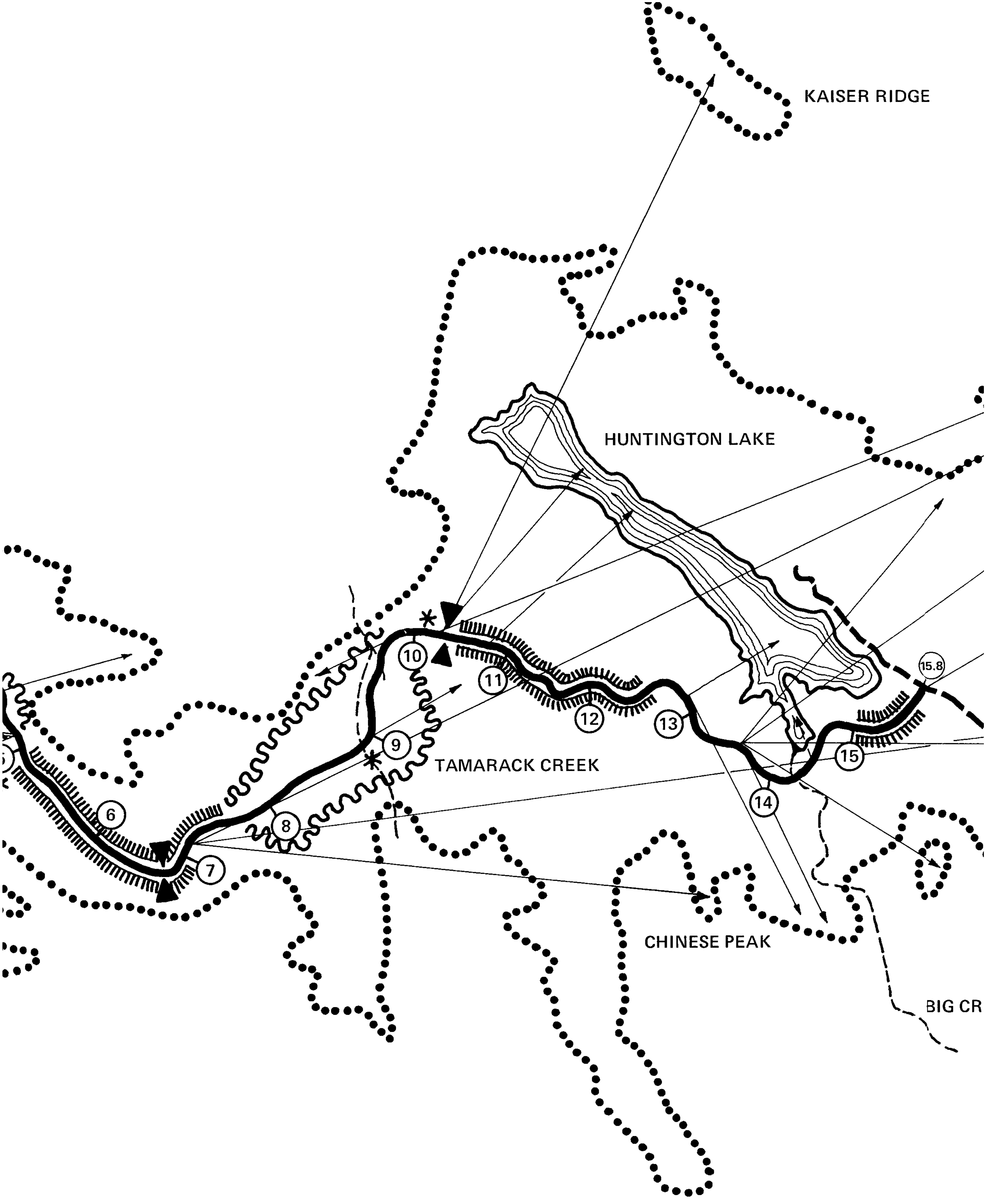
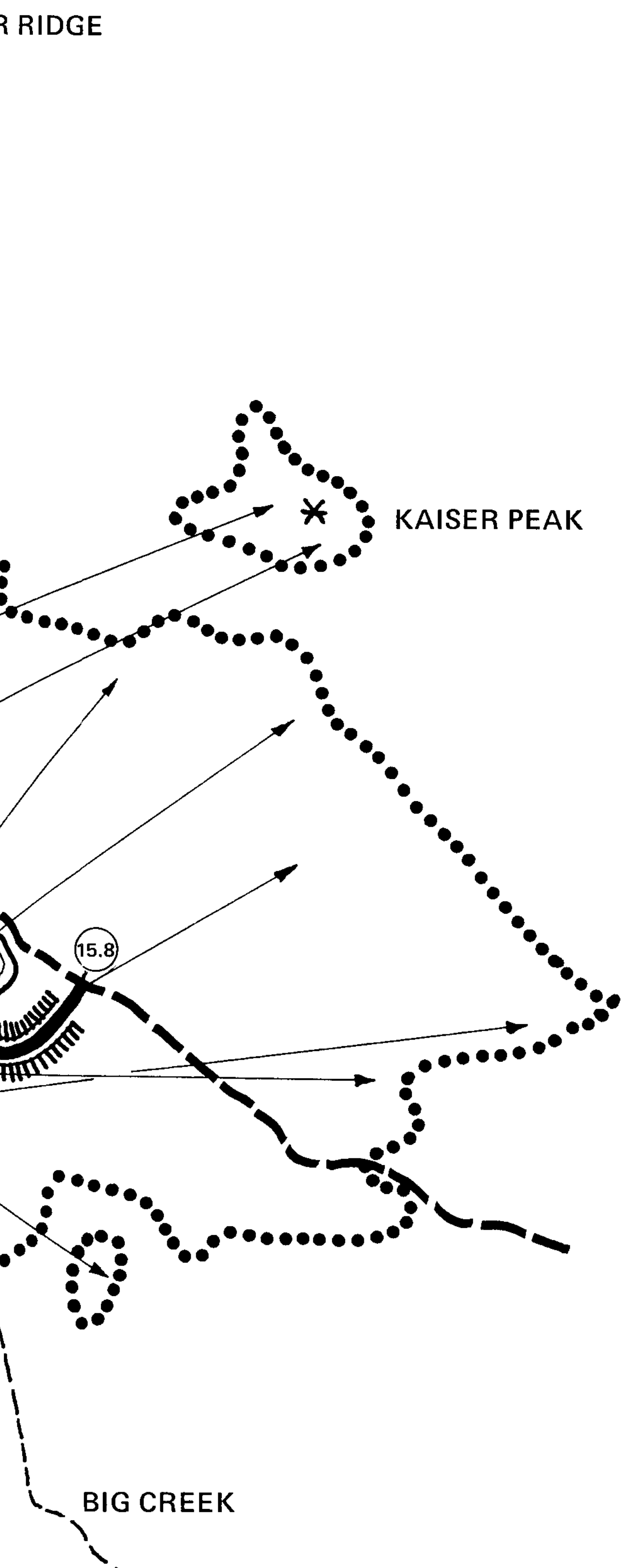

KAISER RIDGE
HUNTINGTON LAKE
TAMARACK CREEK
CHINESE PEAK
BIG CR
6
7
8
9
10
11
12
13
14
15
15.8

FIGURE 51

LANDSCAPE INVENTORY

1ST STAGE ABSTRACTION
SIERRA NATIONAL FOREST SEGMENT, HWY. 168
BETWEEN SHAVER LAKE & HUNTINGTON LAKE, CALIF.



NORTH

0 ½ 1 2 3 MILES

SCALE

LEGEND:

MILEAGE MARKS

ROAD SUMMIT

LINE OF SIGHT

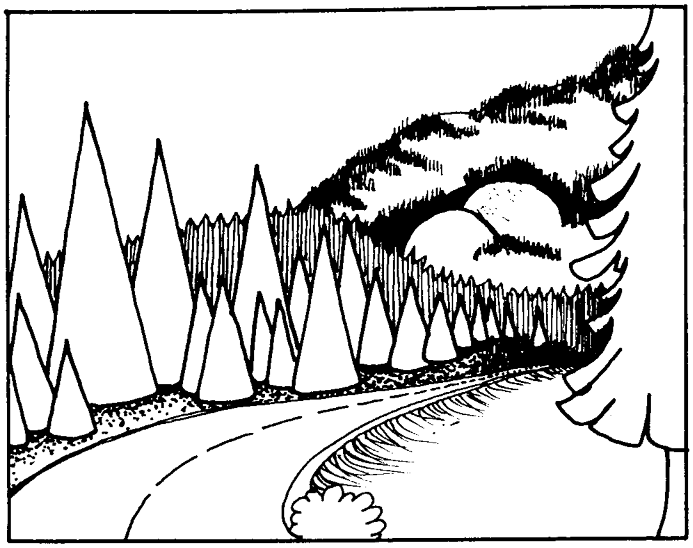
FEATURE (DOMINATED) LANDSCAPE

ENCLOSED LANDSCAPE (SPACE)

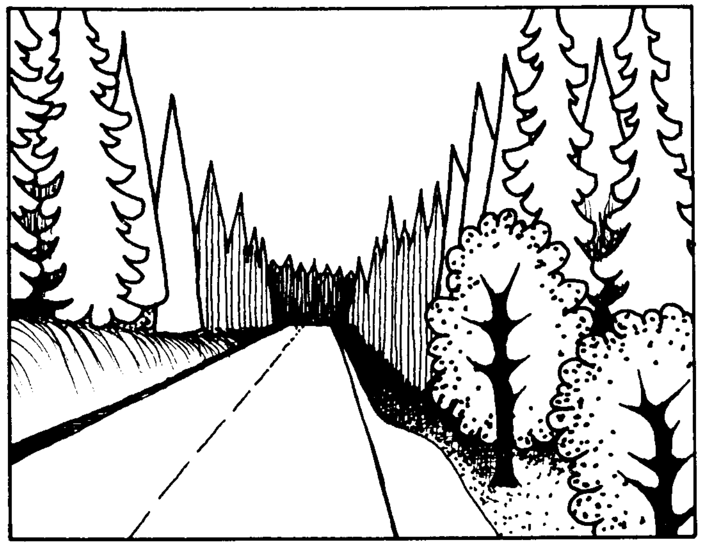
FOCAL LANDSCAPE; CONIFER CORRIDOR

BOUNDARY OF VISUAL CORRIDOR

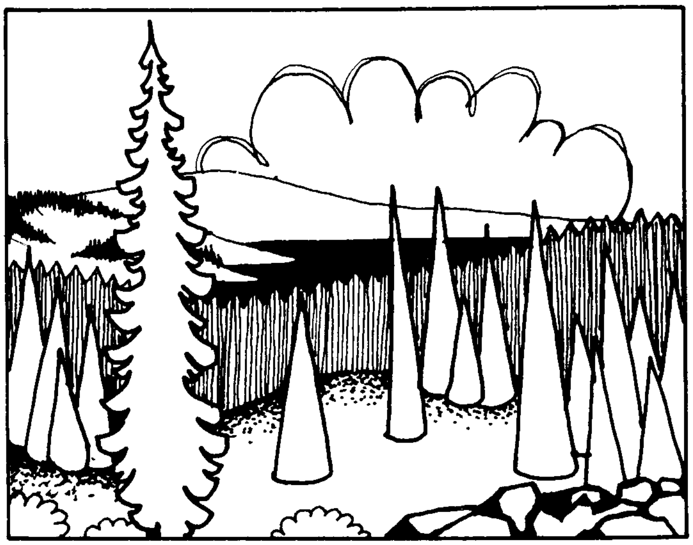
FIGURE 52 **LANDSCAPE INVENTORY, FIRST STAGE ABS**



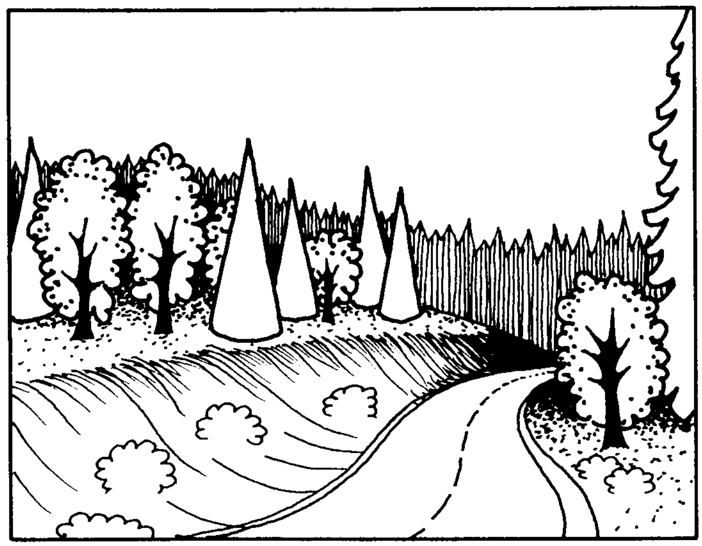
0.01 MI. FEATURE LANDSCAPE
ELY MT. DOMES – MG.



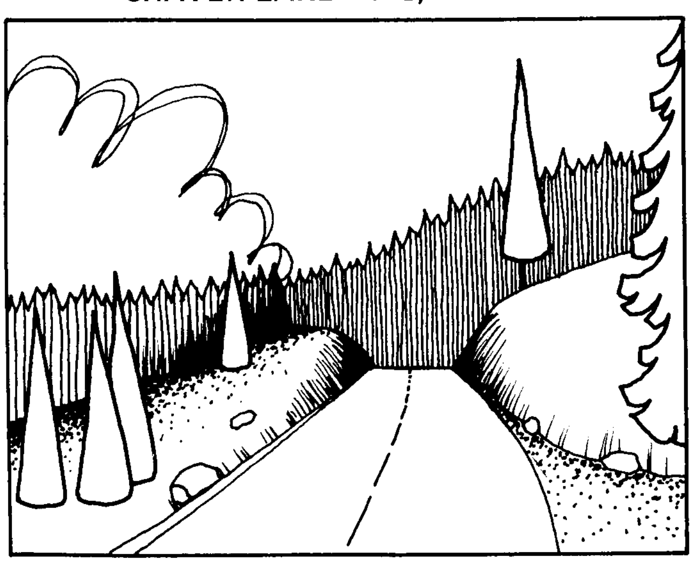
0.5 MI. FOCAL LANDSCAPE
MIXED CONIFER CORRIDOR – FG.



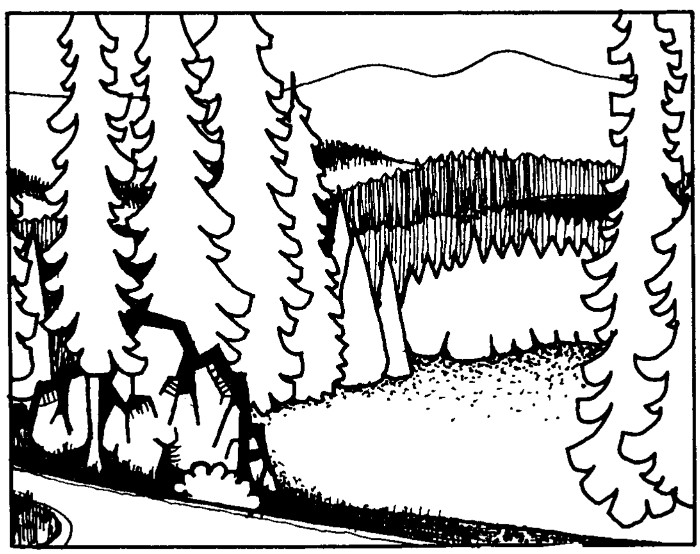
4.4 MI. PANORAMA, (FEATURE)
SHAVER LAKE – MG, PINE RIDGE – BG.



4.6 MI. ENCLOSED LANDSCAPE
BLACK OAKS – FG.

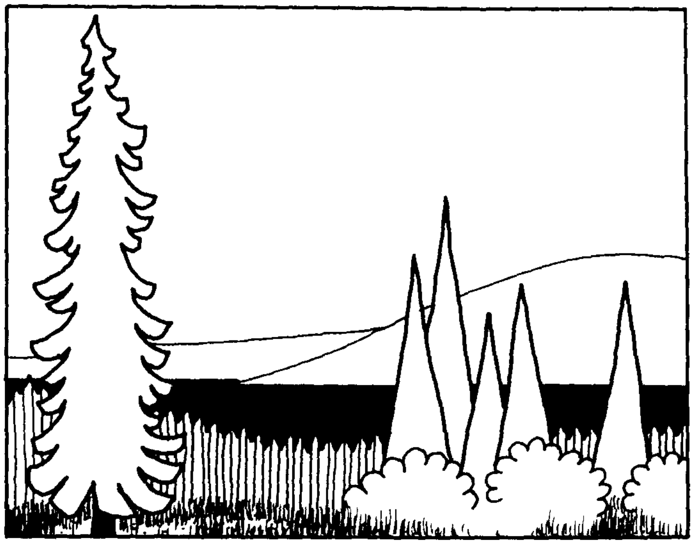


9.0 MI. FOCAL LANDSCAPE (ENCLOSED)
RED FIR – MG.

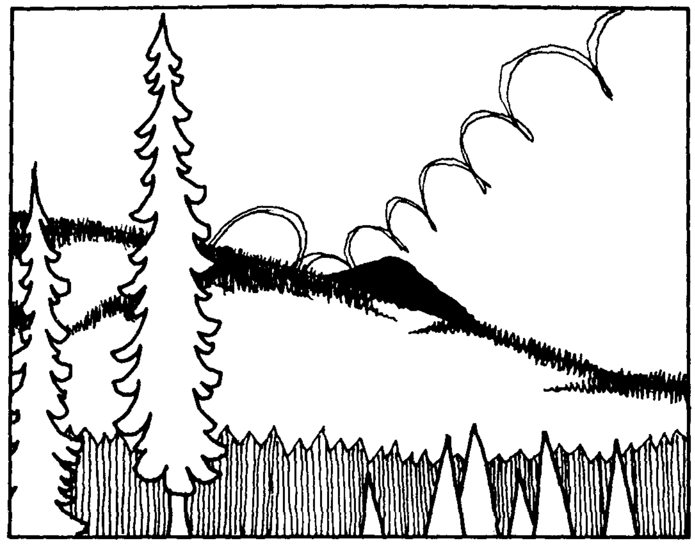


10.1 MI. FEATURE LANDSCAPE
HUNTINGTON LAKE – MG,
KAISER RIDGE – BG.

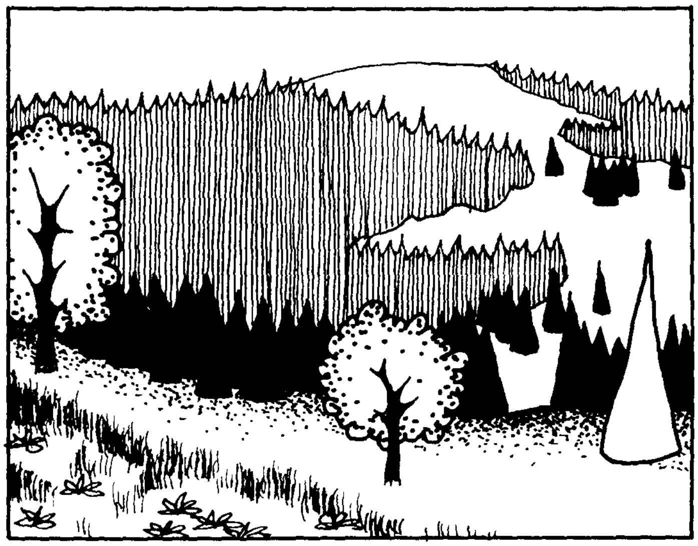
STRACTION, NO. 2, SIERRA NATIONAL FOREST SEGMENT. MILEAGES REFER TO D



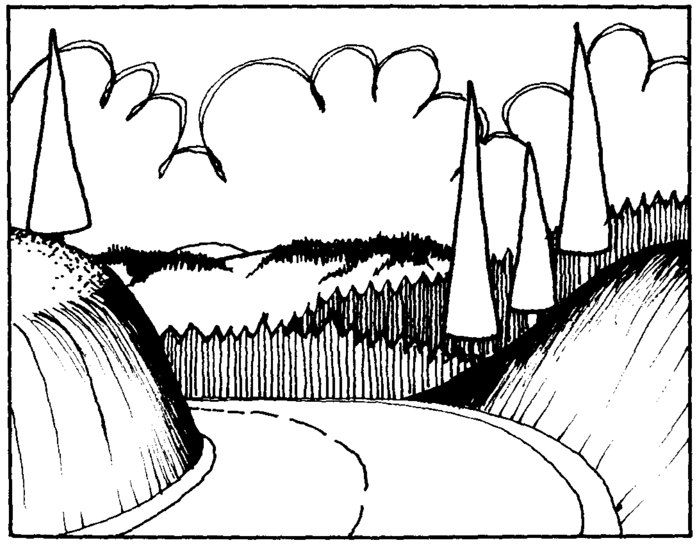
2.0 MI. FEATURE LANDS. (ENCLOSED)
SHAVER LAKE – MG.



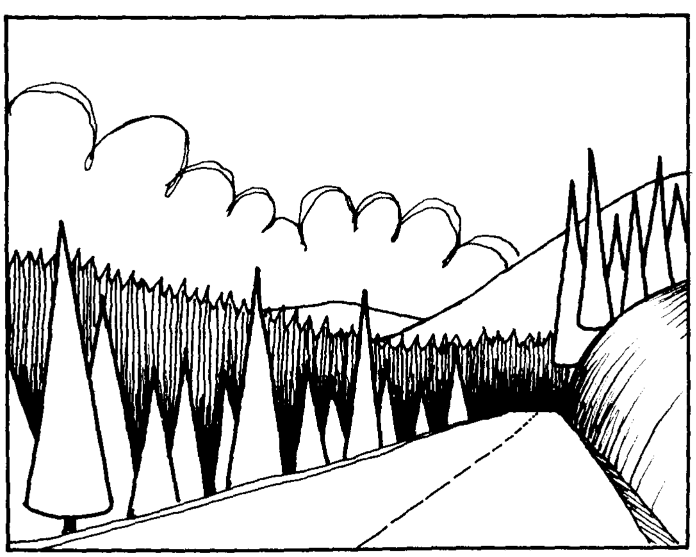
3.2 MI. FEATURE LANDSCAPE
BALD MT. – GRANITE EXPOSURE – BG.



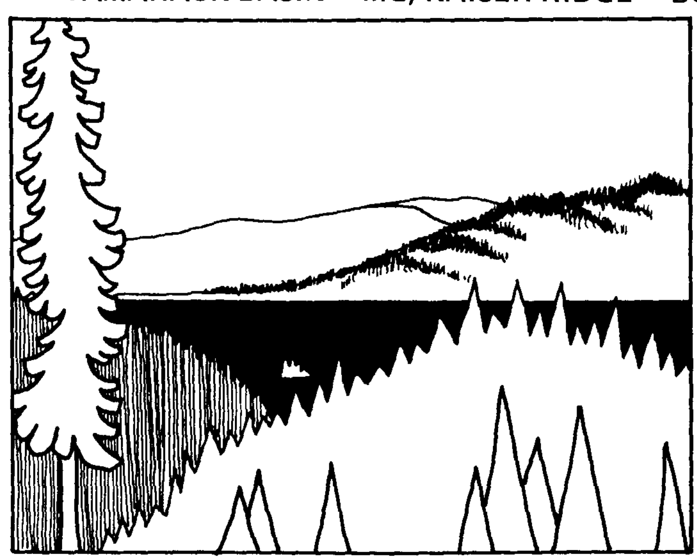
4.8 MI. FEATURE LANDSCAPE
GRANITE DOME – MG



6.8 MI. ENCLOSED LANDSCAPE
TAMARACK BASIN – MG, KAISER RIDGE – BG.



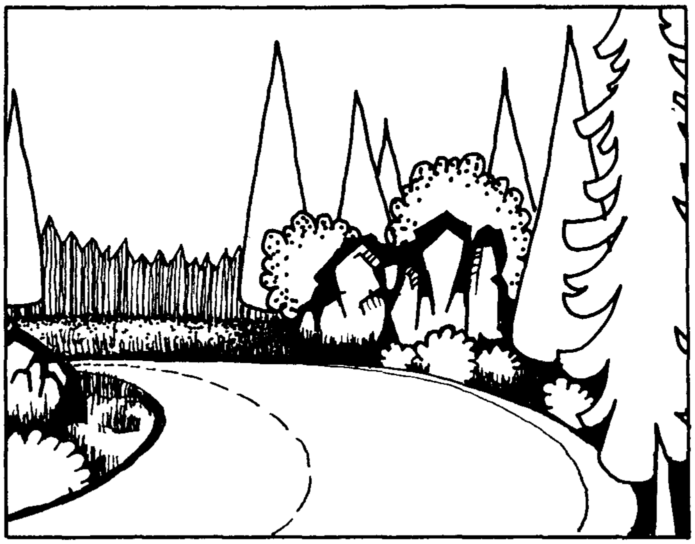
12.6 MI. FOCAL LANDSCAPE
RED FIR CORRIDOR – MG.



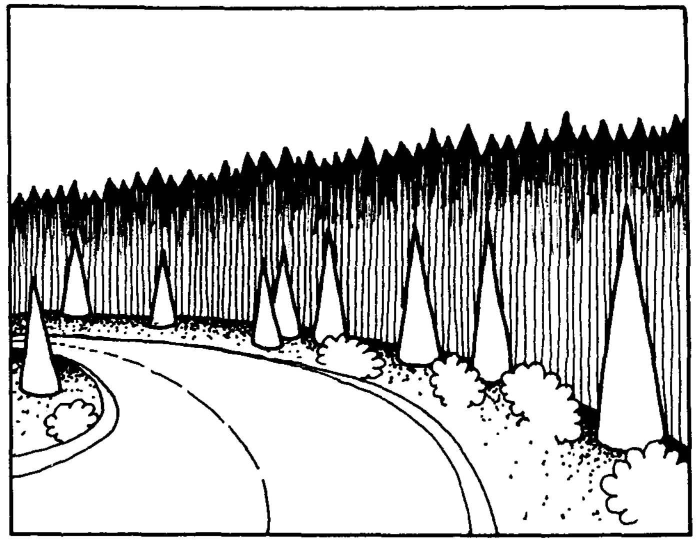
12.9 MI. ENCL. LANDS. (FEATURE)
HUNTINGTON LAKE – MG,
KAISER RIDGE – BG.

DISTANCE ALONG ROAD IN FIGURE 51.

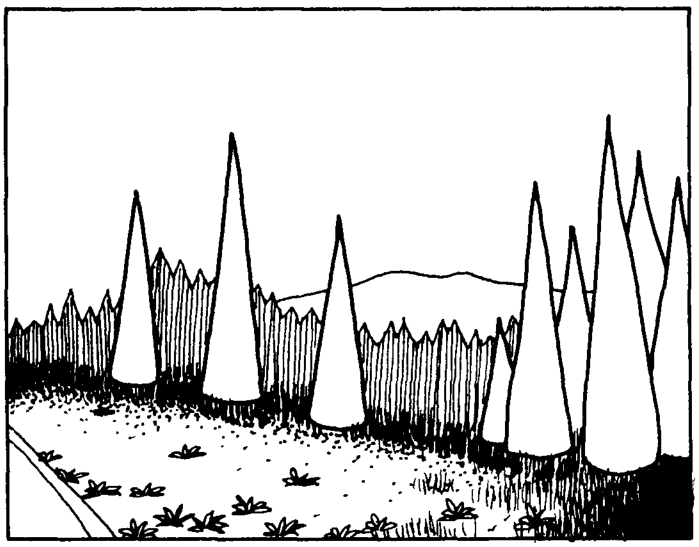
FG = FOREGROUND
MG = MIDDLEGROUND, BG = BACKGROUND



3.4 MI. FEATURE LANDSCAPE
ERRATIC BOULDERS – FG.

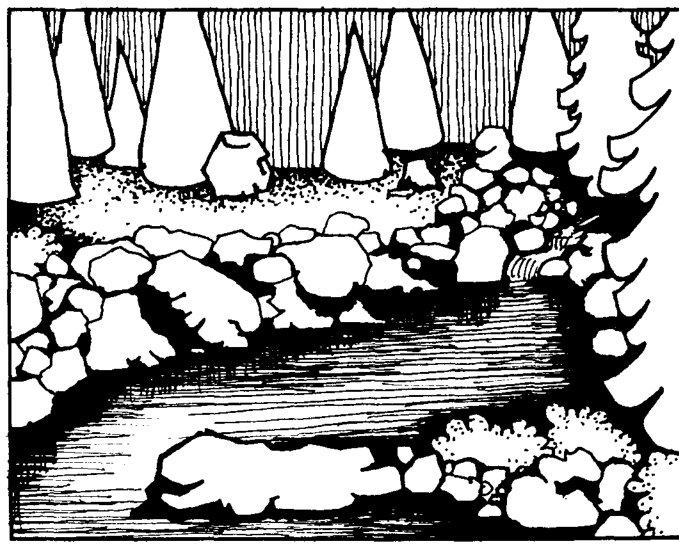


3.8 MI. ENCLOSED LANDSCAPE
MIXED CONIFERS – MG.

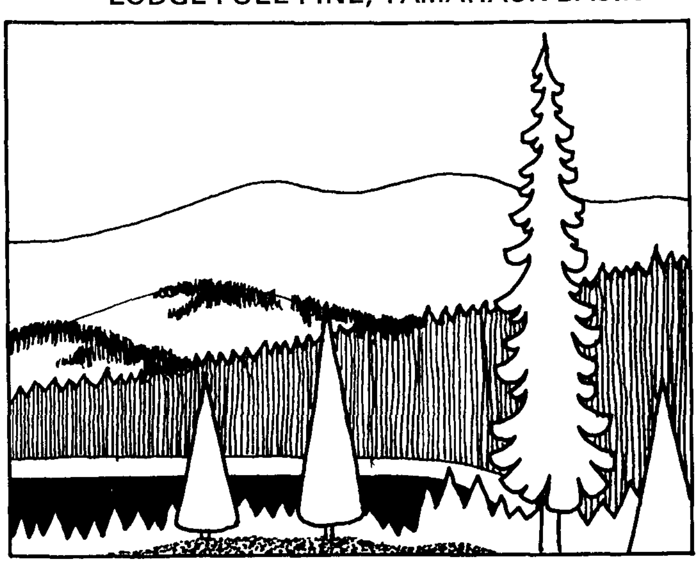


7.0 MI. ENCLOSED LANDSCAPE
LODGE POLE PINE, TAMARACK BASIN – MG.

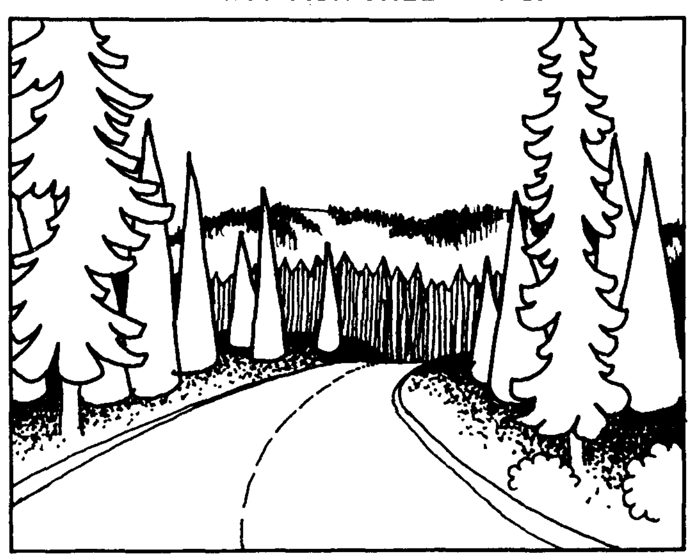
G.



8.8 MI. FEATURE LANDSCAPE
TAMARACK CREEK – FG.



13.5 MI. ENCLOSED LANDSCAPE (FEATURE)
HUNTINGTON LAKE – MG.



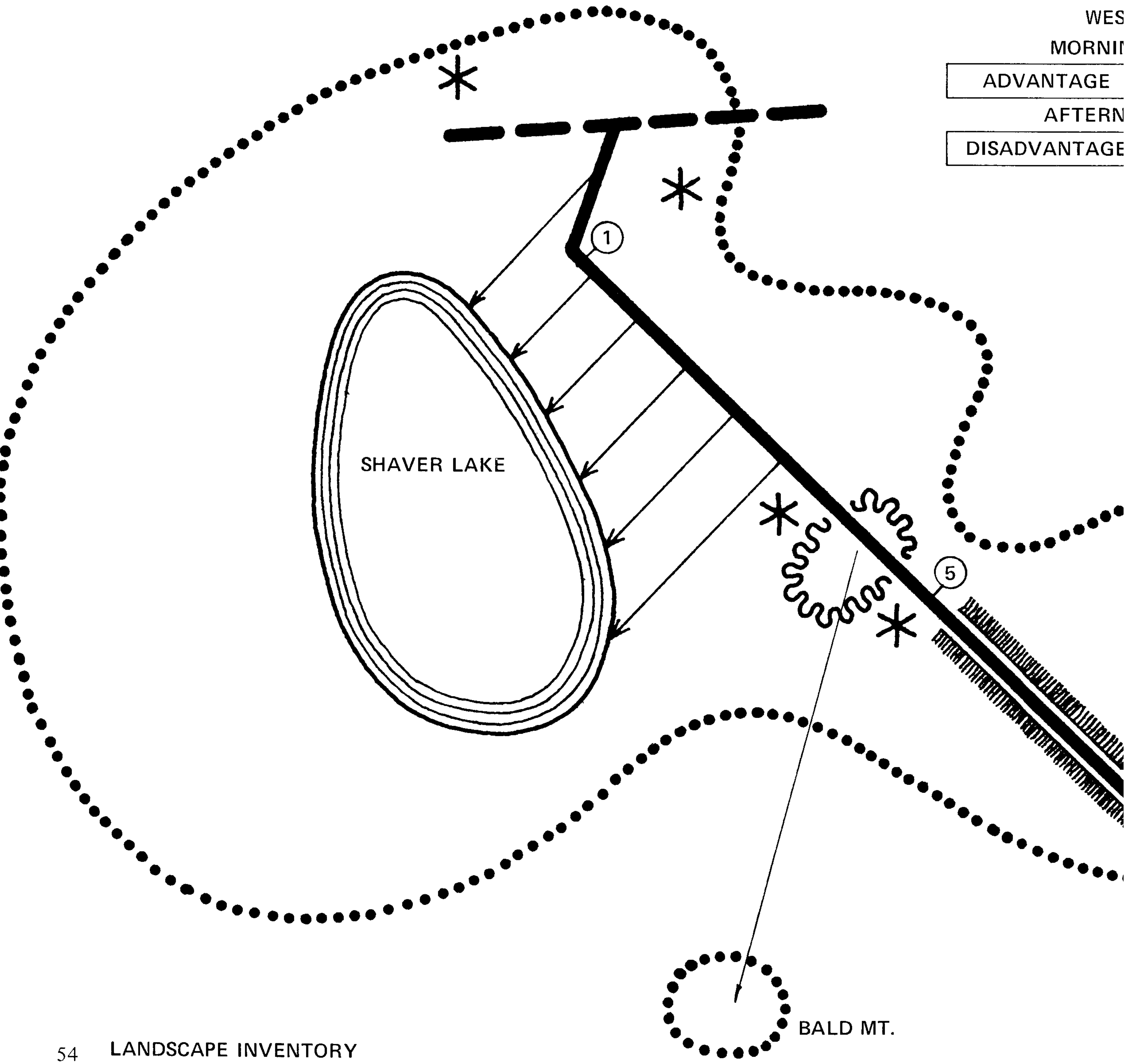
15.6 MI. ENCLOSED LANDSCAPE
LOW RIDGE – MG.

ORIENTATION OF SUN TO

ORIENTATION CONDITION:
RELATIVE TO OBSERVER & LANDSCAPE LIGHTING:
ADVANTAGE: SUN BEHIND OBSERVER, SUN SCREENED,
LANDSCAPE SIDE OR FRONT LIT
DISADVANTAGE: SUN IN FRONT OF OBSERVER, OPEN SUN,
LANDSCAPE BACK LIT

EAS
MORNI
DISADVANTAGE
AFTERN
ADVANTAGE

WES
MORNI
ADVANTAGE
AFTERN
DISADVANTAGE



 LANDSCAPE INVENTORY
2ND STAGE ABSTRACTION

F SUN TO ROAD – (MAY 22 & JULY 22)

EASTBOUND

MORNING (10 A.M.)

ADVANTAGE	ADVANTAGE

AFTERNOON (2 P.M.)

DVANTAGE	ADVANTAGE

WESTBOUND

MORNING (10 A.M.)

DVANTAGE	ADVANTAGE

AFTERNOON (2 P.M.)

ADVANTAGE	DISADVANTAGE

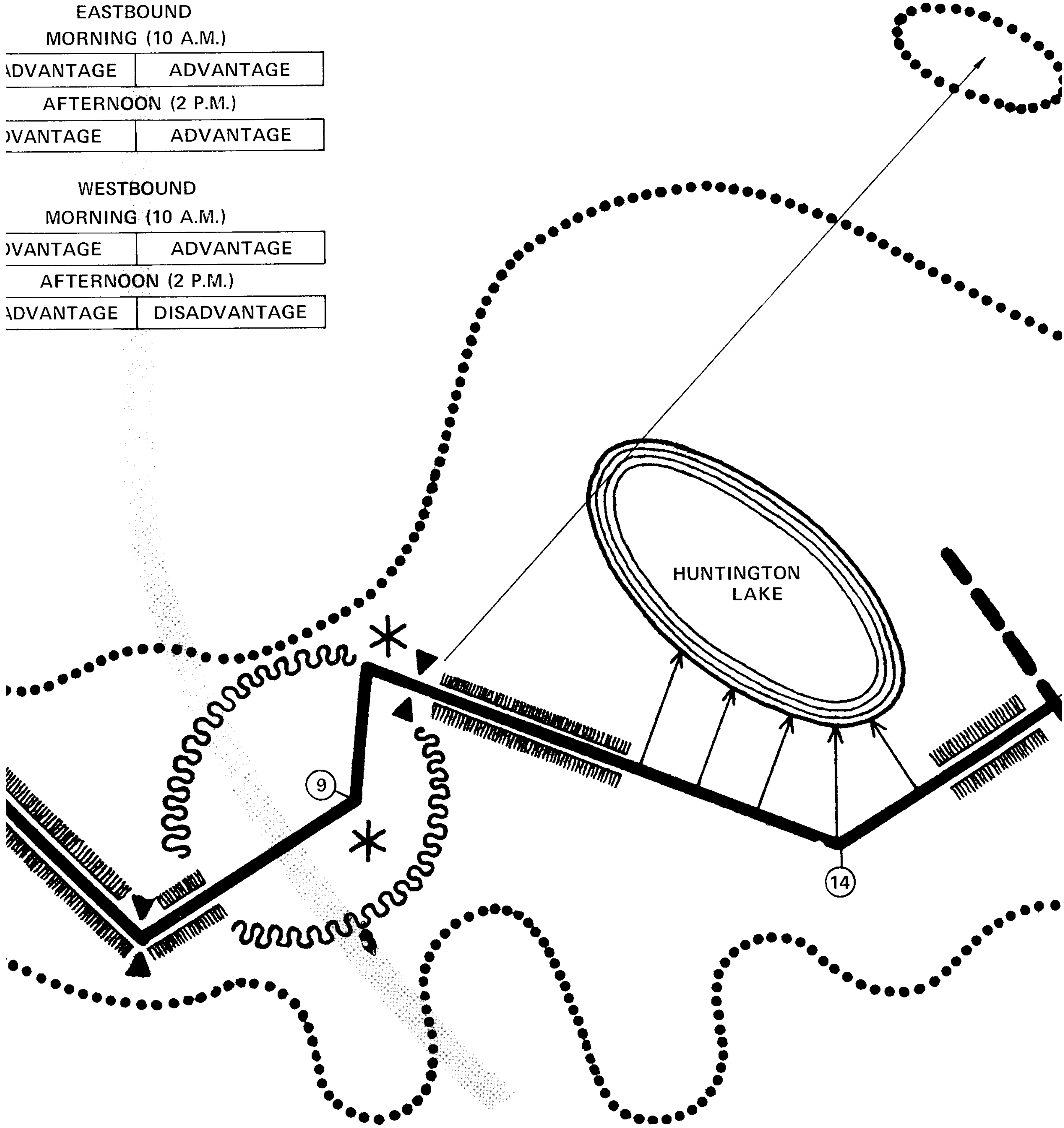
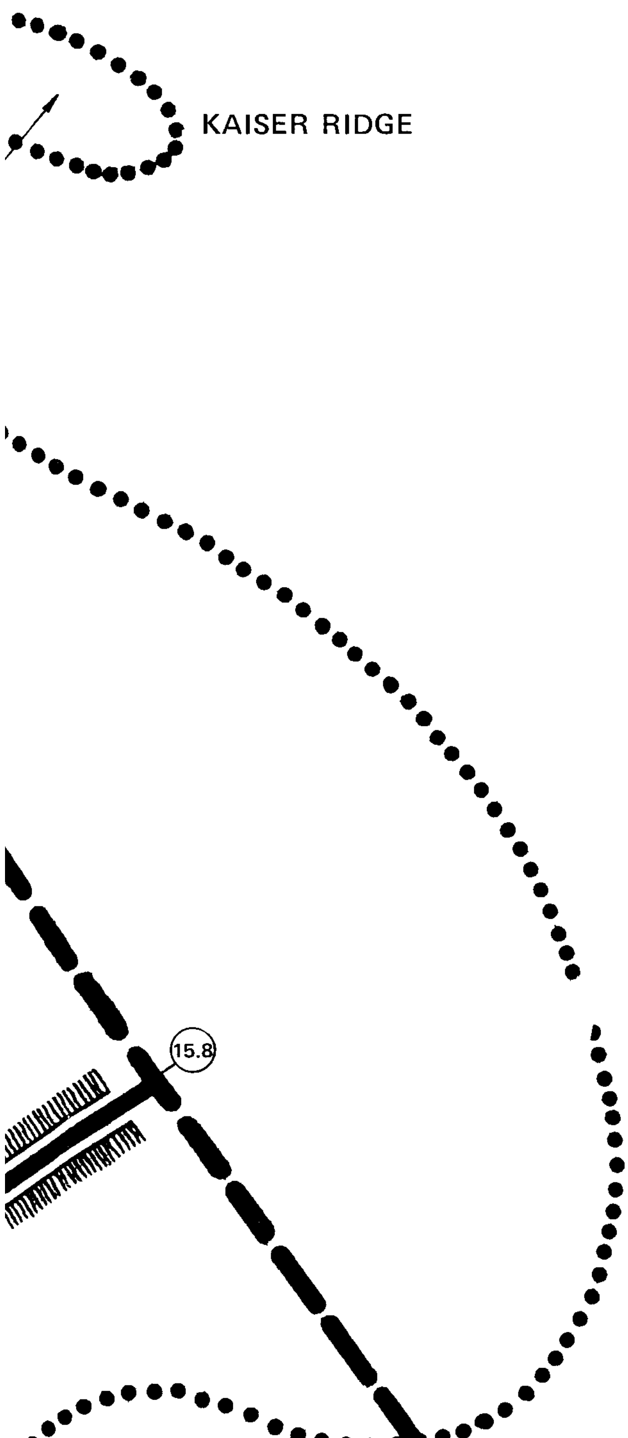
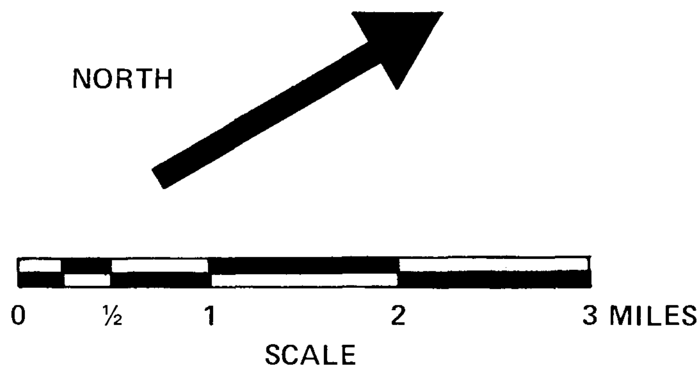


FIGURE 53

LANDSCAPE INVENTORY

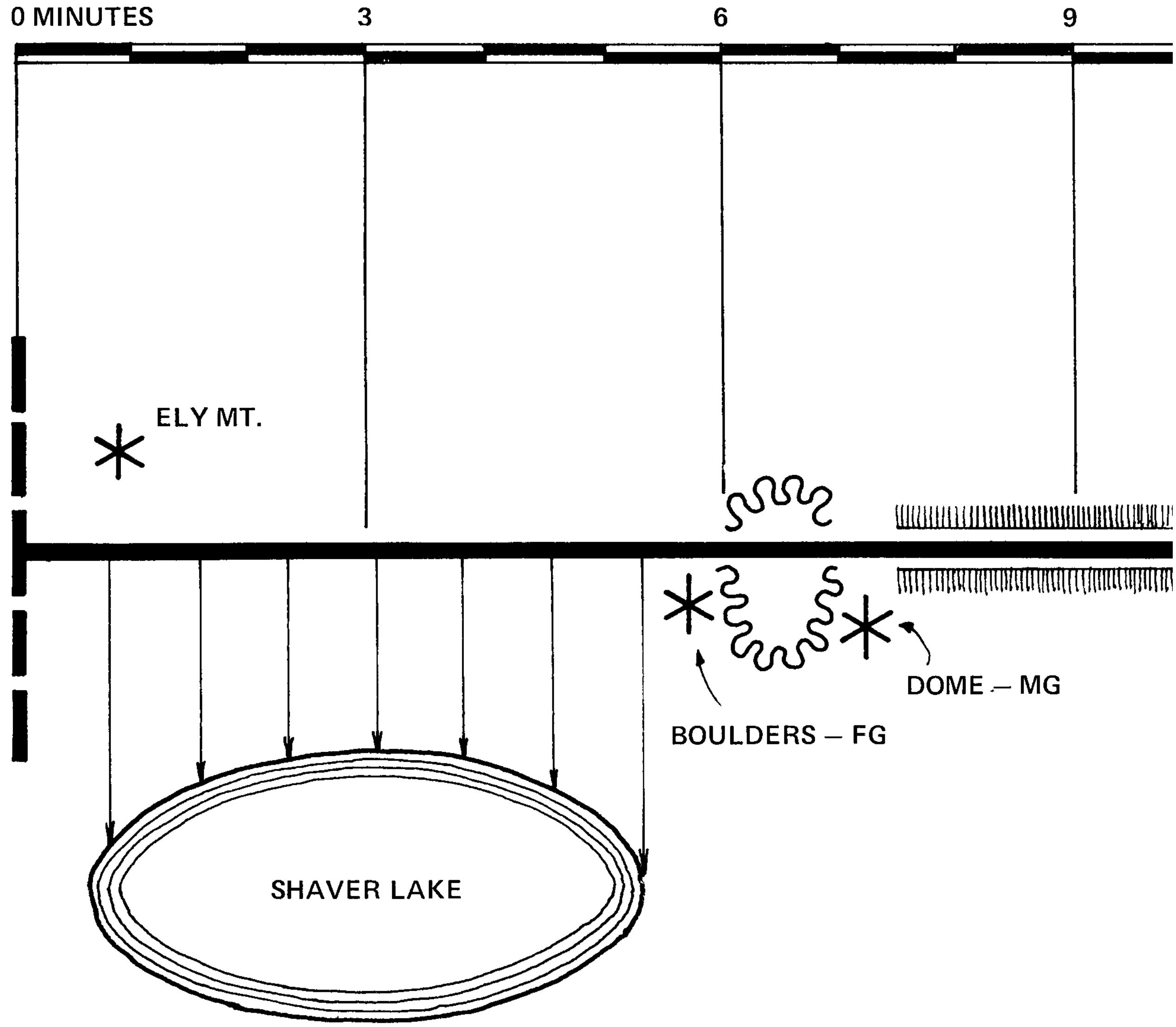
2ND STAGE ABSTRACTION ROUTE & SUN ORIENTATION
SIERRA NATIONAL FOREST SEGMENT, HWY 168
BETWEEN SHAVER LAKE & HUNTINGTON LAKE, CALIF.

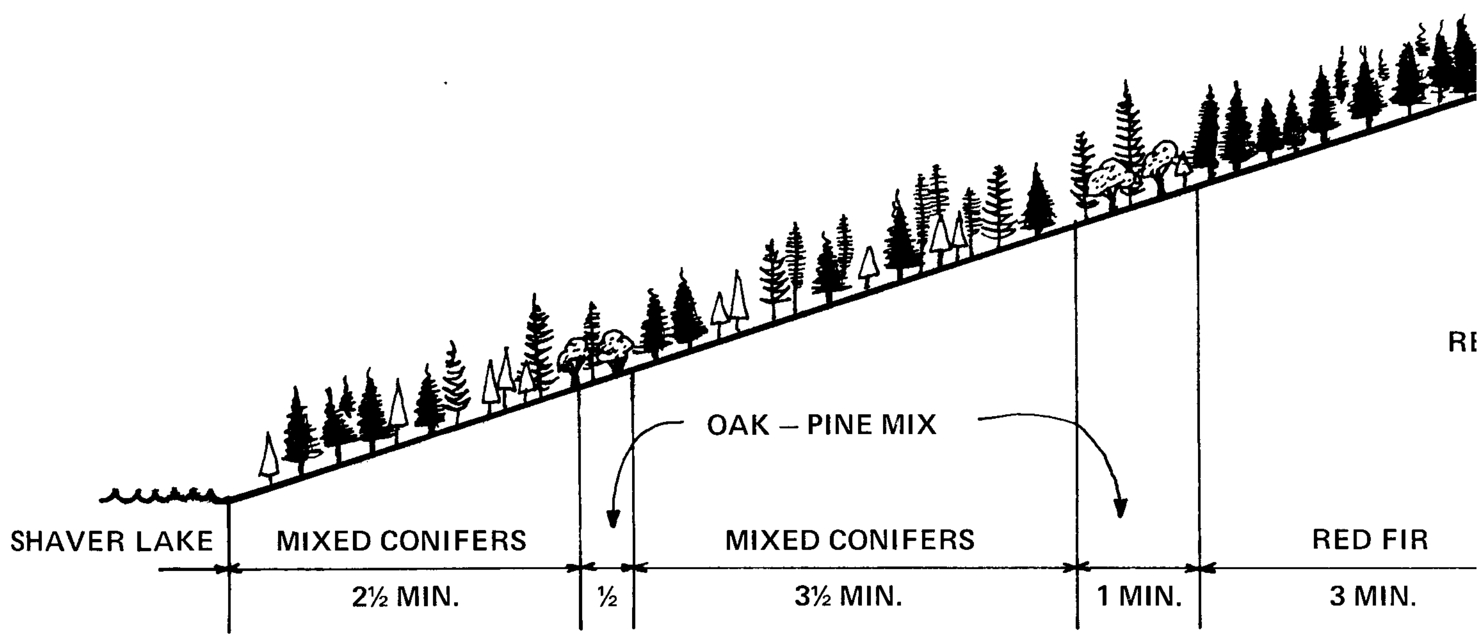


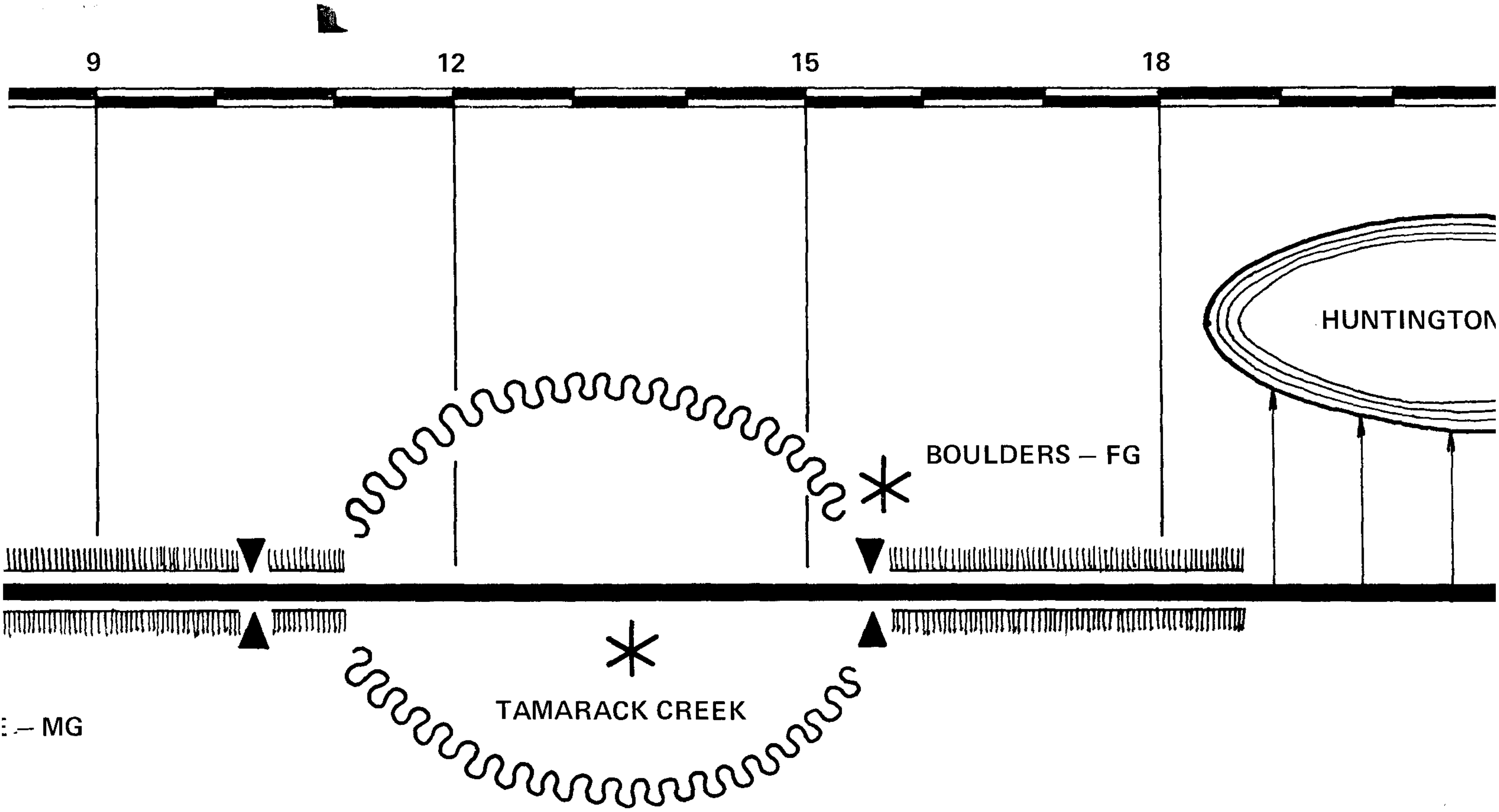


LEGEND:

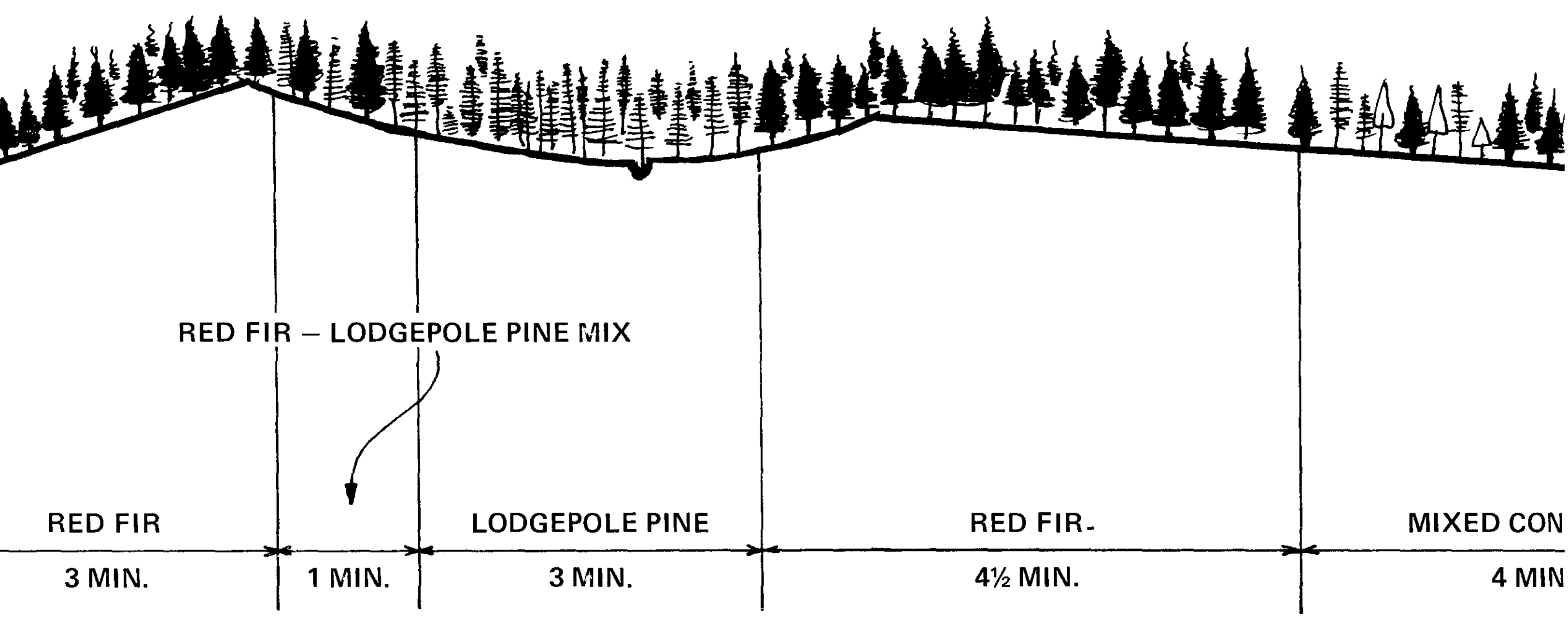
- MILEAGE MARKS
- ROAD SUMMIT
- LINE OF SIGHT, SIGHTING
- FEATURE (DOMINATED) LANDSCAPE
- ENCLOSED LANDSCAPE (SPACE)
- FOCAL LANDSCAPE; CONIFER CORRIDOR
- BOUNDARY OF VISUAL CORRIDOR


0 MINUTES
3
6
9
ELY MT.
DOME – MG
BOULDERS – FG
SHAVER LAKE


RE
OAK – PINE MIX
SHAVER LAKE
MIXED CONIFERS
MIXED CONIFERS
RED FIR
2½ MIN.
½
3½ MIN.
1 MIN.
3 MIN.



9
12
15
18
HUNTINGTON
BOULDERS – FG
TAMARACK CREEK
– MG



RED FIR – LODGEPOLE PINE MIX
RED FIR
LODGEPOLE PINE
RED FIR
MIXED CON
3 MIN.
1 MIN.
3 MIN.
4½ MIN.
4 MIN

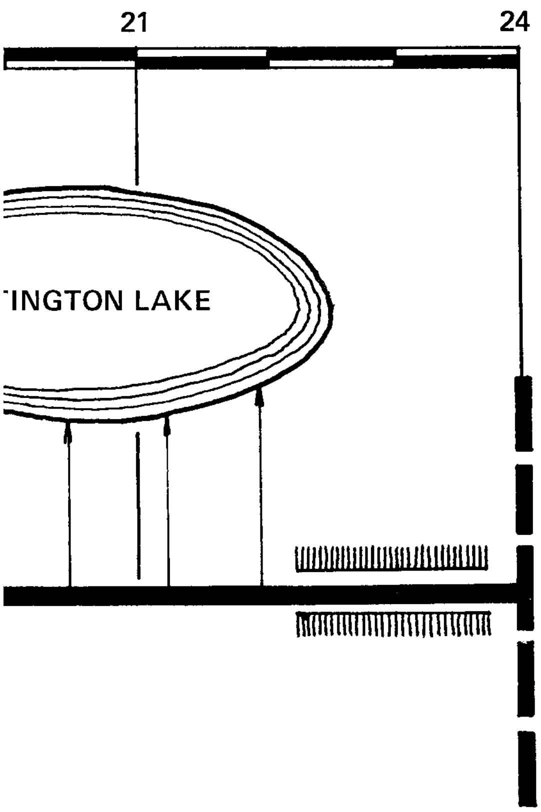
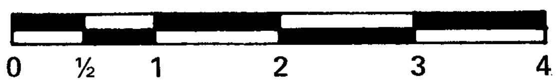


FIGURE 54

LANDSCAPE INVENTORY

3RD STAGE ABSTRACTION TIME & PROFILE LAYOUT
SIERRA NATIONAL FOREST SEGMENT, HWY 168
BETWEEN SHAVER LAKE & HUNTINGTON LAKE, CALIF



SCALE IN MINUTES; BASED ON
SPEED OF 40 MILES PER HOUR

PLAN LEGEND:

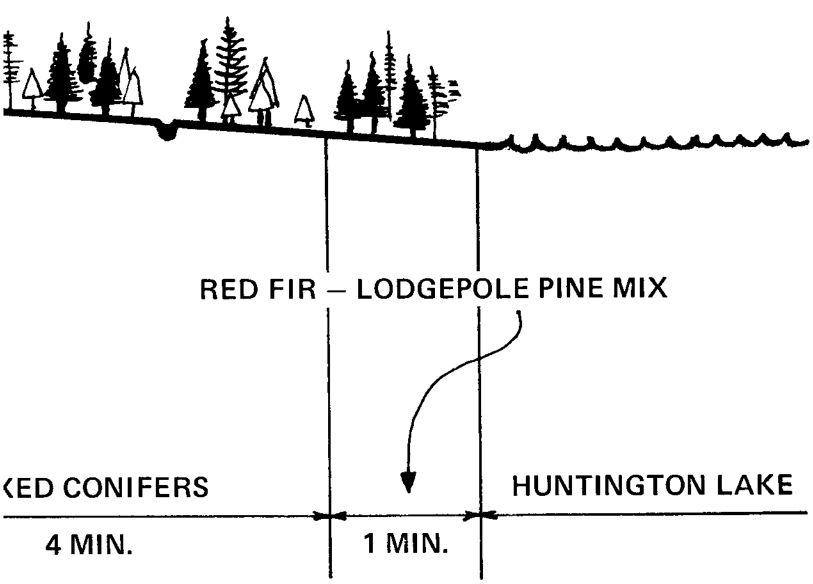
LINE OF SIGHT

ROAD SUMMIT

FOCAL LANDSCAPE; CONIFER CORRIDOR

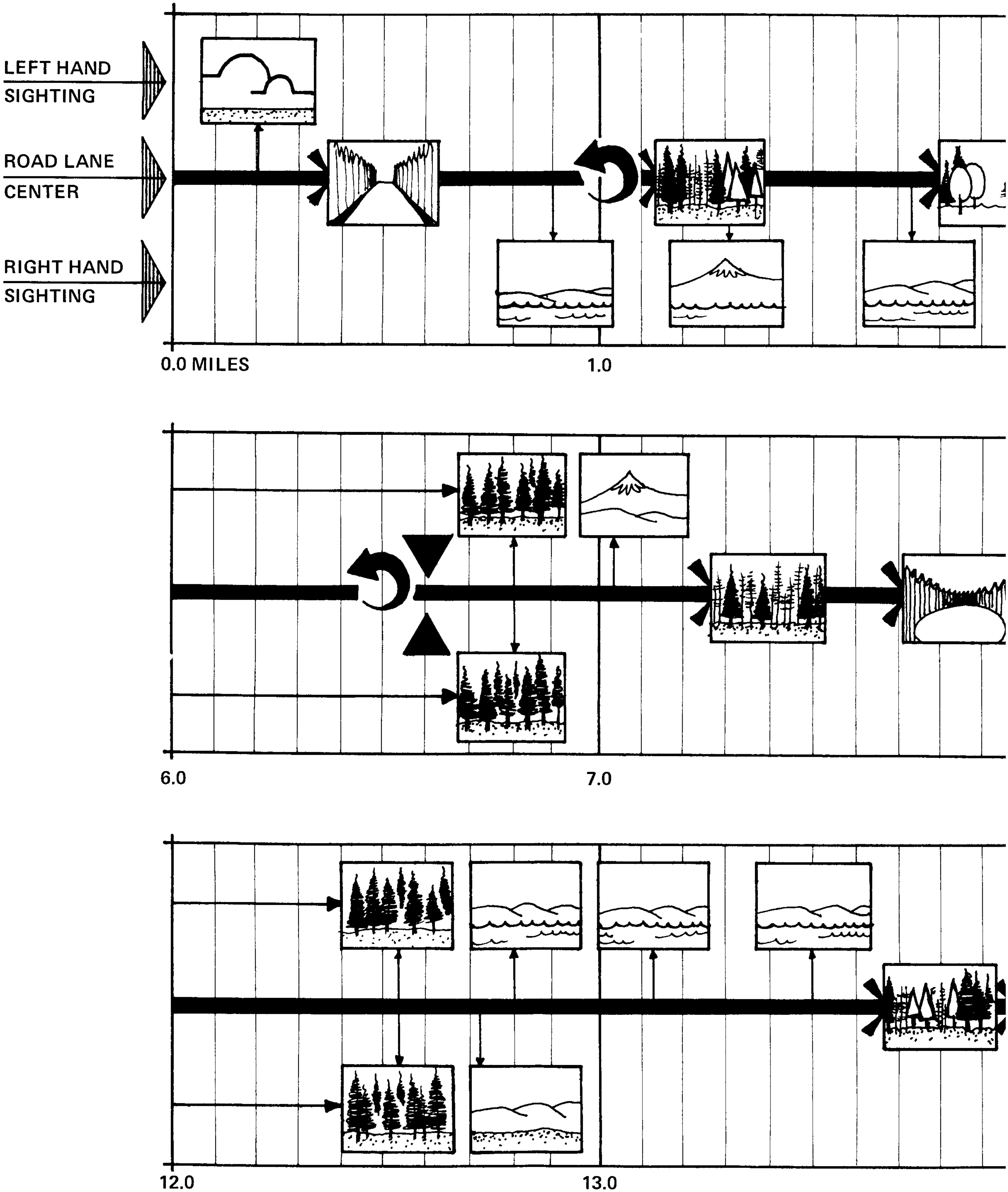
FEATURE (DOMINATED) LANDSCAPE

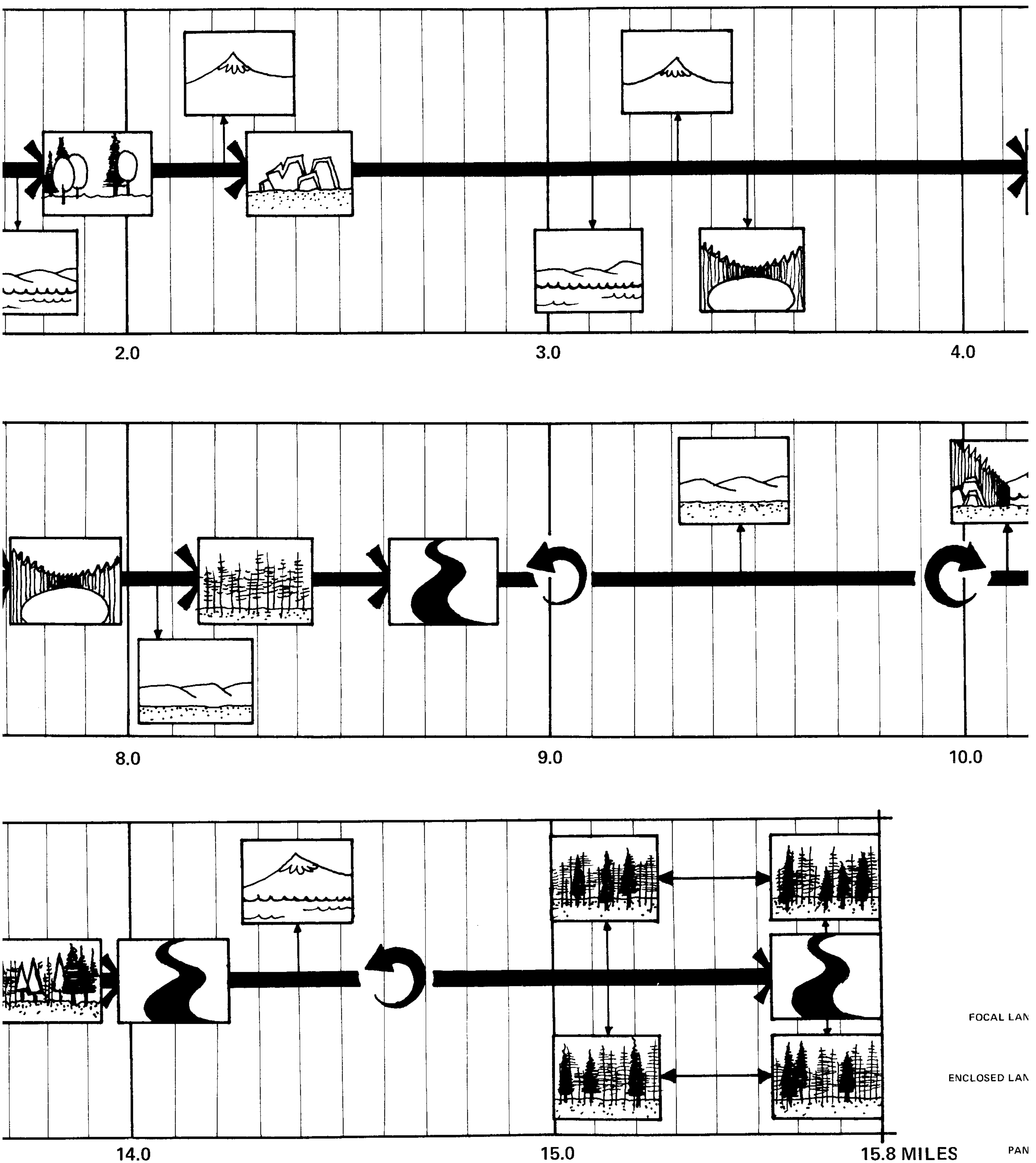
ENCLOSED LANDSCAPE (SPACE)



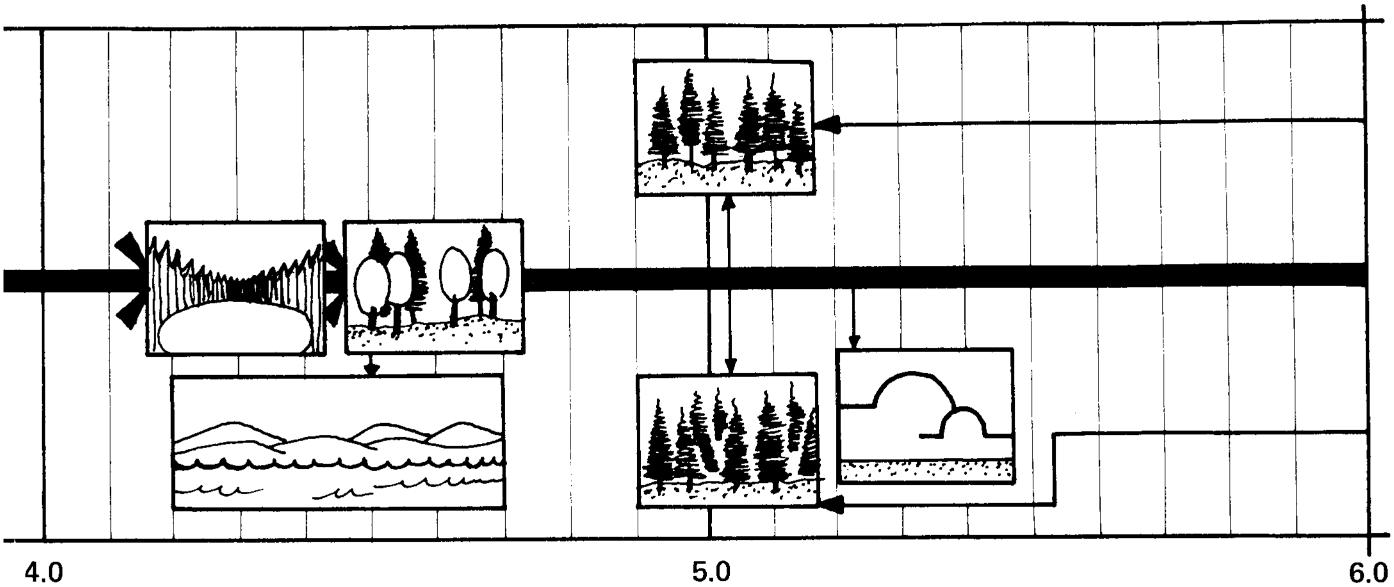
PROFILE OF HWY 168

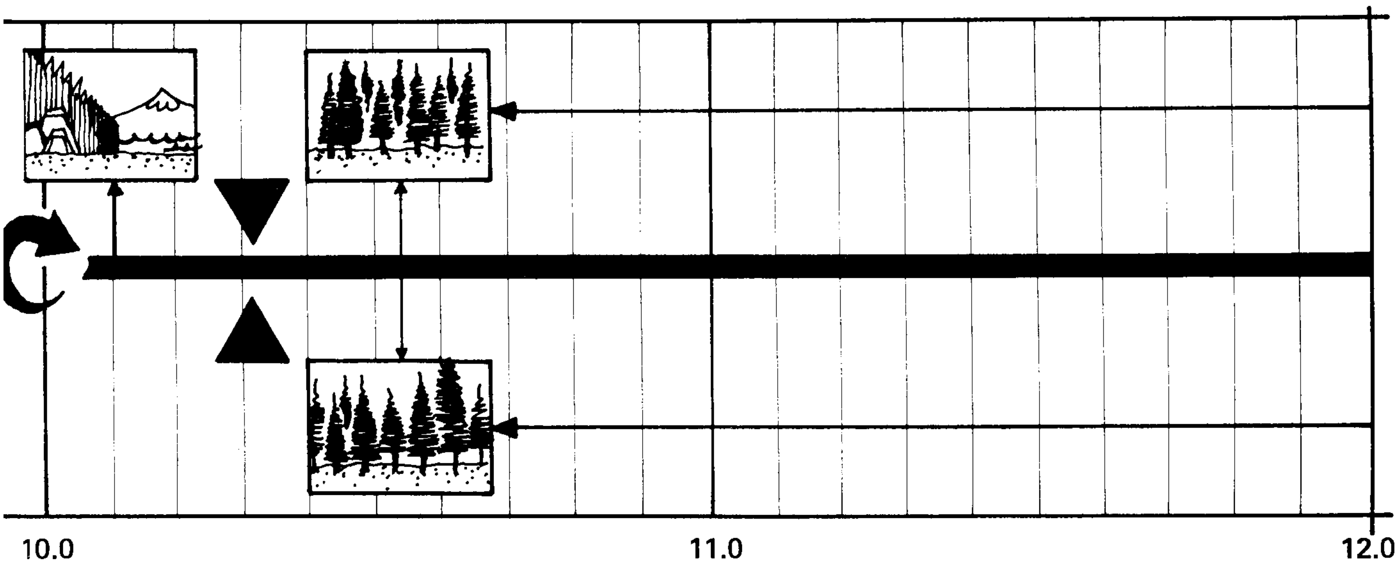
SHOWING TREE TYPES


LEFT HAND SIGHTING
ROAD LANE CENTER
RIGHT HAND SIGHTING
0.0 MILES
1.0
6.0
7.0
12.0
13.0



2.0
3.0
4.0
8.0
9.0
10.0
14.0
15.0
15.8 MILES
FOCAL LAN
ENCLOSED LAN
PAN



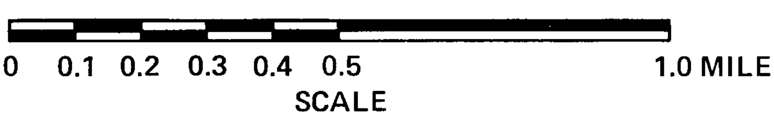


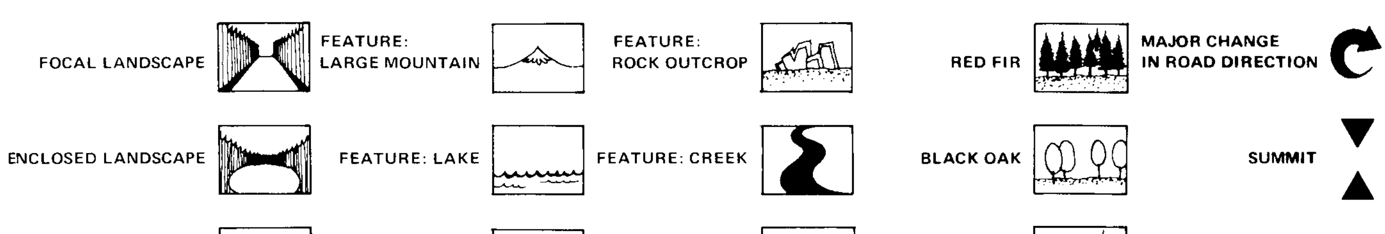
EASTBOUND TRAVEL NOTATION

4TH STAGE ABSTRACTION – PICTOGRAPH

SIERRA NATIONAL FOREST SEGMENT, HWY. 168

BETWEEN SHAVER LAKE & HUNTINGTON LAKE, CALIF.





ES

FIGURE 55


UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
POLLOCK PINES QUADRANGL
CALIFORNIA-EL DORADO CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)
ELDORADO
NATIONAL
FOREST
PEAVINE RIDGE
TELEPHONE RIDGE
POND RIDGE
Big Silver
Canyon
Pollock Pines
Mapped, edited, and published by the Geological Survey
SCALE 1:24000
CONTOUR INTERVAL 40 FEET
DATUM IS MEAN SEA LEVEL
ROAD CLASSIFICATION
Heavy-duty
Medium-duty
Light-duty
Unimproved dirt
U.S. Route
State Route
THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U.S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225 OR WASHINGTON, D.C. 20242
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST
POLLOCK PINES, CAL.
N3845—W12030/7.5
1950
3
2
4


RIVERTON QUADRANGLE
CALIFORNIA-EL DORADO CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
E L D O R A D O
N A T I O N A L
F O R E S T
1
2
3
4
5
6
7
SCALE 1:24000
CONTOUR INTERVAL 40 FEET
DOTTED LINES REPRESENT HALF-INTERVAL CONTOURS
DATUM IS MEAN SEA LEVEL
THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U. S. GEOLOGICAL SURVEY, DENVER 2, COLORADO OR WASHINGTON 25, D. C.
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST
ROAD CLASSIFICATION
Heavy-duty
Medium-duty
Light-duty
Unimproved dirt
U. S. Route
State Route
Mapped, edited, and published by the Geological Survey
Control by USC&GS
Topography from aerial photographs by multiplex methods
Aerial photographs taken 1948. Field check 1952
Polyconic projection. 1927 North American datum
10,000-foot grid based on California coordinate system, zone 2
Dashed land lines indicate approximate locations
Unchecked elevations are shown in brown
1000-meter Universal Transverse Mercator grid ticks, zone 10, shown in blue
RIVERTON, CALIF.
N3845—W12022.5/7.5
1950
SCALE 1:24000
CONTOUR INTERVAL 40 FEET
DATUM IS MEAN SEA LEVEL
THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
ALE BY U. S. GEOLOGICAL SURVEY, DENVER 25, COLORADO OR WASHINGTON 25, D.
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

1.


KYBURZ QUADRANGLE
CALIFORNIA-EL DORADO CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
STATE OF CALIFORNIA
REPRESENTED BY THE
DIRECTOR OF PUBLIC WORKS
PYRAMID PEAK QUADRANGLE
CALIFORNIA–EL DORADO CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Wrights Lake
DESOLATION
VALLEY
Lake of the Woods
Pyramid Pk
E L D O R A D O
N A T I O N A L
Atherton Flat
9
9
9
6
6
6
6
4
4
4
4
4
4
4
4
4
4
7
7
2
2
2
8
8
Mapped, edited, and published by the Geological Survey
SCALE 1:24000
CONTOUR INTERVAL 40 FEET
DATUM IS MEAN SEA LEVEL
2
TRAILWISE
THE SKI HUT
1615 UNIVERSITY AVE.
BERKELEY
KYBURZ, CALIF
1952
THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U. S. GEOLOGICAL SURVEY, DENVER 2, COLORADO OR WASHINGTON 25, D. C.
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST
3
PYRAMID PEAK, CALIF.
1955
Mapped, edited, and published by the Geological Survey

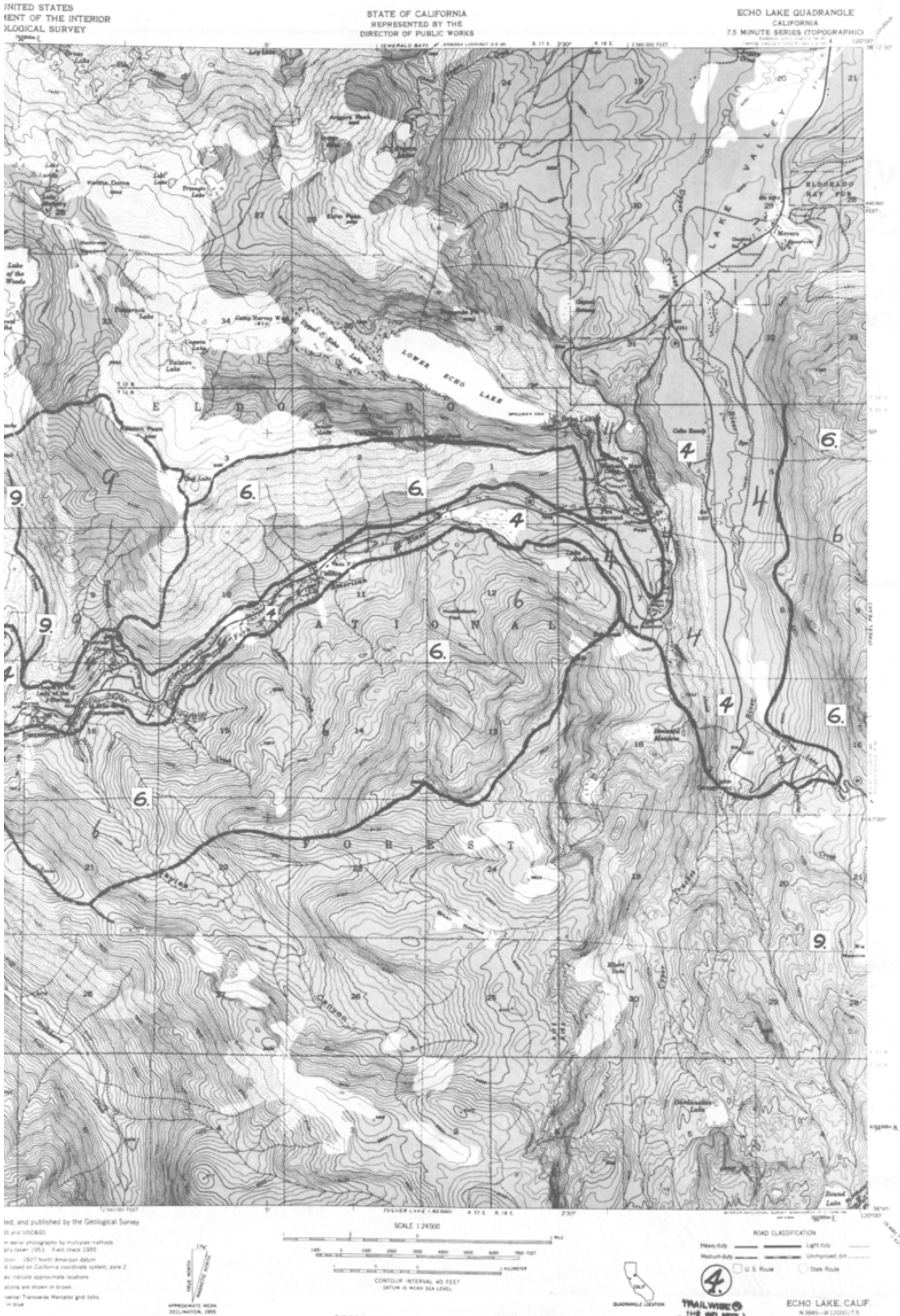


FIGURE 56

LANDSCAPE INVENTORY

U. S. HIGHWAY 50; VIEW CATEGORIES, ELDORADO NATIONAL FOREST SEGMENT

FIGURE 57

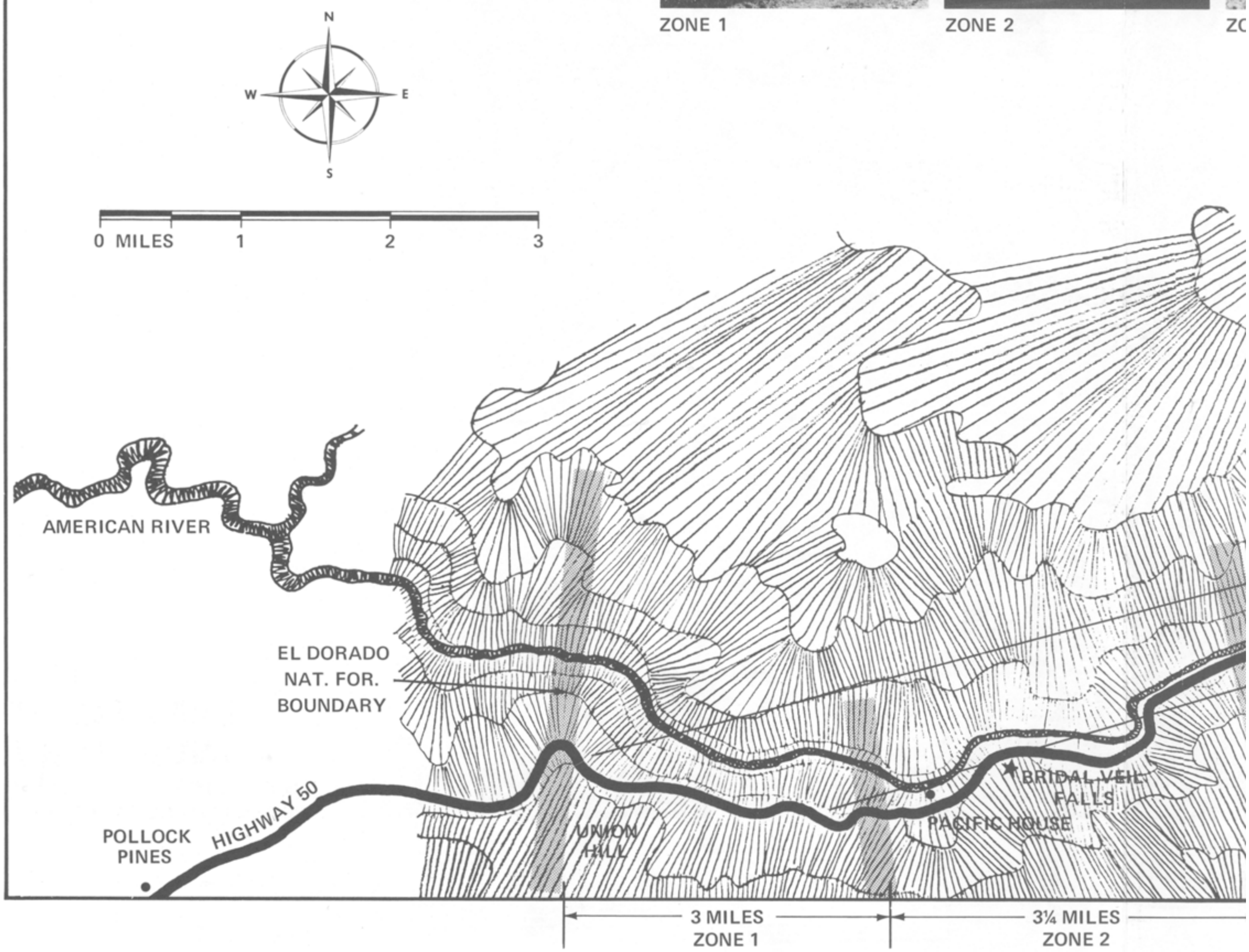
LANDSCAPE INVENTORY: SEQUENCE ZONES

U. S. HIGHWAY 50 - EL DORADO NAT. FOREST: POLLOCK PINES – MEYERS GRADE SEGMENT

ZONE 1

ZONE 2

ZO



ZONE 4

ZONE 4

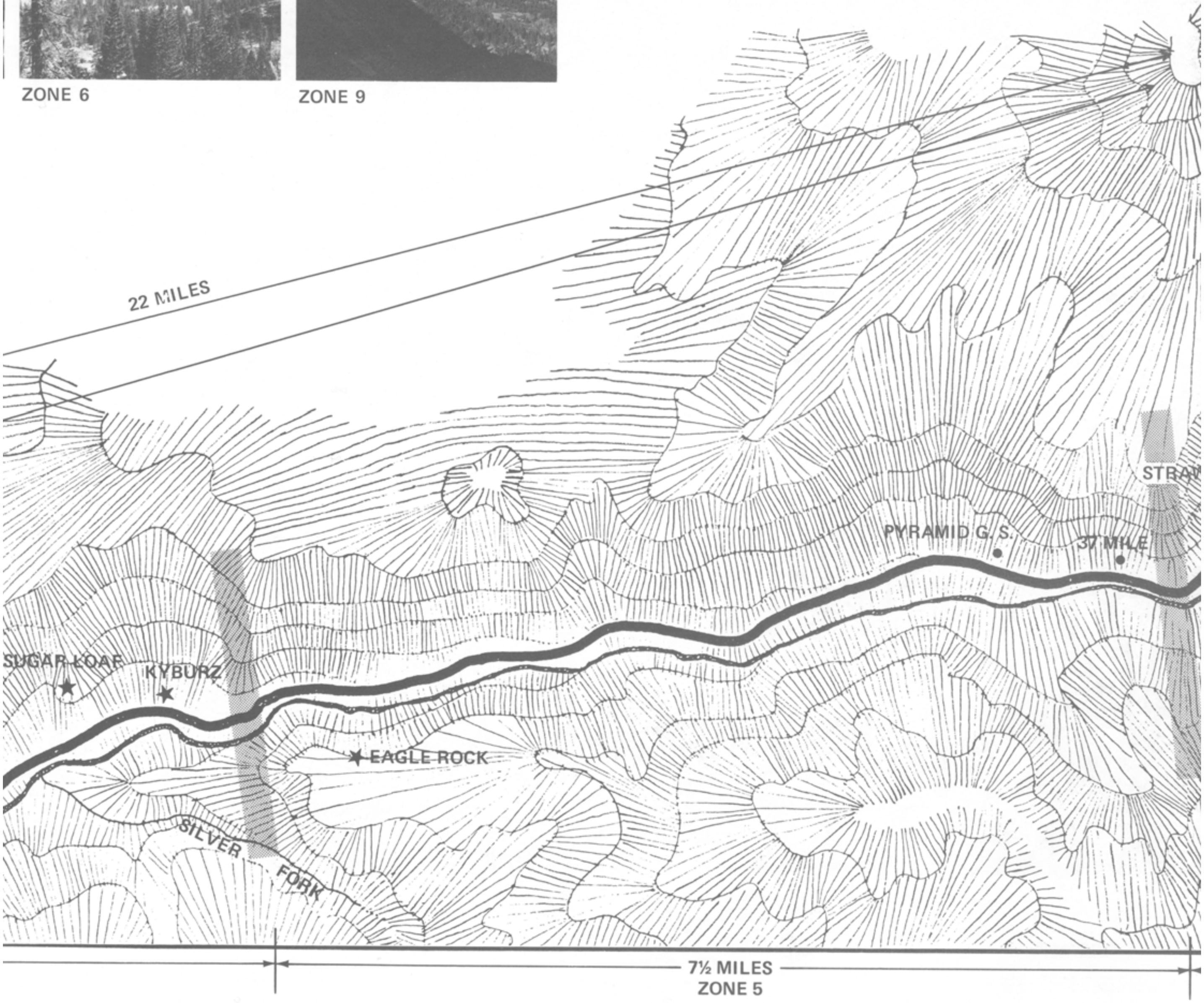
ZONE 5

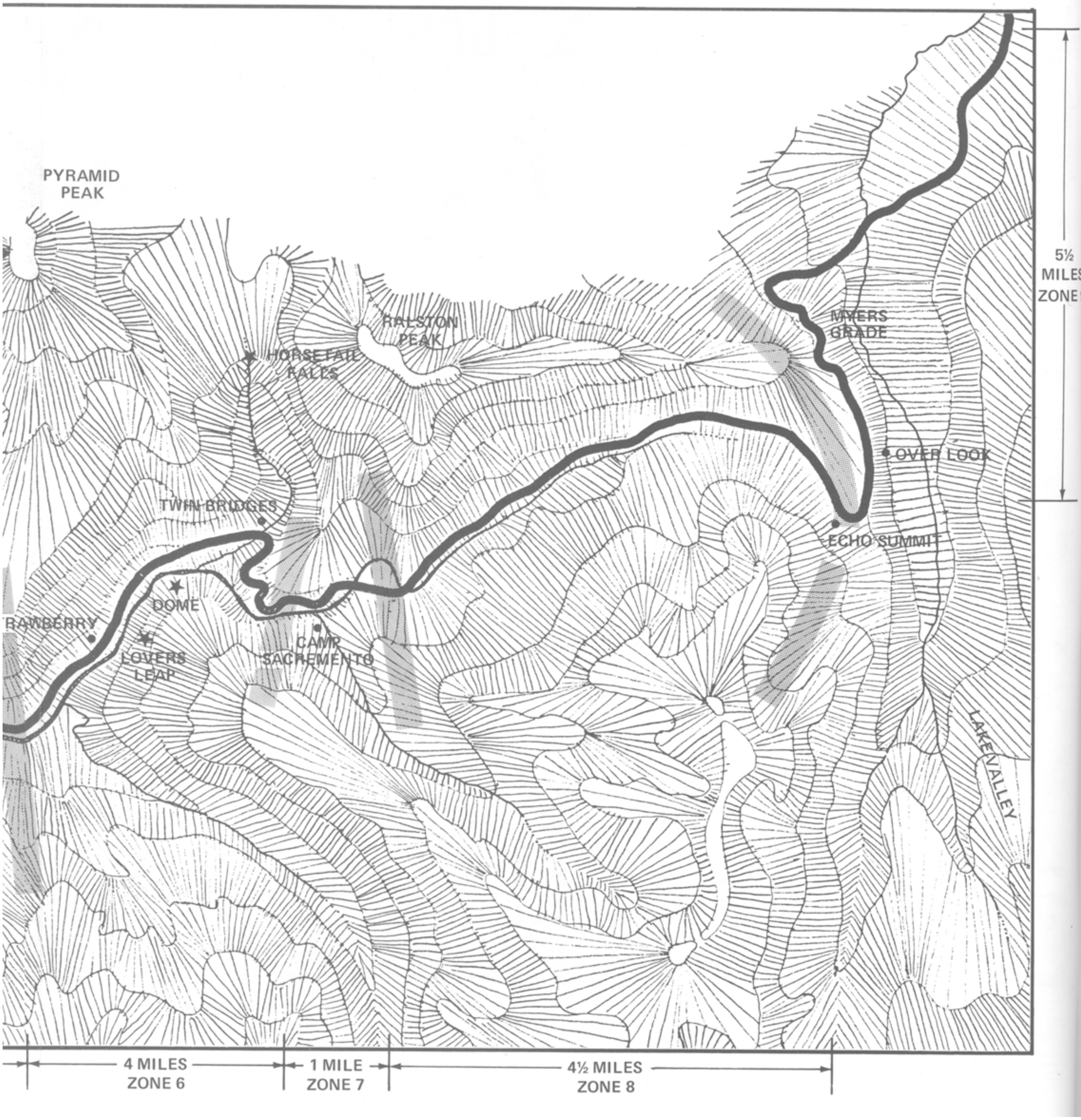
ZONE 6

ZONE


ZONE 6


ZONE 9


22 MILES
STRAW
PYRAMID G. S.
37 MILE
SUGAR LOAF
KYBURZ
EAGLE ROCK
SILVER
FORK
7½ MILES
ZONE 5


PYRAMID PEAK
RALSTON PEAK
HORSETAIL FALLS
MYERS GRADE
OVER LOOK
TWIN BRIDGES
ECHO SUMMIT
DOME
RAWBERRY
LOVERS LEAP
CAMP SACREMENTO
LAKE VALLEY
5½ MILES ZONE 9
4 MILES ZONE 6
1 MILE ZONE 7
4½ MILES ZONE 8

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Appendix

FIELD RECORDING: LANDSCAPE OR SCENIC NOTATION, SYMBOLS AND ABBREVIATIONS: FOR USE WITH TOPOGRAPHIC MAP

SCENE

Panorama

Focal Landscape

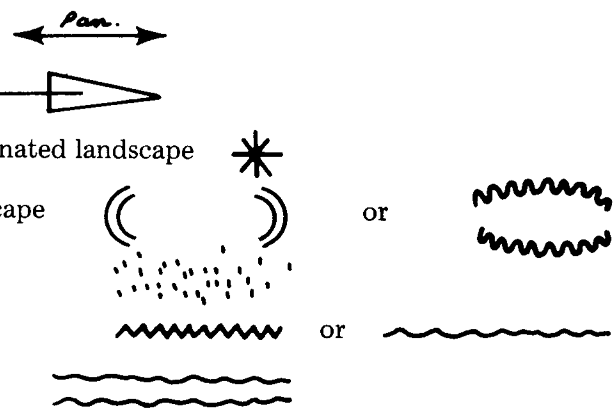
Feature or Feature-dominated landscape

Enclosed (Spatial) landscape

Park-land (canopied)

Screen

Channel

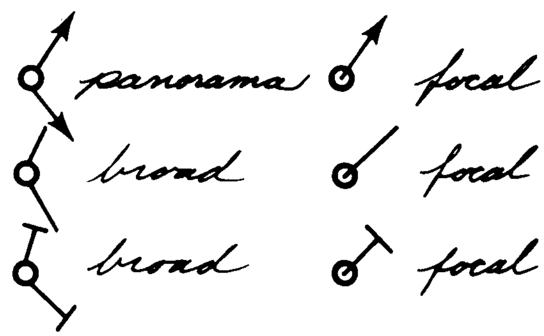


DISTANCE, VIEW TYPE

Distant-Background (Exceeding 3 mi.)

Intermed.-Middleground (¼ to 3 mi.)

Close-in Foreground (0 to ¼ mi.)



OBSERVER POSITION AND VIEW POINT

Observer superior

Observer normal

Observer inferior

Outlook or Overlook

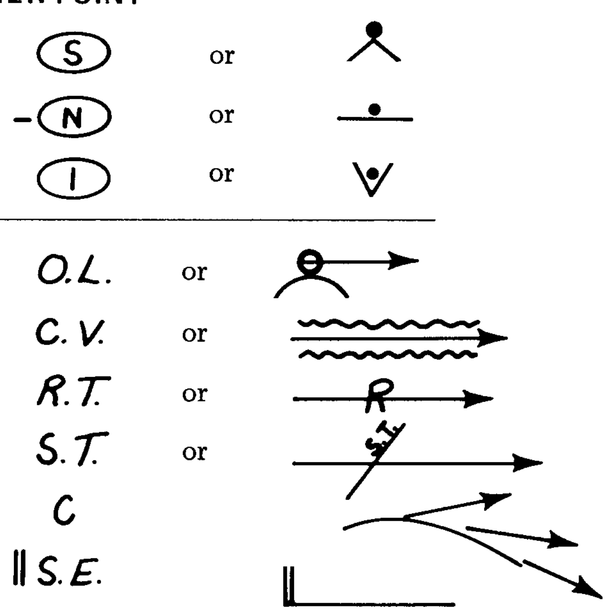
Channeled Vista

Ridge Tangent

Sidehill Tangent

In Curvature

Side Enclosure



LANDSCAPE ANALYSIS CHECK LIST

LOCATION ____________________
DATE ____________________
HOUR ____________________

OBSERVER POSITION	S										
	N										
	I										
OBSERVER	*F. G.										
	*M. G.										
	*B. G.										
SCENE COMPOSITION	PAN.										
	ENCL.										
	FOCAL										
	*FEATURE										
	CANOPY										
	OTHER										
*PLANT ASSOC.											
LIGHT	B										
	F										
	S										
	INTENSE										
	DK.										
	DIFF.										
OTHER											
	START										
	MILES	0	1	2	3	4	5	6	7	8	9
	NAME, DESCRIPT.										

*DEFINE

____
Observer

SEQUENTIAL CONTRAST CHECK LIST

1. FORM — as manifested by domination due to
   - A. Isolation
   - B. Size and scale
   - C. Contour distinction, silhouette
   - D. Surface variation — shapes, patterns, textures

2. SPATIAL DEFINITION
   - A. Degree of definition; floor-to-wall proportions
   - B. Nature of enclosure and floor; floor configuration
   - C. Size and scale

3. LIGHT
   - A. Color
     1. Hue and value
     2. Aerial perspective (distance)
   - B. Direction
     1. Back lighting
     2. Side lighting
     3. Front lighting
     4. Relationships to land form and surface
        - a. Skyline silhouette
        - b. Surface, gradient, orientation
   - C. Intensity

4. DISTANCE
   - A. Foreground
     1. Detail, restriction
     2. Presence
     3. Scale
   - B. Middleground; linkage, perspective
   - C. Background; simplification, foil
   - D. Aerial perspective — light

5. OBSERVER POSITION
   - A. Observer inferior
     1. Restriction
     2. See foreground
   - B. Observer normal
     1. Comprehensive combination
     2. See middleground
   - C. Observer superior
     1. Orientation
     2. See background

6. COMPOSITIONAL TYPES
   - A. Larger scale
     1. Panoramic landscape
     2. Feature landscape
     3. Enclosed landscape
     4. Focal landscape
   - B. Smaller scale
     1. Canopied landscape
     2. Detail landscape — minutiae
   - C. Transitory designation — ephemeral landscape