To the Graduate Council:

I am submitting herewith a dissertation written by Matthew John Lerfald entitled "The Unification of Place and Technology": The project chosen to explore these issues is a Regional Airport in rural West Virginia. I have examined the final copy of this dissertation and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Architecture.

Jon Coddington, Graduate School Head
and Thesis Chairperson

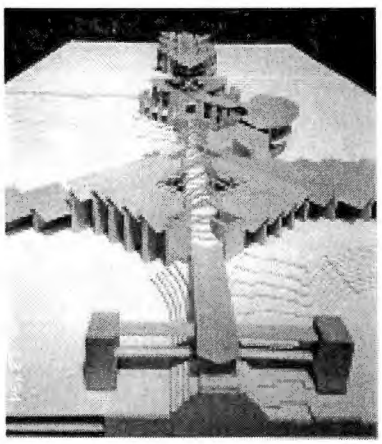
We have read the dissertation
and recommend its acceptance:

Accepted for the Council:

Associate Vice Chancellor and
Dean of the Graduate School

UNIFICATION OF PLACE AND TECHNOLOGY

A REGIONAL AIRPORT
IN
WEST VIRGINIA



A Thesis
Presented for the
Master of Architecture Degree

The University of Tennessee, Knoxville

Matthew J. Lerfald
December 1999

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DEDICATION

This thesis is dedicated to my parents

Dr. Sidney Clark Lerfald

And

Pamela Ray Lerfald

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I would like to extend thanks to the numerous people whom aided me in the realization of this thesis. First and foremost, I would like to thank the members of my immediate family for their unyielding support and encouragement throughout this endeavor. Their love and confidence enabled me to persevere through even the most rigorous times of intellectual contemplation in a field as complex and subjective as in the areas of architecture. I would also like to extend thanks to my many close friends and employers whom have supported me through the months prior to the completion of my thesis, including much frustration and lack of sedulity.

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ABSTRACT

Today, the world is in a rapid continuum of advancement and change, where universalization, deterioration of the environment, and a breakup of cultural and individual differences have become the norm. Within this environment local cultures have all but disappeared, and the context of one place looks much like everywhere else. This has brought about a loss of meaning, a separation from our past, and a lack of quality and importance in the way we view our regions. The built environment has suffered greatly within this continuum and has yielded to this loss of meaning and quality into a state of increased monotony and boredom. Architecture should be respectful of place, regional quality, the needs of society, technological advancement, and the economic necessity of becoming part of this global culture, without giving into it in an uncritical manner.

This graduate thesis project will examine issues of place and regionalism as it relates to ones sense of identity and meaning within our current culture. Architectural issues of technology, time, scale, materiality, regionalism, position, and catalyst will each be analyzed within this framework to divulge the importance of architecture in creating regional quality and identity.

The project chosen to explore these issues is a regional airport in West Virginia. West Virginia, the mountain state, a state with a rich sense of place and meaning, is an excellent setting to explore such issues as technology and regionalism. West Virginia has an abundance of rich natural beauty, it is truly a state formed by lakes, rivers, and mountains. West Virginia, while taking a strong hold on advancing technologies and education, continues to struggle with high levels of poverty and a poor standard of living, in comparison to neighboring states. This is catastrophic due to the potential of the people and the abundance of resources found through out and the state. This airport would allow the state to compete within the global marketplace, attracting new business, broadening the tourism industry, while simultaneously providing a boost to the local economy, an increased standard of living, and a heightened sense of regional identity on a global scale.

The thesis project takes an in depth analysis into the works of notable regional architects, comparative building types, and terminal program elements to develop the foundation to create this airport project that speaks to the region while maintaining an openness to universal ideas and technologies.

TABLE OF CONTENTS

SECTION		PAGE
1.	Statement of Thesis	1
2.	Proposal for Thesis	2
3.	Architectural Issue Analysis	
	3.1 Technology	5
	3.2 Time	5
	3.3 Materiality	6
	3.4 Scale	6
	3.5 Place	7
	3.6 Position	8
	3.7 Catalyst	8
4.	The Vehicle	9
5.	Precedence Analysis	11
	5.1 Faye Jones	12
	5.2 Antoine Predock	16
	5.3 Dulles International Airport	21
	5.4 Stansted International Airport	25
	5.5 Roanoke Regional Airport	28
	5.6 McAllen Miller Regional Airport	31
6.	Program Analysis	33
	6.1 Program elements	34
	6.2 Ticketing	35
	6.3 Airline Administration	36
	6.4 Conference Rooms	37
	6.5 Baggage Drop Off	38
	6.6 Baggage Handling	39
	6.7 Security Clearance	40
	6.8 Hold Room	41
	6.9 Boarding Gates	42
	6.10 Baggage Claim	43
	6.11 Rental Car Agencies	44
	6.12 Information	45
	6.13 Main Lobby Space	46
	6.14 Market – Shops	47
	6.15 Restaurant	48
	6.16 Museum	49
	6.17 Restrooms	50

6.18 Concessions 51
6.19 Video Game Room 52
6.20 First Aid 53
6.21 Security Offices 54
6.22 Circulation 55

7. Site Selection and Analysis 56
7.1 Site Photos

8. The Project 73

9. Bibliography 87

45. Dulles International Airport – Front View. 24
46. Dulles International Airport – Under Construction. 24
47. Stansted International Airport - Approach View. 25
48. Stansted International Airport - Model. 25
49. Stansted International Airport - Section. 25
50. Stansted International Airport - Structure. 26
51. Stansted International Airport – Axonometric. 26
52. Stansted International Airport - Model. 26
53. Stansted International Airport - Model. 26
54. Stansted International Airport - Plan. 27
55. Stansted International Airport – Diagrams. 27
56. Stansted International Airport – Elevations. 27
57. Stansted International Airport – Section. 27
58. Roanoake Regional Airport – Front View. 28
59. Roanoake Regional Airport – Side Entry. 28
60. Roanoake Regional Airport – Interior/Exterior Views. 29
61. Roanoake Regional Airport – First Floor Plan. 30
62. Roanoake Regional Airport – Second Floor Plan. 30
63. McAllen Miller Regional Airport – Perspective. 31
64. McAllen Miller Regional Airport – Entry. 31
65. McAllen Miller Regional Airport – Entry. 31
66. McAllen Miller Regional Airport – Interior Views. 32
67. McAllen Miller Regional Airport – Plan. 32
68. McAllen Miller Regional Airport – Exterior Views. 32
69. Not Used. na
70. Schematic Sketch. 33
71. Schematic Sketch. 33
72. Schematic Sketch. 33
73. Appalachian Region. 57
74. New River – View from New River Bridge. 57
75. Wind Mill – Rear View. 57
76. Coal Mine - View From Interstate. 58
77. White Water – The Gaulley. 58
78. Interstate Exit. 58
79. State Capital. 58
80. Train – View Form River. 58
81. Wheeling Suspension Bridge. 58
82. Appalachia – Map of West Virginia. 59
83. Diagram – Vicinity Map. 59
84. Appalachia Region 59
85. Diagram of Market Areas. 60
86. Counties. 61
87. Topographic Map. 62
88. Site Plan – Airport Location. 63
89. Diagram – Figure/Ground. 64
90. Photo – Kanawha River. 64
91. Diagram – Airport Location. 65
92. Diagram – Airport Location. 66
93. Photo – Airport Entry Location. 67
94. Photo – Access Road. 67
95. Photo – Terminal Entry. 67
96. Photo – View From Airport 68

97. Photo – Existing Barn Structure 68
98. Photo – View from Bridge. 68
99. Photo - Access Road. 69
100. Photo – Access Road. 69
101. Photo – View from Crest of Hill. 69
102. Photo – View from HWY. 35. 70
103. Photo – Existing Cemetery. 70
104. Photo –Existing Church. 70
105. Photo – From Top of Hill. 70
106. Photo – Access Road. 71
107. Photo – From Top of Hill. 71
108. Photo – From Top of Hill. 71
109. Photo – From Top of Hill. 72
110. Photo – Existing Church/Cemetery. 72
111. Study Model. 74
112. Study Model 74
113. Contour Model. 74
114. Study Model. 74
115. Model – Front View. 75
116. Model – Bridge. 75
117. Model – Front View. 75
118. Circulation Routes. 75
119. Model – Top View of Main Lobby Space. 76
120. Model – Approach View. 76
121. Main Floor/Site Plan 76
122. Nodes/Areas of Interest. 77
123. Sun Patterns, 77
124. Parti Diagram. 77
125. Section Through Main Lobby. 78
126. Section Through Typical Bay – Lower Level. 79
127. Details. 80
128. Details. 81
129. Floor Plan – Gate Level 82
130. Floor Plan – Arrival/Ticketing Level. 83
131. Floor Plan – Departure Baggage Claim Level. 84
132. Elevations 85
133. Sections. 86

1. STATEMENT OF THESIS

Innovation and the advancement of technology have affected every aspect of human endeavor since the beginning of civilization. Today, these processes have accelerated at an exponential pace. From the industrial age to the computer age, rapid technological advancements in communications, building techniques, and transportation have resulted in a phenomenon of increased globalization. A universal culture has emerged which disguises and separates the individual differences inherent in our distinctive cultures. There is an inherent conflict between this technologically rooted advancement of the universal and one's sense of place and regional identity. This thesis maintains that architecture should unite the complexities associated with our present culture to that of place, to create a built environment which is coherent, meaningful, and sensitive to both our particular regional localities and our global realities.

2. PROPOSAL FOR THESIS

Advancing technologies and the resultant universalization of society has brought about a deterioration and impoverishment of our traditional cultures and the built environment with its identifiable regions. Paul Ricouer states,

> *"The phenomena of universalization, while being an advancement of mankind, at the same time constitutes a subtle destruction, not only of our traditional cultures, which might not be an irreparable wrong, but also of what I shall call the creative nucleus of great cultures and civili zations, that nucleus on the basis of which we interpret life, what I shall call in advance the ethical and mythical nucleus of mankind."*

This has brought about a sense of placelessness, a loss of identity and meaning, in the way we perceive and construct our environment.

Innovation and advancement in transportation, communication, and building techniques have created substantial impacts on the nature of our built environment. From horseback and letter carriers to space travel and the Internet the world is in rapid flux. Advancements within the transportation sector have made an impact, not only on the Architecture but on the shape of our cities, which have had to adapt to the extensive use of the automobile and to the economic necessity of becoming part of the global whole. Through the advancement of transportation, communications, and building technologies our cities have continued to broaden, both literally and figuratively, and the world has continued to become narrower, with less variation and sense of place.

As a result of this rapid transformation into a global wholeness, the built environment has changed exponentially, with the process tending towards continued homogenization of life and society, and a state of continued uniformity. Regional and historic qualities of place are often neglected in this rapid modernization towards a universal culture. Regions have fused into cities, cities into metropolises, metropolises into Jean Gottmann's "megalopolises", and these into Melvin Webber's post-industrial "world-realms." What is needed is a counterforce to these impulses, one that acquires a more sensitive appreciation of our roots, while acknowledging our rapidly advancing technologies and the universal whole, in the design and construction of our environment. Kenzo Tange states,

> *"We live in a world where great incompatibles coexist: the human scale and the superhuman scale, stability and mobility, permanence and change, identity and anonymity, comprehensibility and universality. These are the reflections of the gap between advancing technology and human ity as historical existence."*

Architecture is the means to which we can synthesize these inherent complexities and contradictions associated with technological and cultural change. Architecture has the capacity to address the qualities of

place and historic meaning, where neither modernity nor history is repudiated. An attempt must be made to reinvigorate a locally rooted and cultivated architectural culture and regional meaning while maintaining respect to our technological advancement. Additional balance needs to be maintained which upholds the individual and local architectural features against a more universal architecture and undifferentiated population.

While aiming at fostering local character and identity we must consistently remain open to and selectively accept elements and ideas from sources other than our own. In this way we are open to interpretation on a global or universal scale and we are able to transform and utilize the thinking and perceptions of other cultures other than our own. Although locally cultivated and significant modes of shaping architecture and the built environment have become rather limited in our post-industrial and universal society there are still means by which one can achieve sense of place and meaning within the built environment of a specific locality.

While there are no catch all ways of achieving identity and sense of place, any type of strategy requires an acknowledgment that architecture has borne and continues to bear cultural, spatial, and catalytic meaning within our built environment. An acknowledgement that our present culture emerged from the past and the future will emerge from the present is of critical importace in the development of any type of architectural strategy. In architecture, an understanding of what went before and what will come within a particular place, whether vernacular or designed, is critical to the regional, contextual, and the typological nature associated with the region, as much as is the present and future direction we as a society are headed.

A regionally conscious approach to architecture, while acknowledging the critical importance of the past, aims to create in building new perceptions of place, time, and culture. Within this architecture, one must learn to use or appropriate the benefits of advanced technology without, as Paul Ricouer refers to in his History and Truth, the contradictions inherent in

> *"how to become modern and to return to our sources: how to revive an old dormant civilization and take part in universal civilization."*

Given this statement one might say that we need a new direction, a new perception or outlook in which to view the role of architecture within our day in age. Local cultures are losing much of there identity, and the context of one place looks increasingly like everywhere else. Critical Regionalism, keynoted by Kenneth Frampton, is one such way of achieving this synthesis between the regional and the universal with all the inherent complexities and contradictions associated with each. Kenneth Frampton states,

> *"The fundamental strategy of Critical Regionalism is to mediate the impact of universal civiliza tion with elements derived from the peculiarities of a particular place... It may find its governing inspiration," he adds, "in such things as the range and quality of local light, or in the tectonic derived from a peculiar structural mode, or in the topography of a given site. What it won't do is revive the hypohetical forms of a lost vernacular."*

Within our world of rapid and continual change, where universalization, deterioration of the environment, and a breakup of cultural and individual differences have become the norm, architecture must find ways to respect the local concerns and local environment, without resorting to nastalgia. Architecture must be, at once, of its time and critical of its time.

3. ISSUE ANALYSIS

3.1 TECHNOLOGY

Science and technology have fundamentally affected the nature of our world. We are consumed with change brought about by our ingenuity and exploitation of technological and scientific understanding and accomplishment. Arts and Crafts have been replaced by science and technology which is based on the universal, scientific method, and methods of production. The dominance of this area by engineers and scientists and the incapacity of architects and artists to influence design, either through ignorance of the materials and processes or lack of collaborative opportunity, has collectively made us responsible for the lack of differentiation and quality within much of our built environment.

Modern architecture, or western societies interpretation of modern architecture, is based on these achievements within technology, engineering, and science. It is reflective of the universal, neglecting personal and regional difference; therefore, by its nature becomes a scientifically and technologically induced form of viewing and constructing our built environment. Our buildings have become inhumane and boxlike containers in there construction and efficiency of use. This homogenizing box architecture, reflective in shopping centers, warehouses, industrial, retail and office structures, has manifested itself universally within our built environment solely due to its efficiency and affordability. This industrial efficiency, in combination with increases in land prices, federal housing legislation, etc., has become part of our commercial fabric and has contributed to the continued deterioration of our cities and cultural diversity.

Architecture, while being respectful and open to the past, should root itself within this technology to create buildings, places, and spaces that are symbolic of our time and our future. Critical regionalism, a term keynoted by Kenneth Frampton, is such a strategy to apply in the designing of our future environments. For if architecture is to survive, as with any profession, it must be able to learn from the mistakes of the past, adapt to the present, and foresee the hazards of the future. Architecture, more so than any profession, has the power to prevent the continued deterioration of our built environments. If we are to become the leaders in this fight against the continued decay of our regions we must make use and acquire an in depth understanding of our society's past, present, and future with all its technological advancements.

3.2 TIME

Time within today's environment consumes our daily activities and the way we perceive and experience the spaces we encounter. We view everything in terms of time - how long will it take to get there, how much time will it take, how long will it last, when will it be done, etc., etc. Within this service-oriented atmosphere time is a standard in which we as members in a global society are valued. Time is money and power within today's society. We value our time passionately and at the same time are valued by time. Time, in this sense, becomes a physical construct that we can see and feel. It is a continuum in which events occur in apparent irreversible succession from the past through the present to the future.

Today our society is going through a profound and radical change. A radical paradigm shift has resulted from the numerous crises which have inherently characterized our times. These crises include the threat of nuclear holocaust, ecological disaster, population explosion, and the depletion of natural resources to an irretrievable point. We are moving from an industrialist and modern mechanist world view to a more critical and new conception of reality, one that includes tradition and reintegrates the timeless principle of spiritual existence. As we discover that science, technology, and consumer goods and services cannot provide us with this meaning our search for a new model of meaning within our experienced reality persists. This new paradigm relates architecture to the cosmic scheme of things and defines a symbiotic relationship between human beings, architecture, and the natural environment.

The cosmos, the earth, and the spirit are seen as timeless elements that give us physiological reassurance to our daily and time consumed existence. The role of architecture within our physical construct of existence is unique in that it can speak to that which is beyond time - the cosmic, the spiritual, and the natural environment

In deeply-rooted traditional societies, living in the world is a sacred experience. The natural environment with its abundance of vegetation and unique characteristics become the background to the making of a sacred space. The notion of sacred place breaks the homogeneity of undifferentiated modern space. In the creation of a sacred place, the natural and built environment become interdependent and timeless.

3.3 MATERIALITY

The form and space of architecture are qualified by the character of the materials and the way they are put in place. Materials have the capacity to give character, scale, and a sense of place to our built environment. In the definition of place, forms play their role by the capabilities and qualities of the materials chosen. Material also have symbolic significance in that they can speak to that which is beyond time. Materials and the way in which they used in construction are representative of our time while at the same time become a reflection of the past and future. Through the use of local and regional materials buildings can acquire meaning and become symbols of that place.

3.4 SCALE

Scale is a proportioning system by which we experience space. A standard of measurement, or judgment, used in determining the dimensional relationship of a representation to that which it represents. Scale can be used to give emphasis to, to de-emphasize, or to evoke ones feelings of a particular place in space. Scale is a powerful architectural tool used in the manipulation of form and context within our built environment.

The pressures and demands of scale within our American cities such as Chicago, New York, and Los Angeles are inherent in almost any contemporary urban development. In these the abstract, scaleless, and electronic spaces created and beloved by modern finance and corporate conglomerates conflict vastly with

the scales of the people, their cars, and the concealed scale of the older city in which they are set.

Studying scalar elements within a city with a vast amount of skyscrapers, were this possible other than from a satellite, when an object or space is large or near the center it is no particular indication of its importance, and transitions of scale are abrupt. In most instances human scale exists within the modern city, although as an optional, not an essential quality. There is a crude free-market correspondence between these large corporate skyscraper structures and money, power and transport.

This is in contrast to older European cities where vast open spaces and the height of an object denote societal importance and are appropriately scaled within their context. Tall towers and large spaces denote the centers of religious and secular power, emerging out of a hierarchy of spaces that ascend from the scale of a human being to that of a city-state. The elements of scale inherent within the European city construct give these cities an image of an orderly society as compared to the lack of scale inherent within many American modern cities.

3.5 PLACE

Place is by definition an area defined within vague boundaries - a portion of space. This vague definition is appropriate due to fact that place encompasses a broad range of meaning and connotation which is perceived differently due to factors of time, scale, cultural difference, materiality, technology, etc. that affect ones understanding of space and place. Space is transformed into place as it requires definition and meaning through awareness of our environment. Awareness of place occurs through the stimulation of our senses, such as hearing, sight, touch, smell, taste, and equilibrium, at varying degrees of intensities. A place acquires its meaning within time from a precise spot on earth based on our perceptions between earth, sky, and time.

The majority of people within today's society have lost much of the deep sense of awareness of place due primarily to the lack of differentiation and identity in the way we are designing and percieving our environments and buildings. This sense of placelessness has come about due to such things as modernism, globalization, consumerism, industrialism, advancing technology in communication and transportation, and the disconnection and lack of awareness of our natural environment. Times are changing dramatically, and our culture and profession are appropriately demanding an architecture that is committed to this notion of place, bringing back meaning and a sense of identity to our regions.

3.6 POSITION

Position is used to describe a place or location of an object in space. Positioning of an object within its context is of critical importance to the understanding and success of that object. Several factors, varying in degrees of importance and meaning, are incorporated in the decision-making process of positioning an object within its environment contingent upon the qualities and hierarchial importance of that particular object. Regionalism achieves, through the positioning of elements, appropriate adjacencies for different

spaces based on factors such as place, history, and meaning.

3.7 CATALYST

A catalyst is an agent that stimulates or precipitates a reaction , development, or change within itself and its surroundings. An architectural catalyst not only sets off a response, but guides and conditions them through a stimulation of new life, affecting the form, character, and quality of the elements that are subsequently introduced. It can have a positive impact. An individual building or project can be a catalyst affecting a particular place over time, influencing designers, planners, and policy-makers, create chain-reactive growth, regenerating a quality of place that acknowledges our increasingly global world, while still retaining and celebrating local conditions and opportunities.

Catalyst is an appealing metaphor and an appropriate process for generating building, sensitive to its surrounding context and powerful enough to restructure it. It's an introduction of a new element into an area, revitalizing existing ingredients of an area without necessarily changing them radically. Economic, social, and architectural response is only part of the rich mix that a catalytic element implemented within an area can address. The identity of a region can become further recognizable and enhanced through a catalytic response to a place and its peoples.

4. THE VEHICLE

An airport is a unique building type, reflective of our time, lending itself an appropriate medium for exploring such issues of technological change and universalization and their homogenizing affects on our built environment, regional identity, and culture. Numerous architectural ideas and issues are inherent within such a project. Issues of technology, elements of scale, perception of time, materiality, project as catalyst, and place making are all in themselves critical elements/criterion emphasized within the design of an airport.

An airport facility is a building type that is representative of today's modern society, one that is globally affiliated, highly advanced technologically, and consumer and entertainment oriented. Airports have tended to be designed and constructed with the latest materials and techniques available, with image, cost, and efficiency as its driving design determinants: Therefore, have fallen within this impoverished universal an undifferentiated image in their realization.

Air travel is a relatively recent phenomenon that has led, along with other rapidly developing technologies, to an increased globalization, suburban expansion, and homogenization of our cultural barriers. One can imagine the pattern of development which would have occurred had the airplane been invented prior to the invention of the boat, train, or automobile. Air travel is the fastest growing industry within the transportation sector, which if harnessed sympathetically can strengthen and define a region its identity and sense of place.

Scale within an airport is wide ranging due to the demands imposed upon the various uses and meaning of the spaces. One end of the scale is the individual human being linked to a particular place and at the other the scale of the airplane linked to the world. The materiality of an airport correspondingly reflects these contrasting elements inherent within the nature of the spaces, their meaning, and their functional demands, occilating between the local and the global.

The changes brought about by air travel over this century exemplify how experiences and understanding of time and space have changed for society during this time. Within hours one can be transported from one climate and time zone to another. The same rush one feels when on the open road, contained within a vehicle , with a certain place to get and a certain time to get there, one achieves when entering an airport. To use this same analogy, the feeling attained when reaching his vehicular destination is equivalent in intensity when one is relieved from the bowels of an airplane, even though final destination has not yet been realized. The arrival and departure sequence are as memorable an experience as attainment of a goal.

The experience of space and place within an airport is unique because one is neither here nor there but in an odd state of between . Within this framework the airport becomes quite a memorable spatial experience. There is this connection to earth, the region, and oneself on one side contradicting this connection to the cosmos, the spiritual, and regions beyond on the other. Air travel and the terminal's from which the planes depart/arrive acquire timeless elements associated with the cosmos, a separation from mother earth, while simultaneously are a reflection to the regions which they are sited.

Airports are typically located on the outskirts of the city and its context, due primarily to land requirements and cost: However, within today's increasingly mobile culture the airport is as integral to, and part of the city as the courthouse, library, or local community center. When people visit cities, states, countries, etc. the airport is seen/experienced at the minimum twice: Therefore, often become the most memorable/discussed experience of that particular place apart from the general attraction or overall quality of the place. The airport of a city or region should be reflective/symbolic of its peoples and the region with its openness for change and new ideals.

Airports are becoming a recognizable building type that have the capacity to offer more than just a means of getting to the airplane, but celebrating the means of arrival/departure and having clearly defined series of patterns that give psychological reassurance to passengers as they move through its complex paths between land and air travel and vice versa, that require an architectural response. They incorporate human interaction, movements of people, money and perceptions that necessitate a design articulation.

The notion of a regional airport fosters importance of place and becomes a catalyst for enhancement of identity and meaning within a particular region. A regional airport is typically characteristic of the area it serves. An airport is a gateway to a particular region and its culture and often times is all the visitor will ever experience within the region, and when done sympathetically it externalizes the significance of that place and its peoples.

The implications of a regional airport on the city and its development are far reaching. Airports spur economic growth and development, while greatly benefiting a regional economy, by increasing its attractiveness for business expansion, tourism, and community growth (tourism, travel, and leisure are driving forces in today's environment - by the year 2010 tourism, if the economy continues on its current course, will become the largest and most profitable industry within the United States, surpassing even the Health Care Industry). Tourism, incorporates place and meaning, in so much that it is the reason while people, apart from family and economic benefit, are attracted to particular places.

West Virginia, an attraction in itself, with an abundance of natural beauty, deep history, and friendly peoples, should take a strong stand in continuing development for this reason with a deep understanding of its strengths, weaknesses, and the impacts on future generations. Attractions, advancement, and change are enivitable and should be harnessed to maintain competetive within today's global culture. Uniqueness and opportunity should be celebrated, not only in building, but in regional decisions for advancement and change.

5. PRECEDENCE ANALYSIS

Advancing Technologies have influenced the built environment since the invention of the wheel. Within our highly advanced society many changes in transportation, communications, and building components have facilitated an ever-increasing technological influence on design and building. Renzo Piano, Norman Foster, and Richard Rodgers, the most notable architects of this "High Tech" genre today, have continued to push the limits of advancing technologies in their designs. The Shanghai bank of Hong Kong designed by Norman Foster makes use of advanced structural cross-bracing and building components that are high-tech and unique. The Pompidou Center in Paris by Renzo Piano and Richard Rodgers was envisioned as a building as a machine or kit of parts and seen within the realization of the building fully illustrate these ideals. These building types, however symbols of the city and uniquely important to architecture as a profession do not reflect the qualities of place and would have been as significant if found on any site within any region.

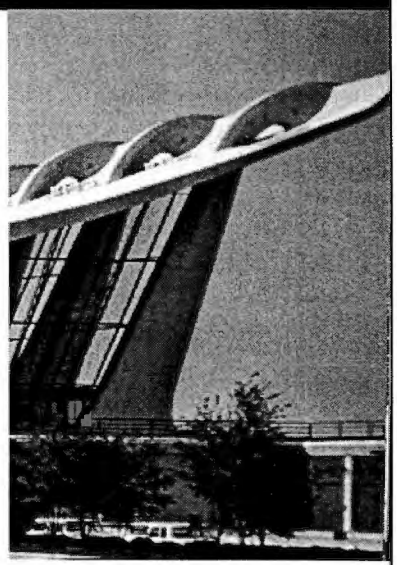


Figure 1: *Dulles International Airport - Side View.*

There are several Architects whose designs are rooted in the importance of place and meaning within a particular region, while at the same time maintaining a sympathetic responsiveness to our technologically advanced and universal culture. Most notable architects of this type would be Architects such as Fay Jones, Louis Barragon, Antoine Predock, Sam Mockbee, Alvaro Siza, and Tadao Ando. Within the precedence study, I have chosen to research the works of Faye Jones and Antoine Predock.



Figure 2: *Stansted International Airport - Front View.*

The gateway to a place, city, or region has become steadily diluted due to the necessities of massive transport and the continued expansion of our cities. Due to these factors the airport, as a building type, has become a gateway to a particular place, symbolizing the area and the people for whom it was built. The airport should strengthen ones understanding of the region while serving as the entry of the region.

Within my thesis, I will analyze two technologically advanced and innovative design responses, Dulles International and Stansted International Airports, and conclude with two smaller, more regionally sympathetic airports, designed by Odell and Associates.

The analysis of these architects/projects will incorporate the architectural issues and ideas that will be engaged in the design of my project. Architectural elements of scale, materiality, place, time, and position will each be analyzed within the following precedence studies to achieve a broader insight to these notable works of architecture and strengthen the ideas present within my thesis.



Figure 3: *Pinecote Pavilion - Aerial View.*

5.1 FAY JONES

"In the future,...whatever the source of our creativity, we have the potential to build buildings...that will not only accomodate our functional needs, but will stand as models for the best of our ideas. We have the power and responsibility to shape new forms in the landscape - physical and spatial forms that will nourish and express that all-important intangible of the human condition at its spiritual best. As architects, as transformers of the landscape, we must."

Fay Jones

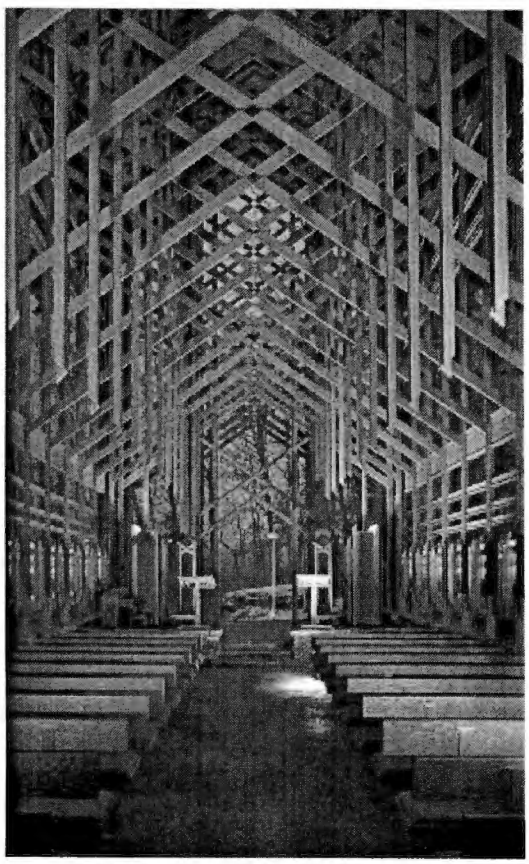


Figure 4: *Thornecrown Chapel - Interior View.*

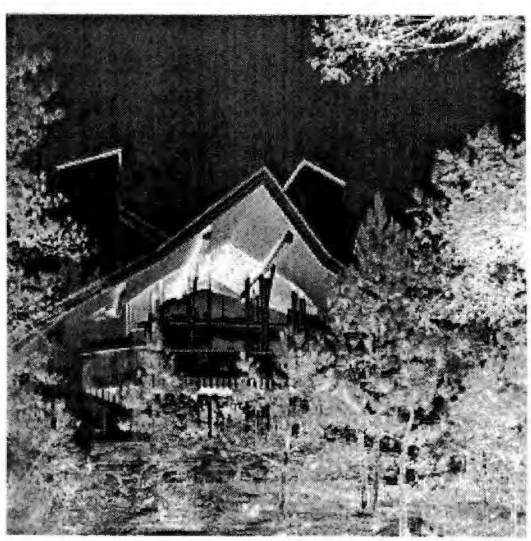


Figure 5: *Edmondson Residence - Rear View.*

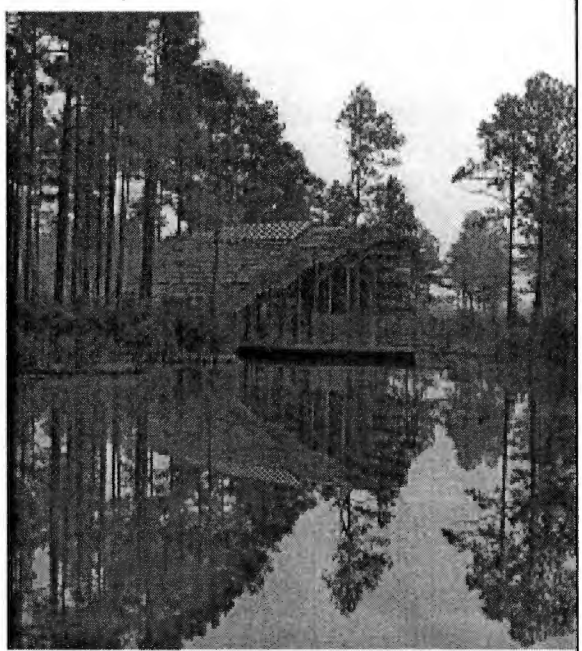


Figure 6: *Pinecote Pavilion - View from Lake.*

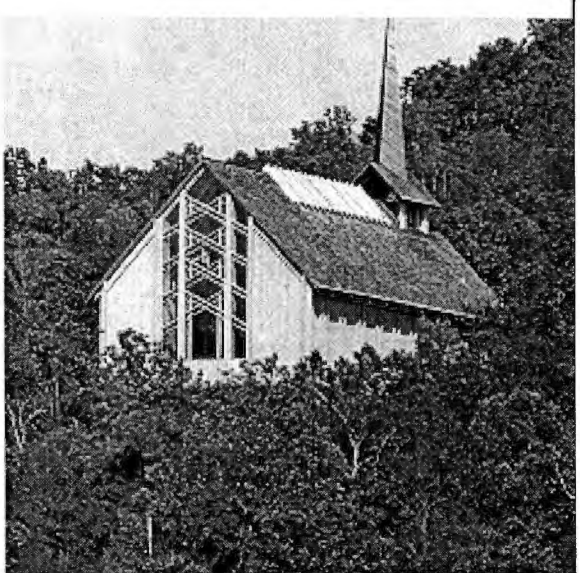


Figure 7: *Thorncrown Worship Center - Aerial View.*

PLACE

Fay Jone's buildings evolve from the site, synchronizing with nature, creating an architecture that is symbiotic. His buildings belong to each site as if they had grown there like trees. They hug the landscape, integrating themselves with the hills and forests until they appear to bond with their surroundings.

His drawings reflect the importance of the sites context within his designs. His work is always seen as an intricate coadunation of place and building. Nature is the source from which his designs are inspired and realized..

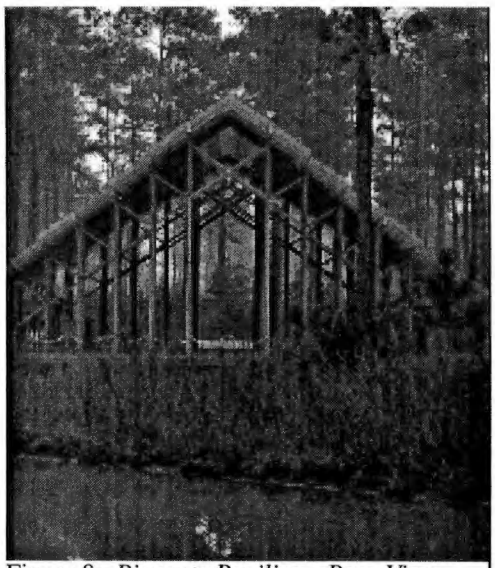


Figure 8: *Pinecote Pavilion - Rear View.*

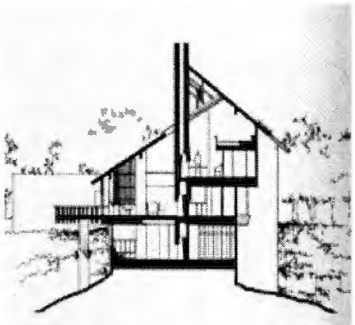


Figure 9: *Edmondson Residence - Section.*

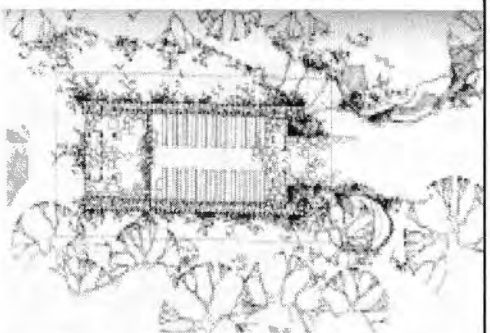


Figure 10: *Thorncrown Chapel - Site Plan.*

SCALE

His buildings also reflect a natural and human scale. The use of scale within his work achieves an intimacy between the structure, its users, and their surroundings, truly rooting his work to the characteristics associated with

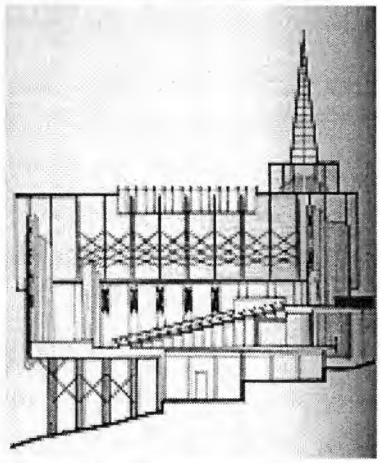


Figure 11: *Thorncrown Worship Center - Section.*



Figure 12: *Thorncrown Chapel - Entry View.*

MATERIALITY

Fay Jone's architecture has been popularly identified as using a limited palette of materials. His designs are grounded to the site by the selection and use of materials he chooses. His buildings are solid objects of craft reflecting the mastering of detail and the intimate understanding of the materials in which he utilizes. Nature is the touchstone from which he chooses his materials, usually integrating local materials such as wood and stone.

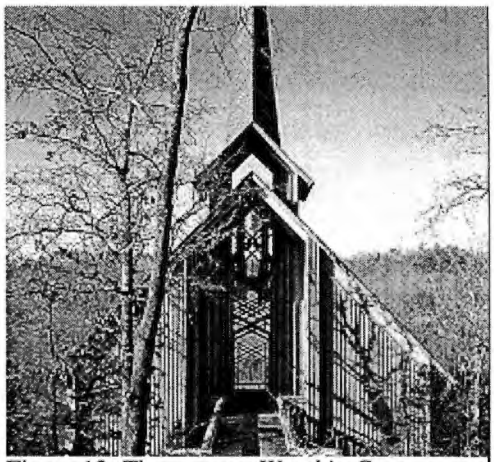


Figure 13: *Thorncrown Worship Center - Approach View.*

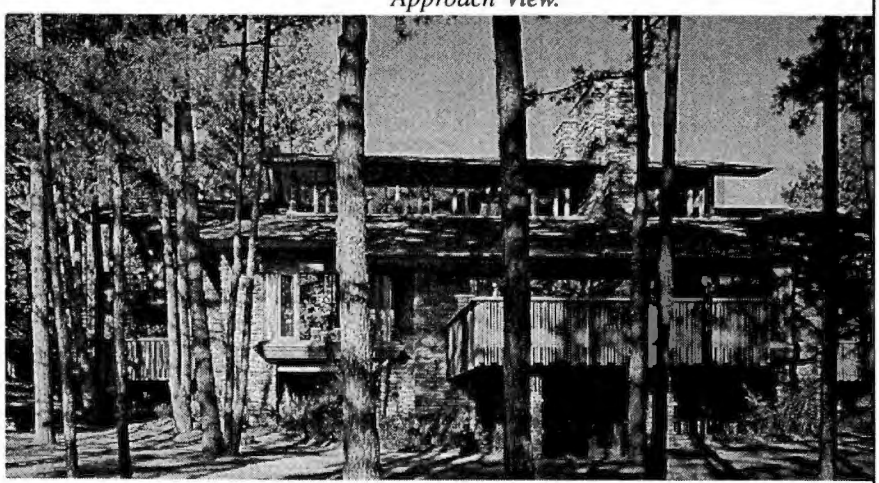


Figure 14: *Fairfield Residence - Rear View.*

He incorporates large amounts of glazing to allow the surroundings and an abundance of natural light to penetrate his buildings allowing the users a strong connection to his/her environment, while at the same time strategically framing expansive views.

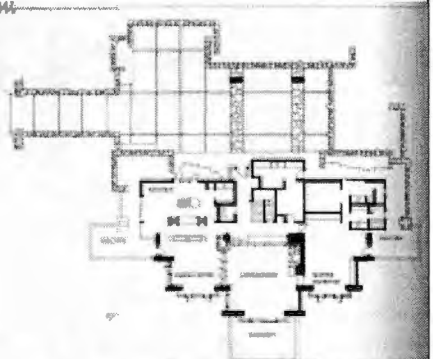


Figure 15: *Fairfield Residence - FloorPlan.*

TECHNOLOGY

Fay Jone's creates his own technology by the amount of craftsmanship he incorporates into the structure of his designs. He uses advanced building techniques and materials in regionally specific ways which unify his buildings to the context of the environment. As Jon Coddington stated, "technology is linked to the craft and invention within the context of common materials and methods of construction."

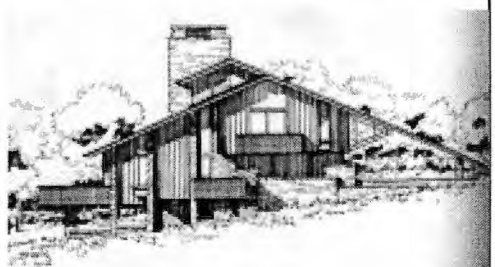


Figure 16: *Fairfield Residence - Elevation.*

TIME

I sought some enduring qualities, something of the timeless qualities... I certainly never sought the bizarre... I've never been interested in shock as a means... Fads and trends are almost always misleading... I am trying to do work in a process that is based on time-honored principles."

Fay Jones

Within the works of Fay Jones one feels these remarks. His works feel as timeless as the natural context in which they rest. The materiality, the craft, and the positioning of the functional elements in relation to the context of the site all contribute to the timeless quality evoked within his buildings.

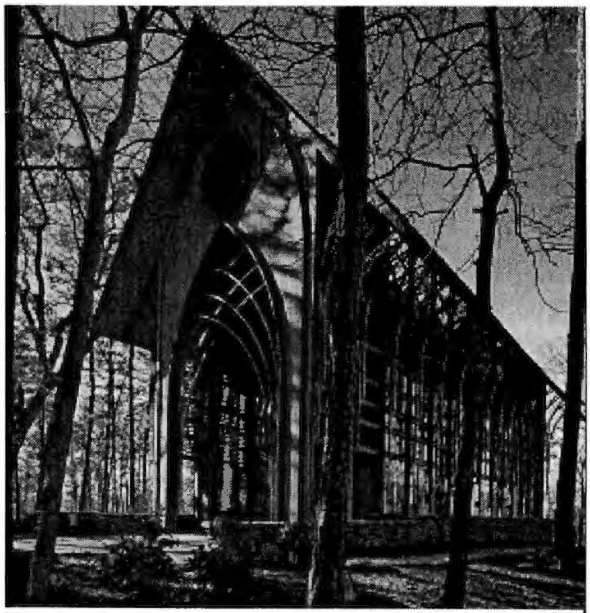


Figure 17: *Cooper Memorial: Approach*

POSITION

Fay Jone's Architecture is organic in that his buildings grow from the site and become harmonious to it. The positioning of his buildings and all their accompanying program parts within the landscape truly unite the buildings to the qualities of place.

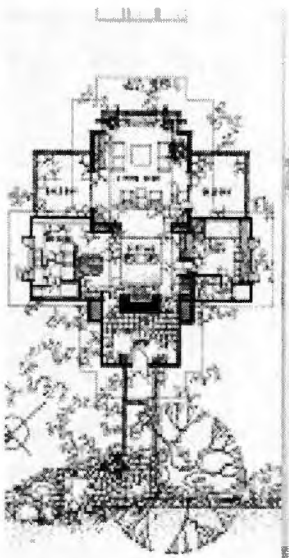


Figure 18: *Quest House - Floor Plan.*

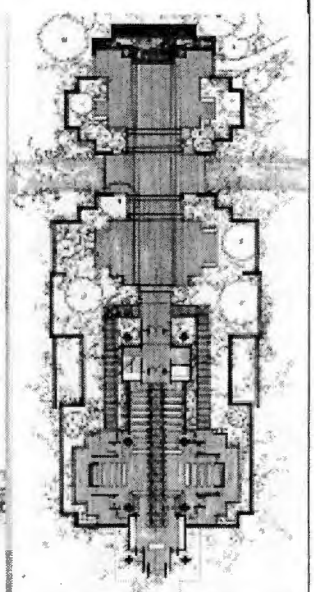


Figure 19: *Leonard Chapel - Floor Plan.*

The repetition, regularity, and simplicity characteristic of a modernistic design are overcome with the craft, materiality, regional architectural forms, and connectedness to nature Jone's buildings aspire in creating an architecture that engages the local and the global.

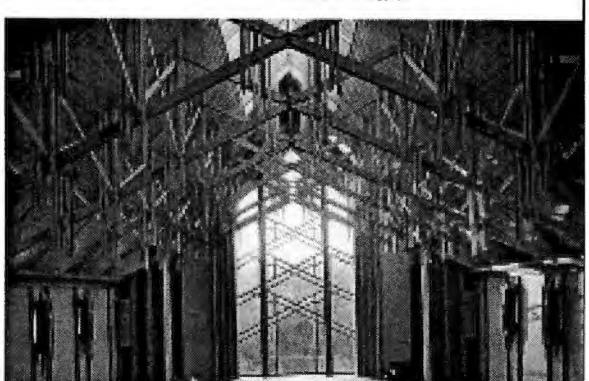


Figure 20: *Thorncrown Worship Center- Interior View.*

5.2 ANTOINE PREDOCK

"New Mexico has formed my experience in an all pervasive sense. I Don't think of New Mexico as a region . I think of it as a force that has entered my system, a force that is composed of many things."

Antoine Predock

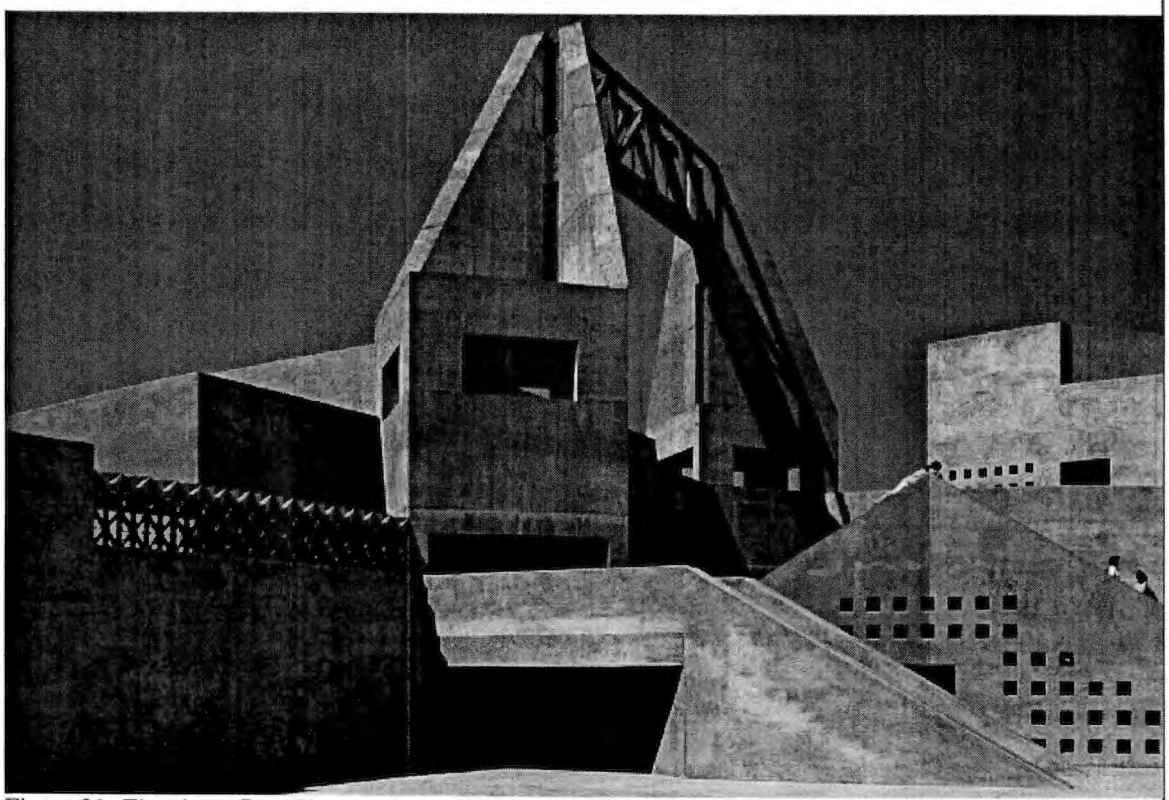


Figure 21: *Fine Arts - Rear View.*

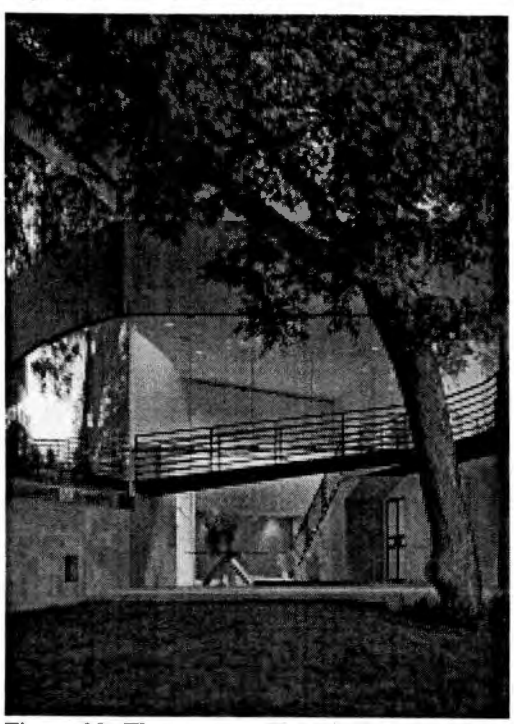


Figure 22: *Thorncrown Chapel - Interior View.*

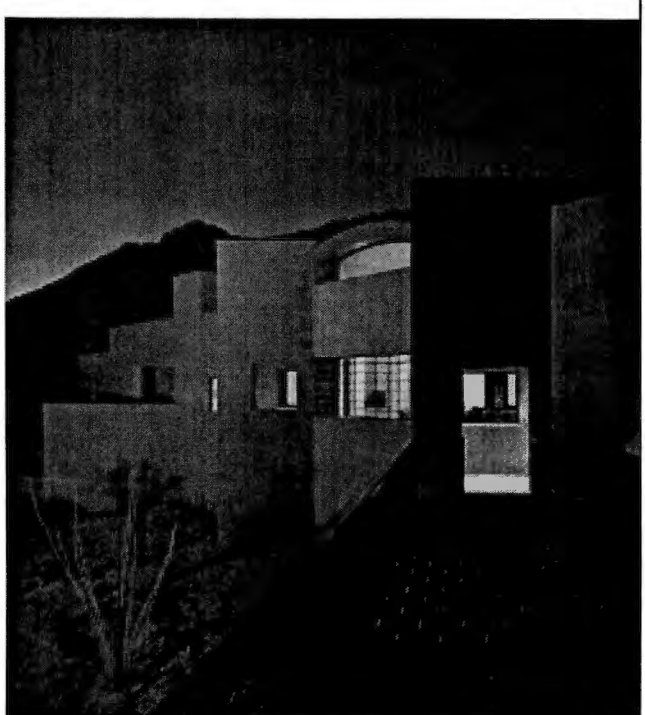


Figure 23: *Residence - View from extended walk*

TECHNOLOGY

Predock sees that the employment of technology must be seen in relation to the qualities of a particular place. Similar to Faye Jones, this engagement with technology and creative invention is never void of the unique qualities of a particular place.

The incorporation of water, the manipulation of natural light, and dynamic form are some of the ways in which he coadunates the qualities inherent in place to invention and technological advancement.

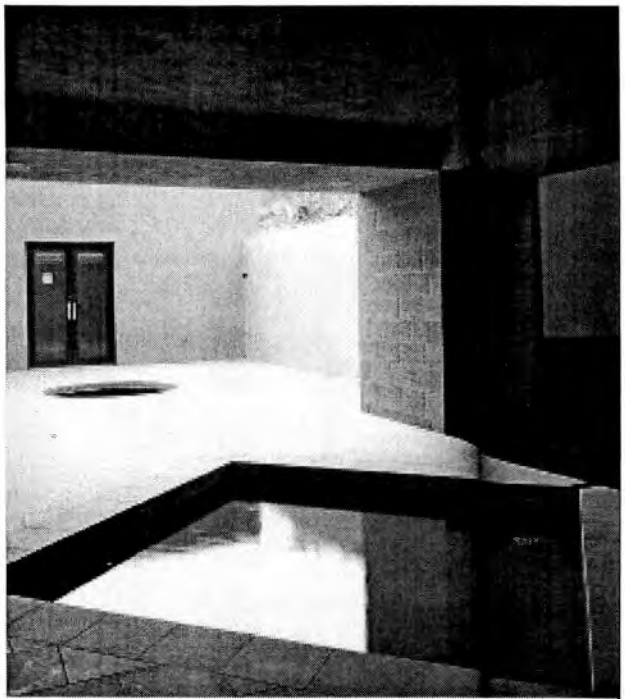


Figure 24: *Fine Arts Building - Interior View.*

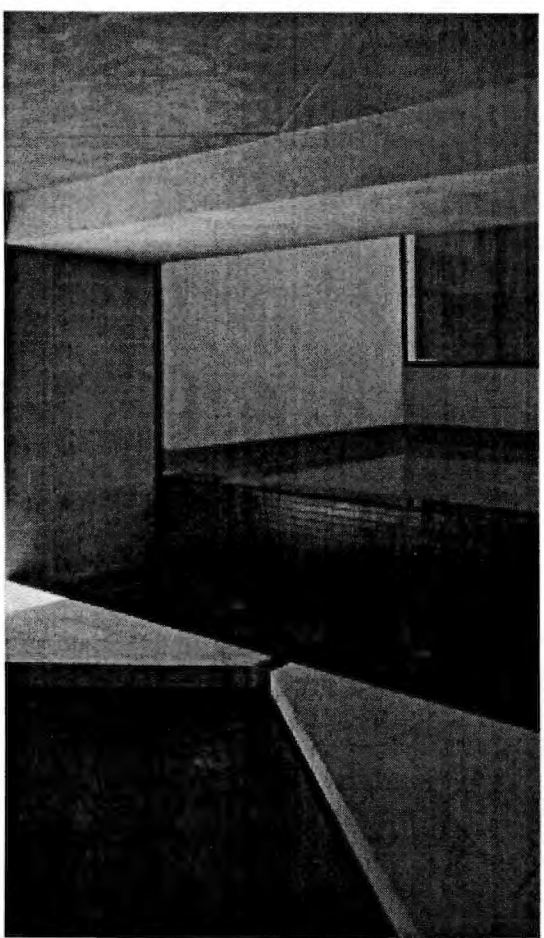


Figure 25: *Fine Arts - Interior View.*

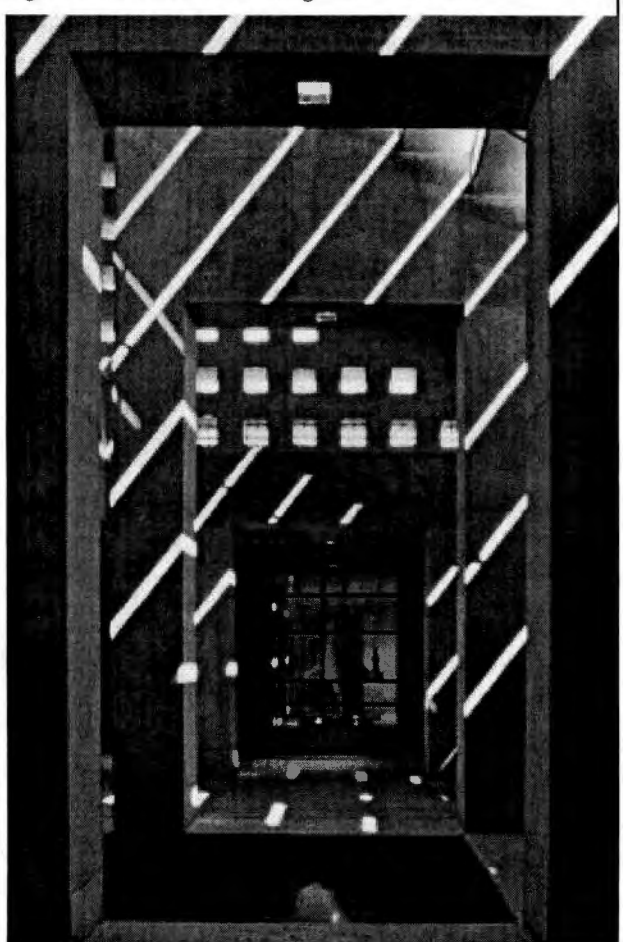


Figure 26: *Fine Arts - Interior View.*

PLACE

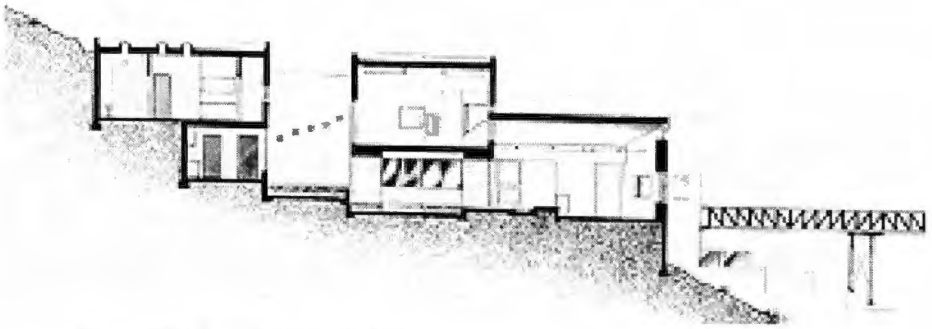


Figure 27: *Residence - Section.*

Predock is driven by the forces that are inherent within a particular place. These forces drive his designs, from the materials chosen in construction to the buildings orientation upon the site, and clearly define his architectural values systems.

These forces, which are of influence within his design, range from the basic responses of climate, wind direction, movement of the sun, etc., to that of the spiritual and mythical components of the past, present, and future.

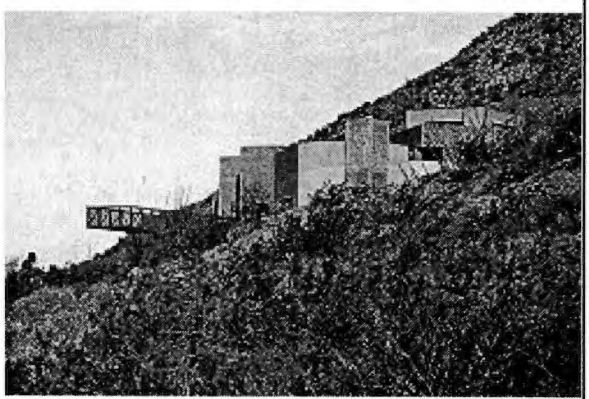


Figure 28: *Residence - From Road.*

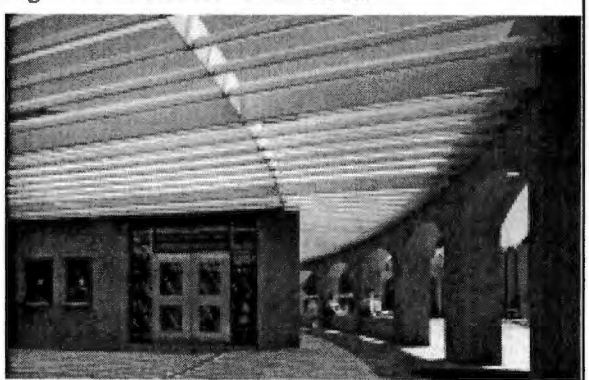


Figure 29: *Fine Arts Building - Interior View.*

SCALE

Elements of scale are abundantly present within his designs. All his projects are reflective of the scale associated to the human being, while maintaining a connection to that which is immeasurable, monumental, and non-scalar.

As seen in the photographs, Predock's designs are compilation of dynamic forms and functions. The variety of these forms and materials is an expression of his deep understanding of the qualities place and scale.

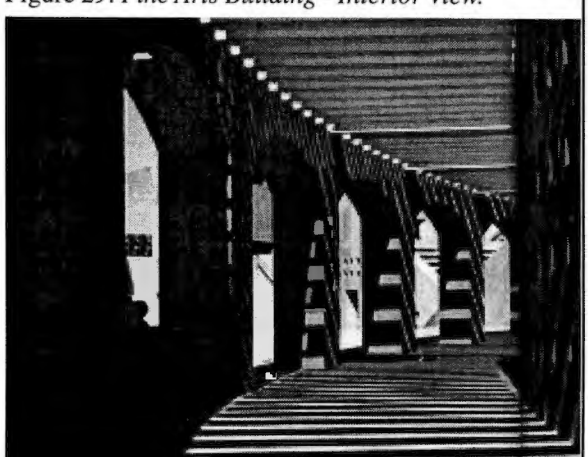


Figure 30: *Fine Arts Building - Interior View.*

MATERIALITY

Predock uses a broad palette of materials in the construction and realization of his projects. He uses the same resources in the selection of materials as he does in the concept of his projects. His decisions regarding materiality are never haphazard or without intention.

Here he employs large panes of glazing to emphasize the buildings connection to the site, while at the same time allowing for continuous and expansive views of the sites rich context.

On the other facade of Turtle Creek, Predock strives for permanence and definition in building form with his use of concrete and stone.



Figure31: *Residence - View of exterior walk.*



Figure 32: *Residence - Site section.*

TIME



Predock strives to produce an architecture that becomes timeless. By incorporating systems of construction that have been in use over a long period of time his architecture becomes an extension of the past and therefore seen as timeless. His work reflects an intimate relationship with the timeless qualities of place and space. There is this sense of permanence associated with his designs reflective of this relationship.

POSITION



The positioning of elements within his designs is critical in the success of his structures. Predock establishes a rhythm in his building, through series of vantage points within his buildings in which he frames views, manipulates sun penetration, and celebrates the separation/ connection of dynamic space.

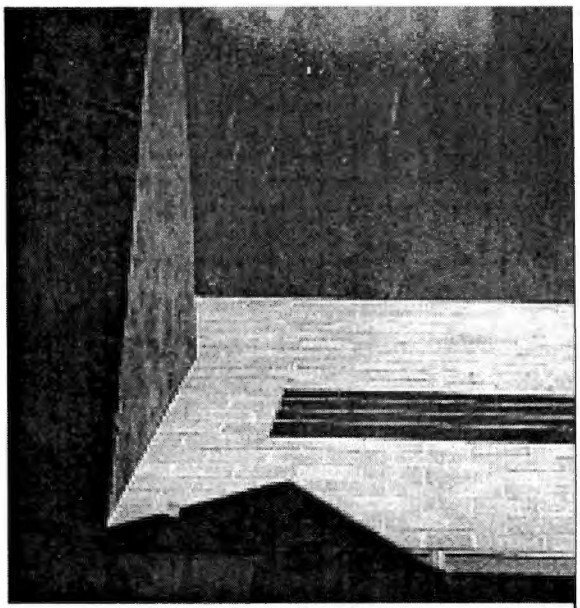


Figure 33: *Fine Arts Building - Sky View.*

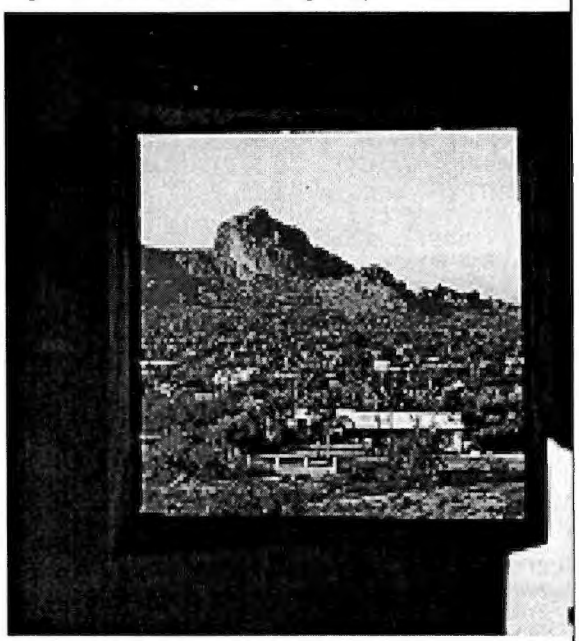
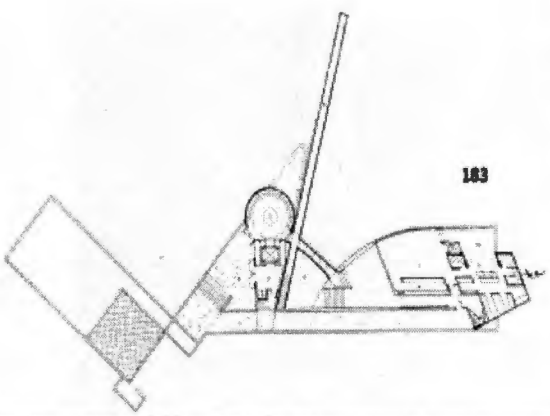


Figure 34: *Residence - Inside/Out View.*



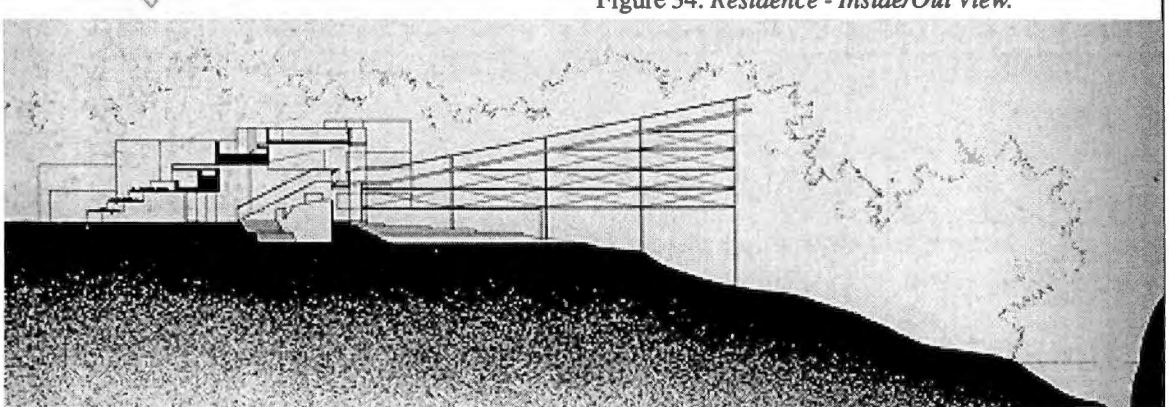


Figure 35: *Residence - Site section.*

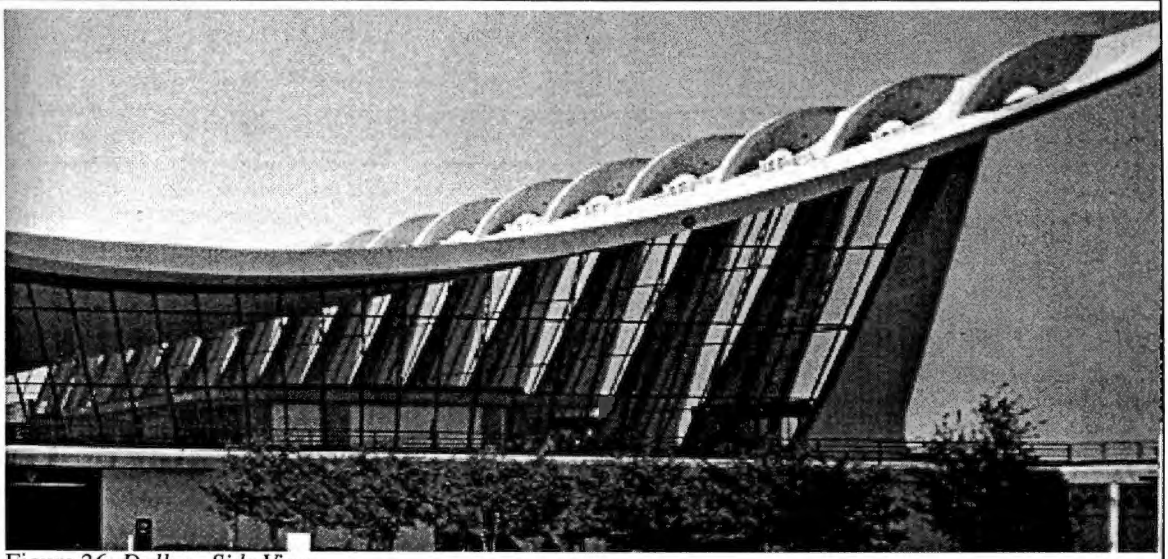


Figure 36: *Dulles - Side View.*

TIME

Dulles is a building spawned from space, technology, and intellectual invention which is reflective of modern times and ideals. It is a building as well as a monument representing the age of travel and the future which, as Saarinen states, "a world facility belonging to the age of travel, swifter than the speed of the day." Dulles is truly a monument worthy of the technological age.



Figure 37: *Dulles - View of Control Tower.*

TECHNOLOGY

When conceived Dulle's employed the latest innovation in communications and building technologies. Saarinen used mobile lounges to bring the passenger to the aircraft. This design innovation allowed a more efficient use of space, reducing by great lengths the amount of walking distance the passenger needed to travel to reach the aircraft. This design innovation allowed the realization of the architect's vision of a linear terminal that could be expanded upon by great lengths without altering the original design intention.

The technological design continues throughout with little variation in form and materiality: However, the massive sweeping roof differentiates its "international" style counterparts, giving the building character and identity.

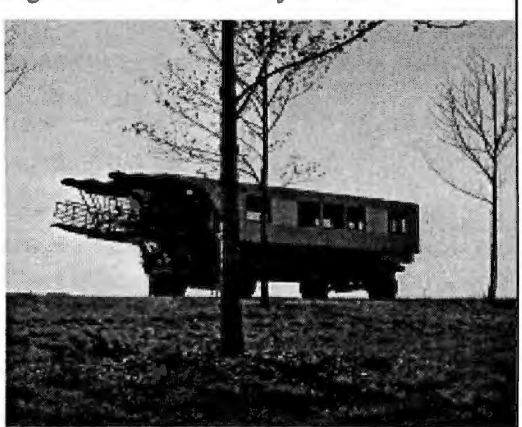


Figure 38: *Mobile Lounges.*

PLACE

The location of the airport is twenty miles Northeast of Washington in Chantilly, VA.. Saarinen envisioned the airport as being somewhere between earth and sky, reflective of the Nations capital. Seeing Federal Architectural tradition as Neo-Roman and static, Saarinen searched for an entry that would reflect the national republic, being non-static and expressive of the American "spirit".

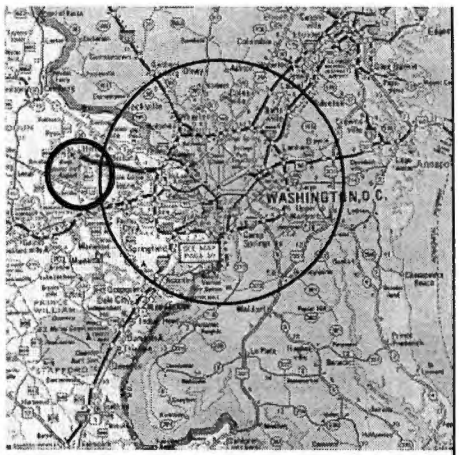
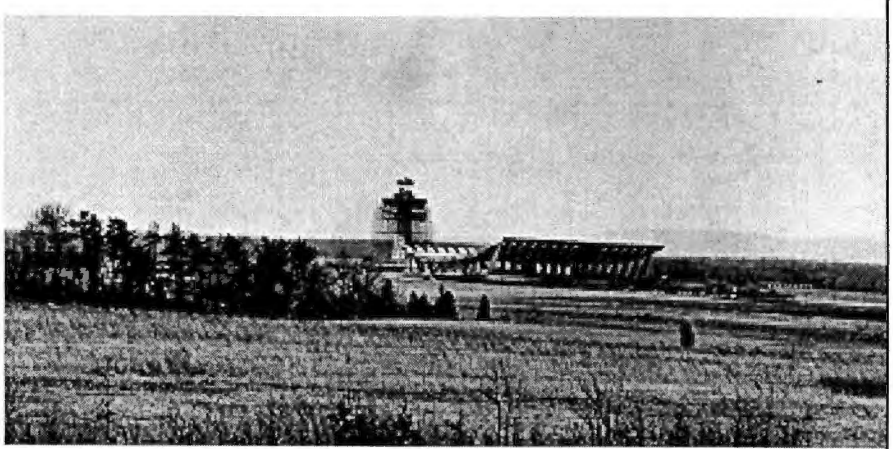


Figure 39: *Atlas - D.C. Area*

However, distant from the city center, Dulles is viewed as an integral element serving Washington, remembered by its users and occupants as a grand Architectural achievement of historic and universal importance. Typical of a universal, high-tech, and modernist design, the airport


Figure 40: *Dulles - Approach View.*

is independent of its site and natural surroundings, a monument of industrialism and advancing technologies, an object in space.

MATERIALITY

The materials and the construction methods used in the erecting of Dulles Airport are representative of industrialism and the modern movement, neglecting local materials and construction techniques. Large and extensive panes of glass, concrete, and steel were the materials chosen for the construction of the airport, evoking feelings of industrialization and high-tech.


Figure 41: *Dulles - Interior View.*

POSITION

The positioning of the program elements, the open plan, and the linear orientation upon the site lends itself well for future expansion and program adaptation. The positioning of vehicular parking below surface level appropriately facilitates views to and from the terminal.

The program elements are positioned in a sequential and hierarchial manner, with administration and ticketing spaces centrally located. All other spaces are linearly linked and housed within the large-scale industrialist shell of modernity.

In section, there is a clear division between these spaces, inside and outside, served and service, open and closed, along with private and public.

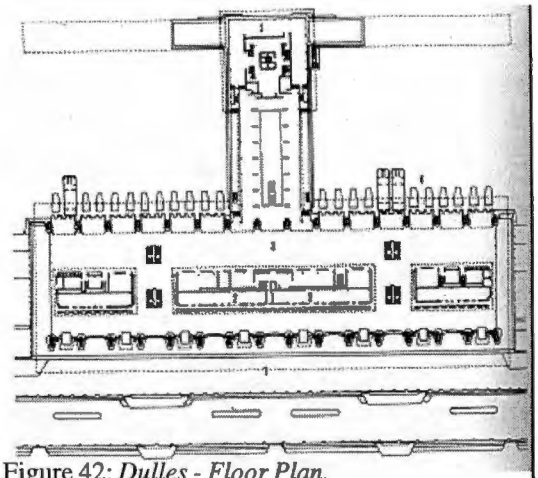


Figure 42: *Dulles - Floor Plan.*

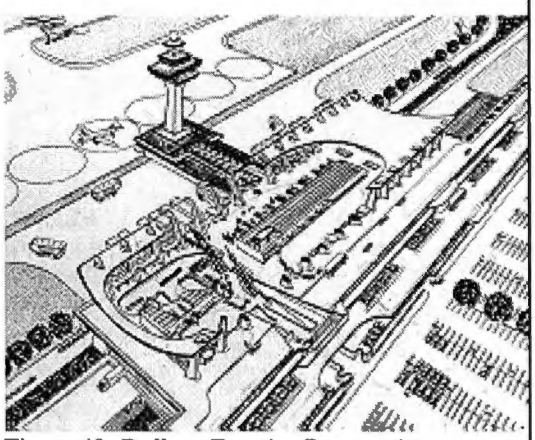


Figure 43: *Dulles - Exterior Perspective.*

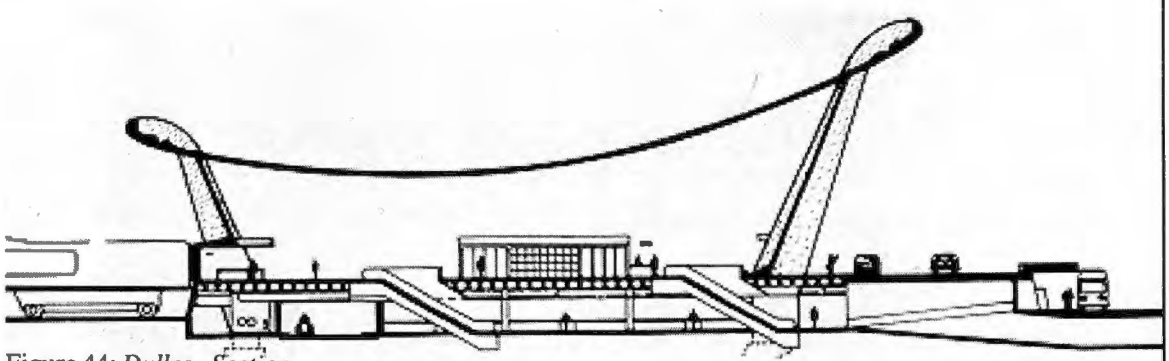


Figure 44: *Dulles - Section.*

SCALE

The scale of Dulles is monumental, consisting of a 600 ft. span of glass and concrete facade with columns sixty-five feet in height. These forms provide a massive gesture of sculptural freedom. The approach to the airport is dynamic and visually powerful. The composition draws one inward to the curving roof structure. With its rhythmic consistency and enormous scale, reaching its maximum height at the entry of the building, overpower the user.

As Saarinen strives for a building representative of the scale of "the large birds", human scale is forgotten and limited to the size of the doors, the canopies, and the interior freestanding functional elements housing the ticketing, mobile lounges, baggage, shops, etc.

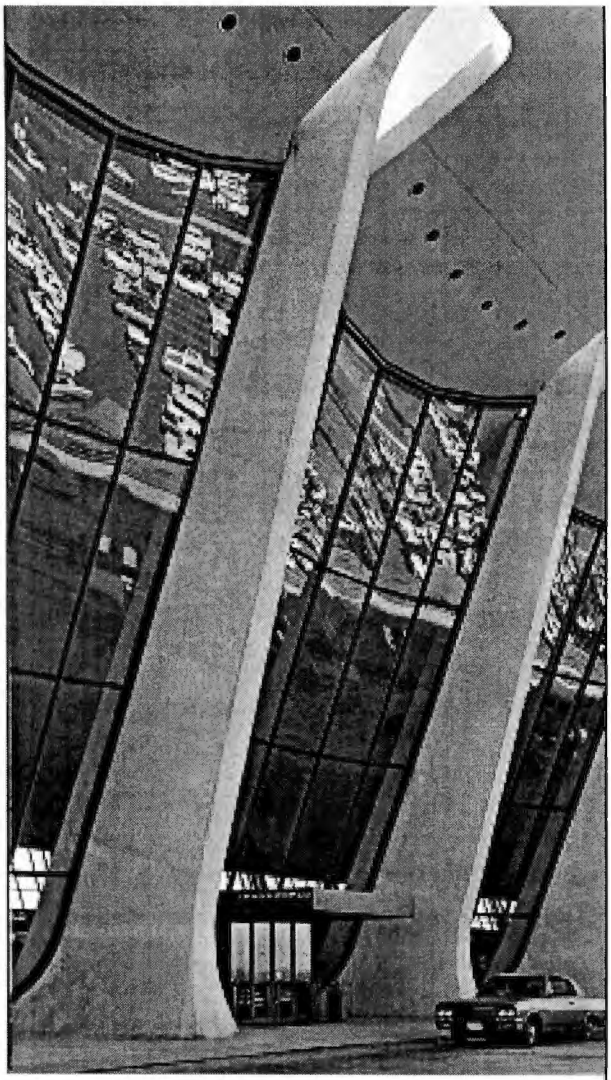


Figure 45: *Dulles - Front View.*

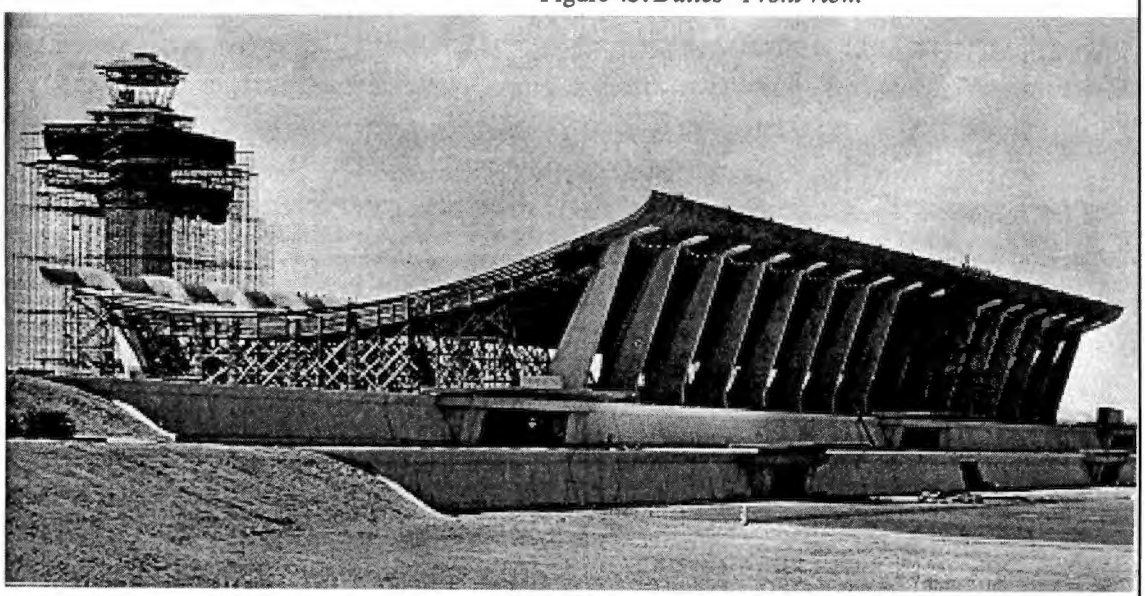


Figure 46: *Dulles - Under Construction.*

5.4 Stansted Airport Terminal London, England Norman Foster

"Integration of structure, surfaces, and architectural intentions can result in the fusion of technology with aesthetic considerations and materiality backed with concept."

Annette

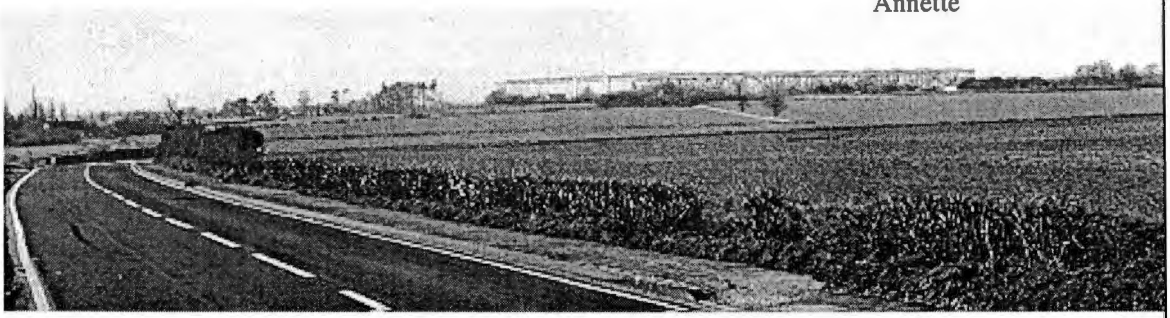


Figure 47: *Stansted - Approach View.*

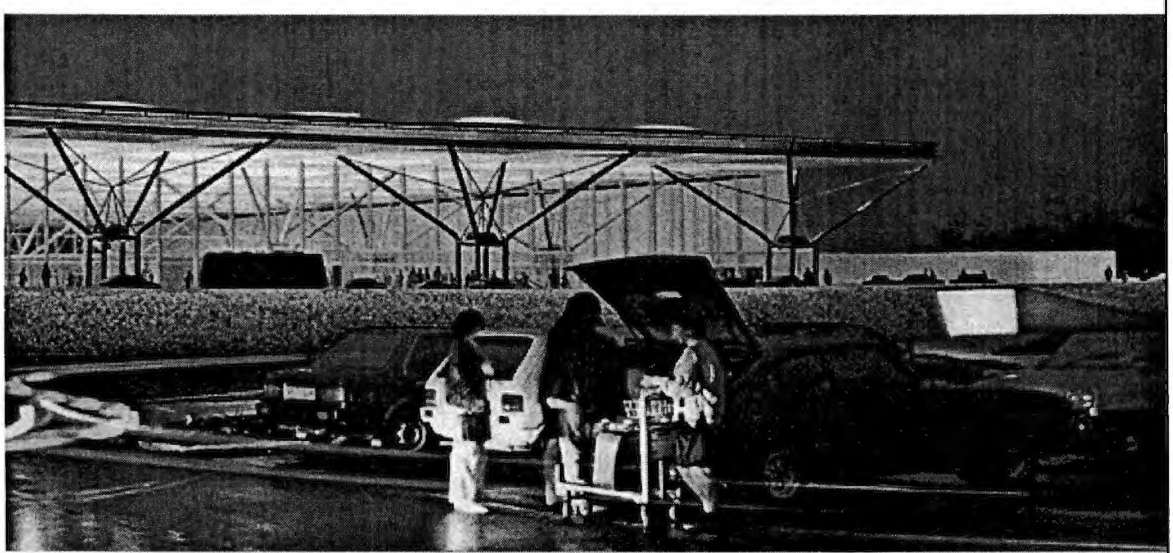


Figure 48: *Stansted - Model.*

PLACE

The design and the location of the Stansted Airport were influenced by numerous factors associated with the site and its context. The location of the terminal allowed for the closest possible integration of all transportation links to Stansted. The design, in section, was conceptualized and grew out of respect of the site and its characteristics. The site rests within an expansive green meadow with rural surroundings and a distant grove of trees.

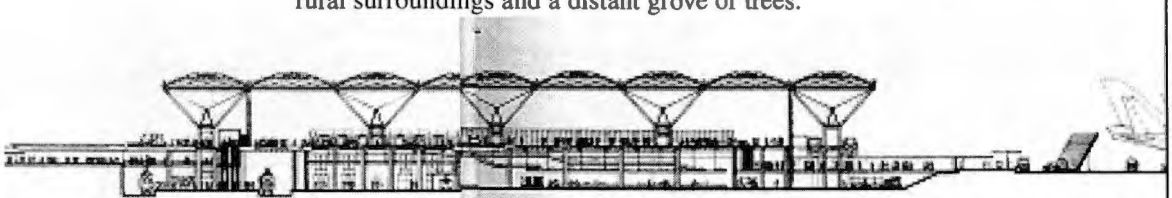


Figure 49: *Stansted - Section.*

The building respects these characteristics with its use of scale, materiality, technologies, and positioning within the sites context. The structural design reflects the scale and forms of trees, rooted with its footings and unfolding as the structure branches out above, which is consistent in the buildings realization. The result is a low profile building within the landscape, with a light roof, one level, and expansive views of the region.

TECHNOLOGY

Foster looked at the technology of the aircraft for achitectural inspiration, to employ technologies that would facilitate the principles and concepts behind his design intentions. Foster wanted to create a view of the airplane upon entering the terminal and to maintain simplicity, order, and the flexibility for future expansion at an affordable cost to the client. In doing this Foster created a terminal that was open, combining and minimizing as much of the program, materials, and services that he could throughout the design.

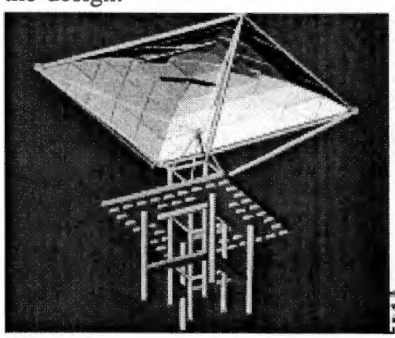


Figure 50: *Stansted - Structure.*

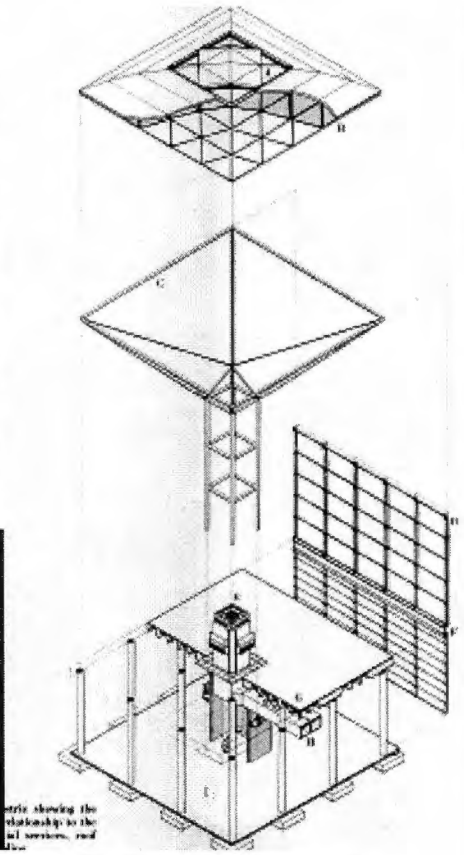


Figure 51: *Stansted - Axonometric.*

Foster fuses technologies through the unification of the structure and the services distribution in such a way that it allowed the roof to become free and serve as a mere umbrella. This allowed him to maintain his original intentions of scale, simplicity, and openness while creating a sense of place and severely lessening the overall cost of the structure.

MATERIALITY

The materials and accompanying structure open the building to the surrounding environments, allowing one to feel integrated to both the site and to that which lies beyond - the universal. The surfaces of the building can and do shape the architecture of the building in a positive way. The building is seen as gateway both to the region as well as to the world, by way of the building's transparent quality. Either end is highly visible and open allowing one to feel the connection to both. Large amounts of glass and steel are used to facilitate this openness.

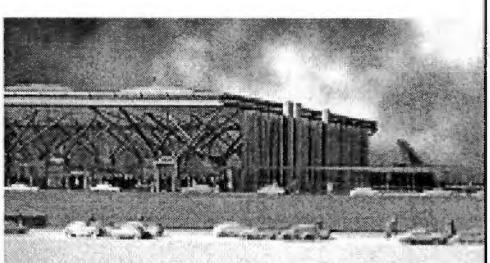


Figure 52: *Stansted - Model.*



Figure 53: *Stansted - Model.*

POSITION

The positioning of program elements and activities is done in such a way to a create and define the various spaces as unique and identifiable. The functional relationships between these spaces aid in the comprehensible nature of the airport and creates a clear and concise pattern of circulation and connection. Arrival and departure sequences are appropriately separated throughout, united by flexible and self-enclosed passenger facilities, landside and airside.

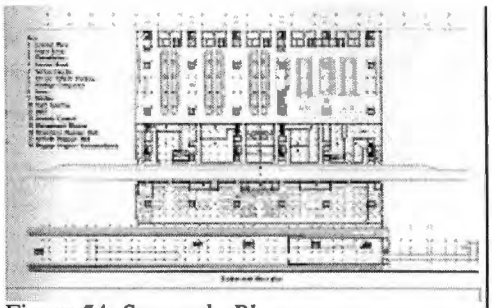
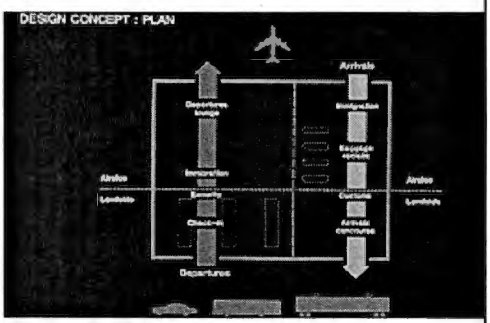
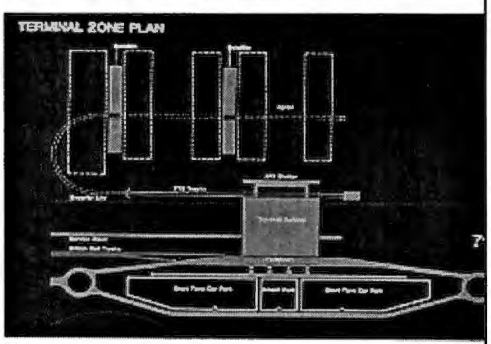
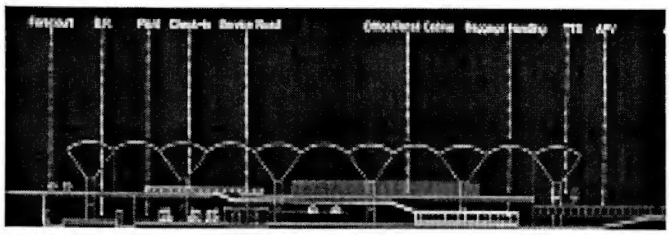


Figure 54: *Stansted - Plan.*







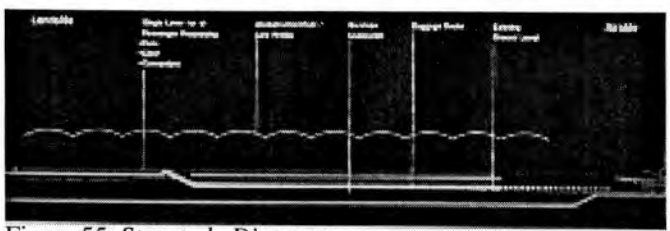


Figure 55: *Stansted - Diagrams.*

SCALE

Foster maintains a human scale by creating seperate structures to house program elements such as shops, restaurants, restrooms, etc. The body of the terminal appropriately responds to the scale of the plane and distant trees, maintaining a light and open feel while reducing the stress and crowding associated with lower roof structures in high occupancy spaces.

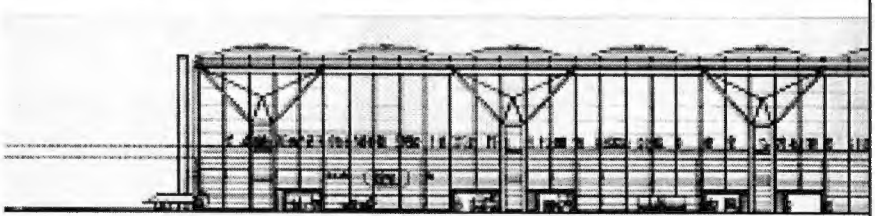


Figure 56: *Stansted - Elevation.*

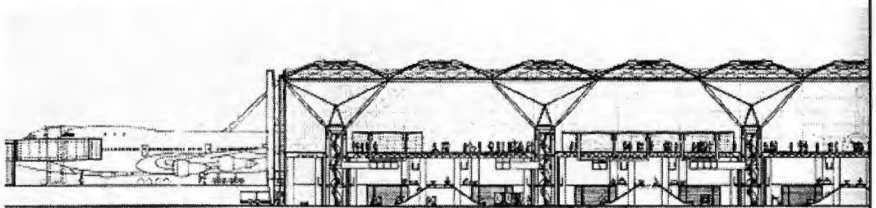


Figure 57: *Stansted - Section.*

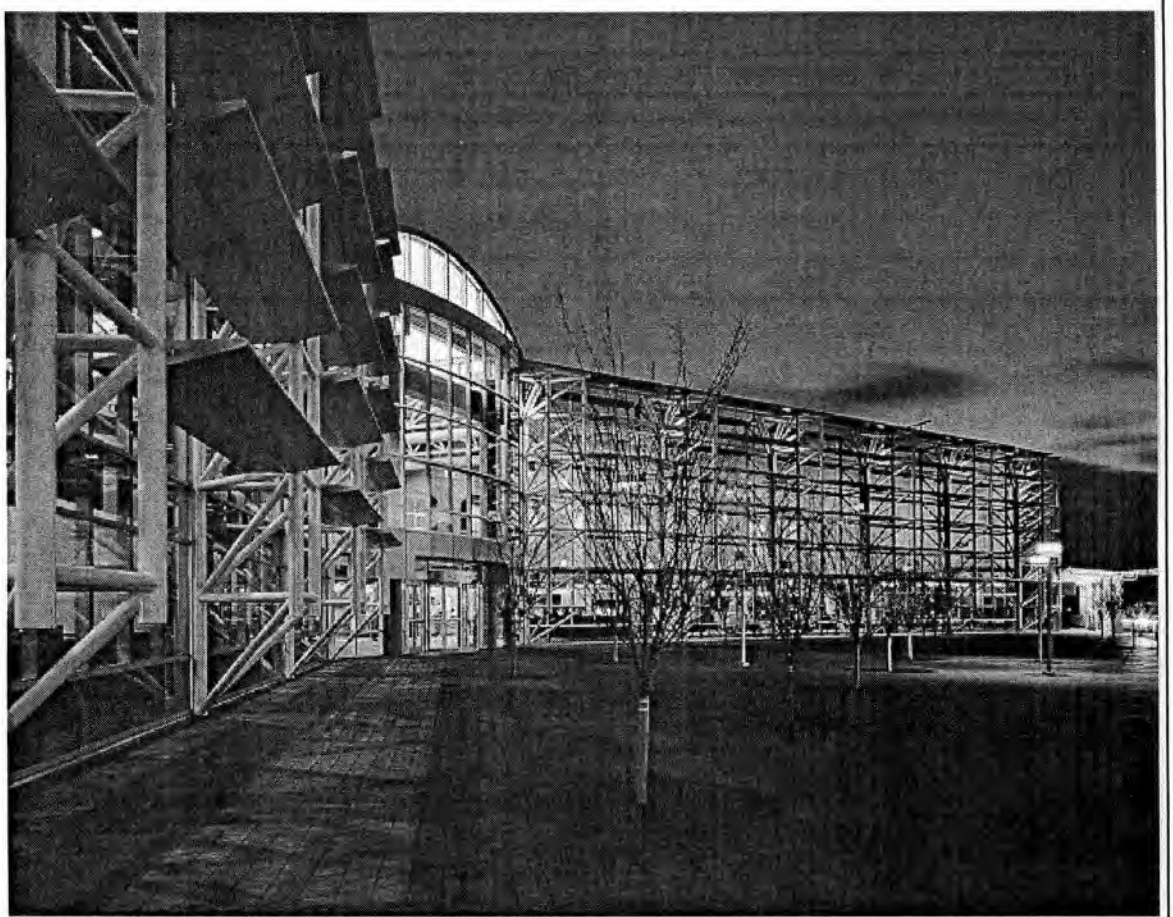


Figure 58: *Roanoake Regional Airport - Front View.*

TECHNOLOGY

Technology is clearly the driving force within the design of this building, from the sequences and forms of the spaces to the materials chosen, the concept of technology and the universal is apparent throughout. The high-tech structural facade of tinted, reflective, and clear glass, exposed steel, wingflaps, and flat undifferentiated building form conceptually welcomes the visitor to the notion of flight and demonstrates advancing technology in building technique.

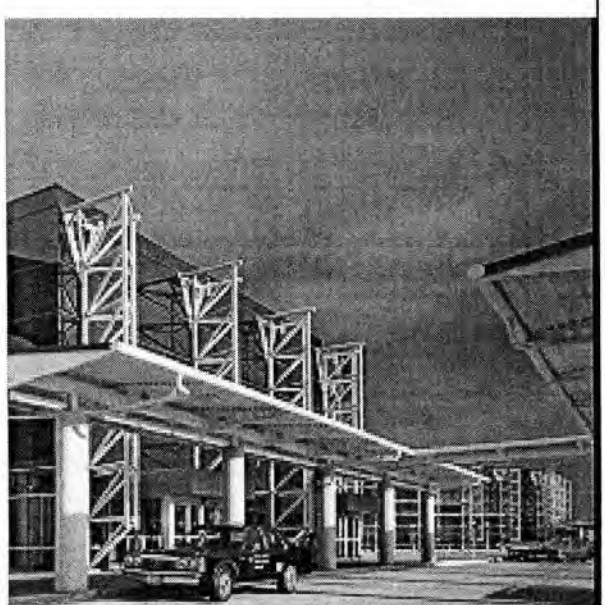


Figure 59: *Roanoake Regional Airport - Side Entry.*

The entry canopies and the solar foils that screen the south elevation continue this tectonic influence representative of the future.

PLACE

In contrast to this technologically advanced and innovative facade, a highly detailed brick wall defines the interior spaces and activity. The brick wall, separating landside from airside, invokes a visual link to the visitor of the old warehouse district of Roanoke, with its borrowed details, materials, and consistency of form. The wall pierces not only the interior but breaks the tectonic exterior, adding to the layering affect appropriate in the designing of an airport. The wall, in its realization, however, seems out of place due to the abundance of technological form and material in front, back, above, and below the wall.

MATERIALITY

Materials of glass, steel, concrete, sheet metal, aluminum, tile, and brick are interwoven and used throughout allowing the visitor a more sensual experience not common within most airports. Within the interior lobby space the layering of and contrasting forms, materials, and sequences are reflective of place and the universal.

SCALE

The spaces within the airport offer differing uses of scale, aiding in the definition and successful interpretation of the of activity within the spaces. The combination of large and small scalar elements offer the visitor different experiences depending on one's position in the terminal. The brick wall within incorporates a more human scale and defines the passages to the other elements of the teminal.

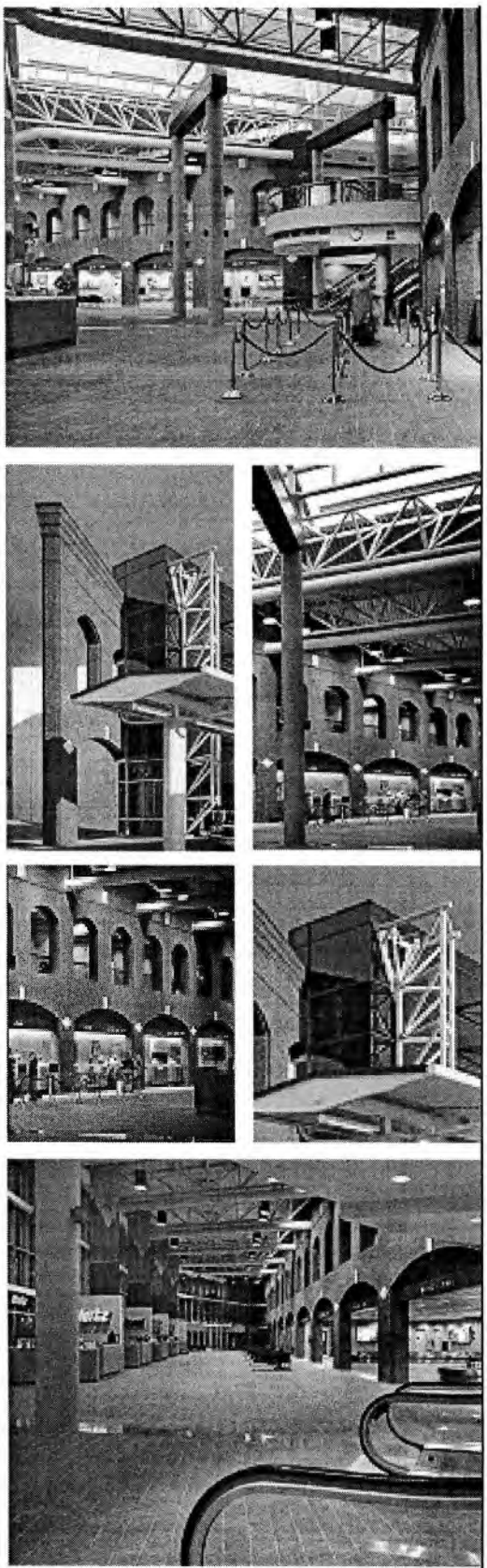


Figure 60: *Roanoake Regional Airport - Interior/Exterior Views*

POSITION

Direct, clear, and open spaces facilitates ease of access to any of the locales within the terminal. The hierarchial positioning of the program spaces allows for this. Ticketing/baggage claim are separated by the main lobby which defines the termination of the spine of the terminal. This main spine through the terminal is the controlling element of the terminal from which all other program elements radiate.

A clear distinction between served and servant spaces, along with a distinct separation between landside and airside is apparent throughout the terminal. The plans flow smoothly with appropriate program adjacencies.

The form of the building takes the shape of a plane in plan, allowing groupings of activities within the wings and hub of the form, while also defining exterior volumes.

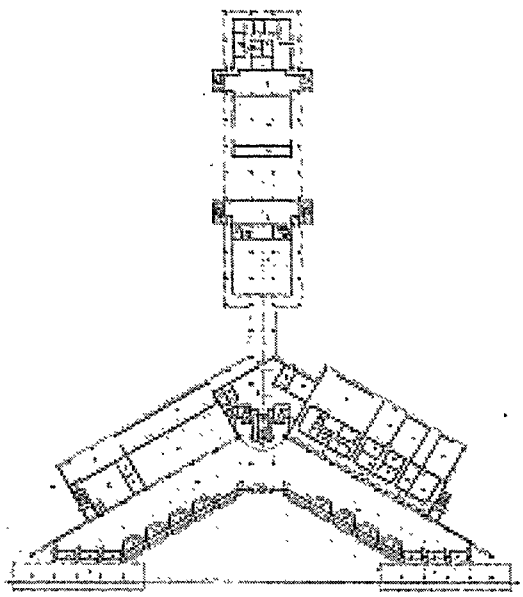


Figure 61: *Roanoake Regional Airport - First Floor Plan.*

TIME

From the exterior there is a sense of temporary that is invoked by the use of large panes of glass, exposed steel, and attached aluminum sun shields. A permanent quality is invoked from within as one is introduced to a continuous brick wall extending from one end of the terminal to the other, breaking the glazed exterior envelope at the terminal's ends.

The use of lighting illuminates this internal/external brick wall facade at night creating a timeless link between passerby and the terminal facility.

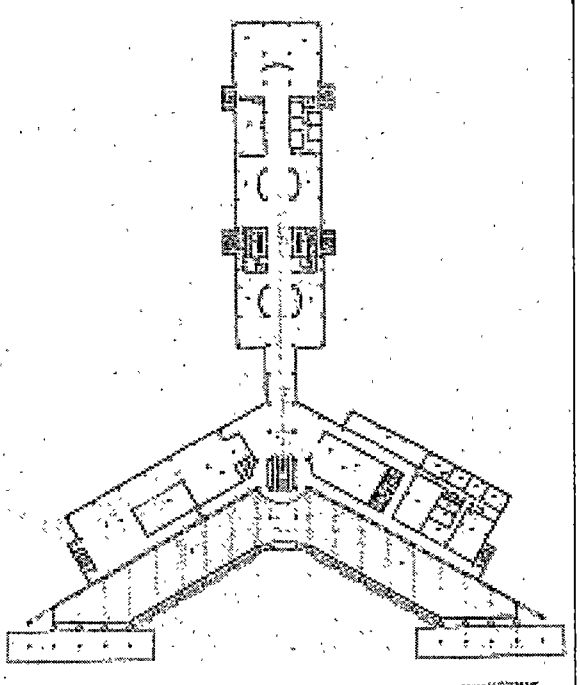


Figure 62: *Roanoake Regional Airport - Second Floor Plan.*

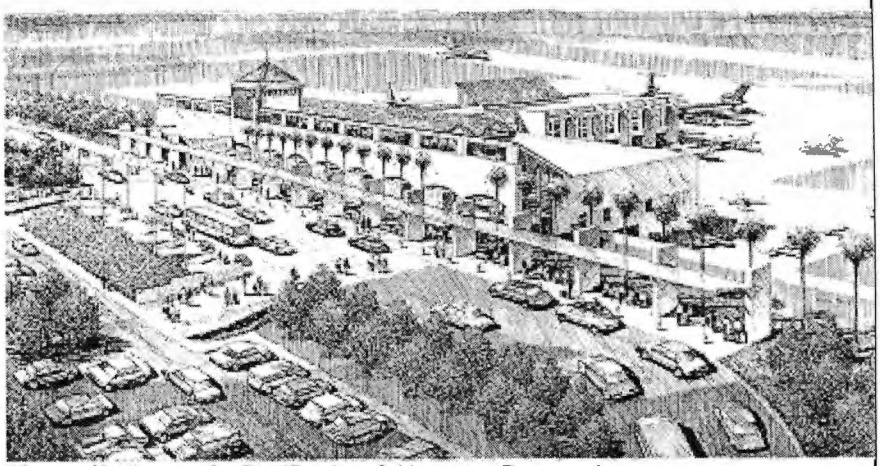


Figure 63: *Roanoake RegiRegional Airport - Perspective.*

PLACE

This airport is a gateway to the Rio Grande Valley which is an area proud of its roots and accepting of the future.

The Architectural Heritage of this semitropical southwestern locale is evident in the final design with thick stucco walls, cantera stone accents and a clay tile roof providing a cool exterior envelope. The terminal is a unique and regional specific design response to the region in which it rests.



Figure 64: *Roanoake Regional Airport - Entry.*

SCALE

The terminal building incorporates a humane scale with its low roof entry and use of landscaping. Palm trees, shrubs, clinging vines flowers, trellises, trees, and ever changing color and texture recall the important qualities of the area and aids in the regional identity this structure announces to arriving/departing visitors. The high lobby space is celebrated with an increase in scale and symmetry clearly defining this space as the beginning/end point of the circulation spine of the terminal and functions as the primary gathering space and identity of the airport.

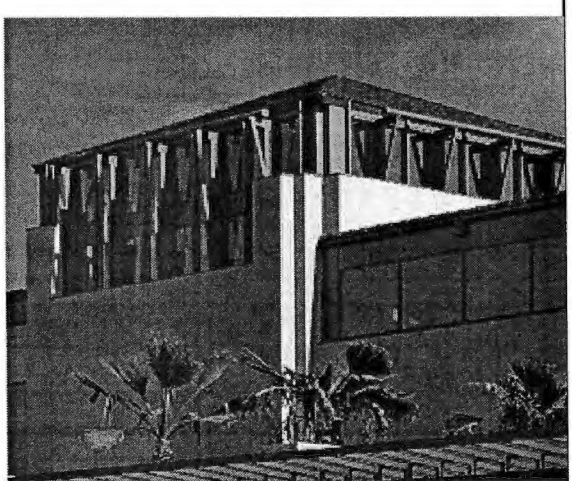


Figure 65: *Roanoake Regional Airport - Entry.*

MATERIALITY

Arched openings and vaulted ceilings with man-made Mexican tile, granite, terrazzo flooring and heavy wooded beams further add warmth and texture as traditional architectural elements reminiscent of the area and its history. Stucco with cantera stone accents continue as the dominant feature of the interior.

POSITION

The positioninng of the program elements allows a clear and simple circulation pattern to form within the terminal. This enabled the architect to celebrate the main spaces within the terminal at different localities and to different degrees. Throughout the terminal there is a combination of advancing technologies and traditional materials, a variety of local color tone and textures typical of the area, and an abundance of expansive/open spaces. The facility is easily expandable and the architect has established a set of design standards for future expansion.

TECHNOLOGY/ TIME

A high-tech structural framework is introduced within the entry of the terminal announcing the technological nature of air travel and terminal design. To announce this modernity of air travel through the design of the terminal large expanses of tinted glass, glass block walls, exposed metal trusses, modern light fixtures, and stainless steel handrails are used throughout, adding to the theme of of high-tech and the universal.

The contrasting elements of more regionally specific and historic forms, materials, and landscaping to that of the hi-tech detailing and penetrating forms add to this duality of contradictions of the regional and the universal. Wood trellises shield the opening the openings of the building from direct sun and offer visitors areas of relief from the hot and arid climate of this southern locale.

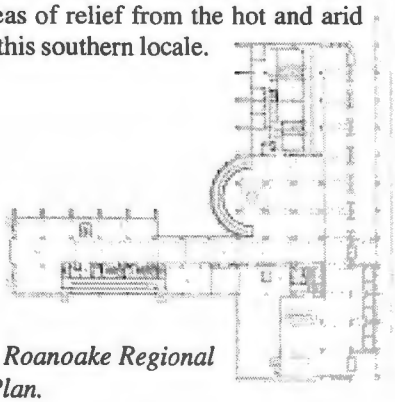
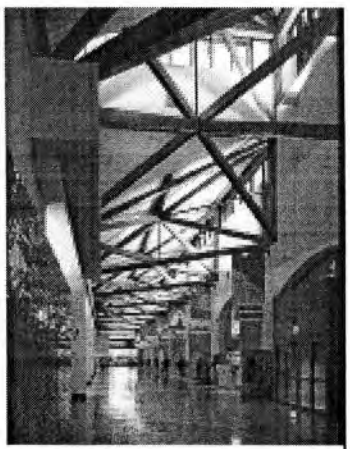


Figure 67: *Roanoake Regional Airport - Plan.*



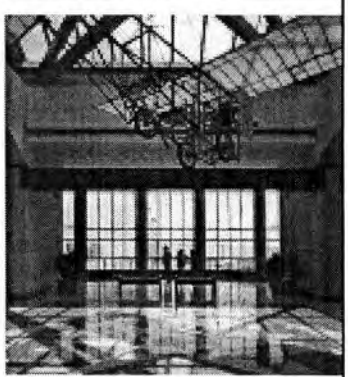
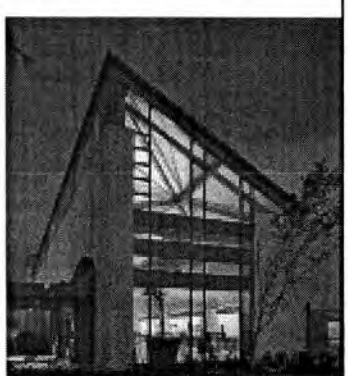


Figure 66: *Roanoake Regional Airport - Interior Views.*



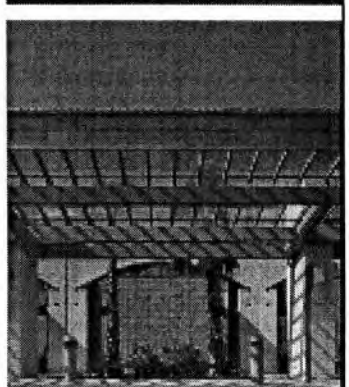


Figure 68: *Roanoake Regional Airport - Exterior Views.*

The Terminal is a unique building type which serves as a metaphorical gateway to a particular region and its peoples. From a historical point of view the airport is a relatively new, specialized, and demanding building type that facilitates an enormous number of passengers on a twenty-four hour, three-hundred and sixty-five day schedule. The complex components of an airport terminal need to reflect a basic simplicity by providing direct functional relationships between the various program elements and their facilities. The spaces within an airport are dynamic, expressive, innovative, open, and functional requiring a similar design response and solution.

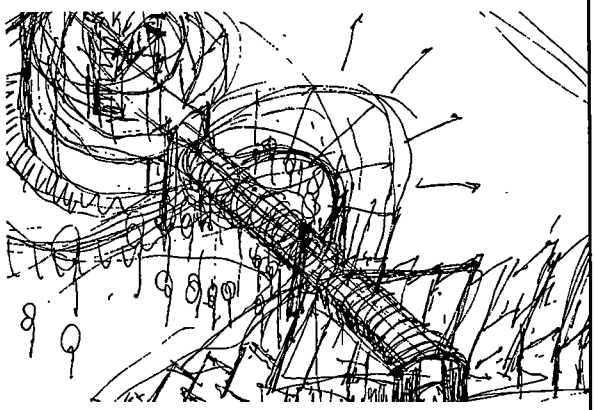


Figure 70: *Schematic Sketch.*

The airport is an interchange of transportations, communication, innovation, and culture, a celebration of arrival/departure. It should have wide open spaces, expansive views, clear circulation, and innovative and expressive forms, volumes, and sequences.

The goal and vision of the terminal is to act as an economic catalyst for growth and a heightened sense of regional identity on a local, regional, and global scale. Through the manifestations of technology, innovation, and regional quality the design should provide an architecture reflective of the region and its drive to the next millennium.

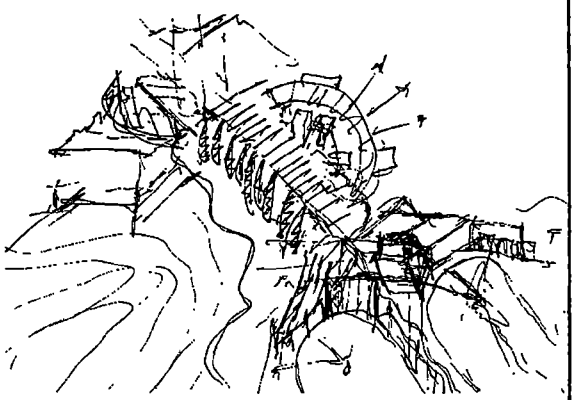


Figure71: *Schematic Sketch.*

The spatial sequence of the terminal will address the airfield configuration (offsetting parallel runways), future building expansion, the qualities of the site, and the needs of the programmed spaces. Direct and clearly defined spaces, adequately displayed information providing minimal confusion, an abundance of natural light, energy efficiency, views of the airfield, arriving and departing aircraft, and region from strategically chosen locations are critical to the success of the terminal.

The following regional airport program elements are divided into three primary interrelated components, consisting of Airside, Landside, and the Terminal. Within these the terminal elements are broken up into separate components and looked at individually to strengthen the overall design and how it relates to the functional nature of the terminal.

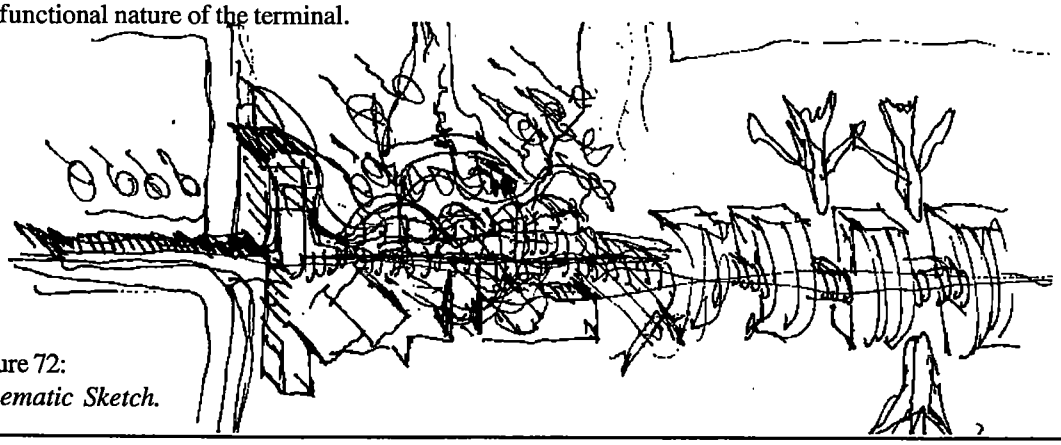


Figure 72:
Schematic Sketch.

6.1 PROGRAM ELEMENTS

AIRSIDE: Two parallel 10, 000 foot runways with parallel taxiways. The runways will be staggered to minimize the distance between one another and the amount of cut/fill.

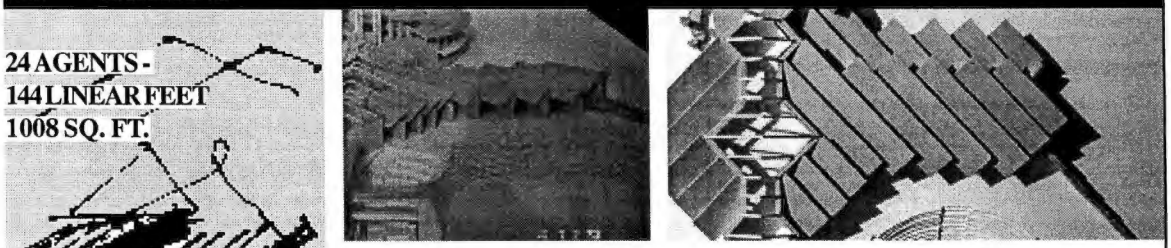
LANDSIDE: The landside component of the design is envisioned as a stepped terrace landscaped with cars. A four lane access road with curbside parking and adequate space for the loading/unloading of passengers. Parking facilities include spaces for short-term, long-term, employees, and rental car agencies.

Short-term/Long-term Parking	2000 spaces
Employee Parking	400 spaces
Rental Car Parking	900 spaces
Total Parking	**3300 spaces**

TERMINAL:

Ticketing (24 Agents-144 Linear feet)	1000 sq.ft.
Airline Administration (8-10 offices)	5040 sq.ft.
Conference Rooms	1500 sq.ft.
Baggage Drop-off	4000 sq.ft.
Baggage Handling	5760 sq.ft.
Security Clearance (3-5 Walkthroughs)	1000 sq.ft.
Hold Rooms - 2	3000 sq.ft.
Boarding Gates -14	25,200 sq.ft.
Baggage Claim (3 Carrousels)	7500 sq.ft.
Rental Car Agencies (8 companies)	3200 sq.ft.
Information	200 sq.ft.
Main Lobby Space	5000 sq.ft.
Market Place (6-8 shops)	4800 sq.ft.
Restaurant	20,000 sq.ft.
Museum	4000 sq.ft.
Restrooms (4-6)	5000 sq.ft.
Concessions (2-3)	2000 sq.ft.
Video Game Room	200 sq.ft.
First Aid	200 sq.ft.
Security Offices (2)	400 sq.ft.
	99,000 sq.ft.
Mechanical/Electrical	5,000 sq.ft.
Circulation (99,000 x .40)	41,600 sq.ft.
Total Square Feet	**145,600 sq.ft.**

6.2 TICKETING



The ticketing area facilitates the distribution of tickets, baggage, and information and was designed to provide ample queueing space for congested lines and heavy traffic. It is the entry point of the terminal and the starting point of the passenger to airplane sequence. This space is designed to be an open and inviting space, with a clearly defined spatial sequence to other terminal activity.

The element of time is most obvious at this point in the sequence from land side to air side. Times for arriving and departing flights, as well as delays and cancellations, are immediately apparent as one adjusts his/her state of readiness reflective of the amount of time before takeoff. As one departs the ticketing counter, there is a time induced release of emotion, whether relaxed or panicked, which affects ones perceptions of the terminal. The sequence of spaces beyond the ticketing area allows a clear procession to the gates.

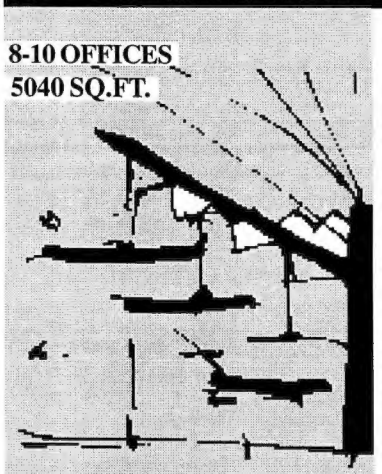
The technological requirements of this space are similar to most modern terminals, with numerous computers, phones, faxes, zon machines, security cameras, conveyer belts, flight display monitors, etc., representing the technological necessity of such a building type in facilitating the vast amount of emplanements on an around the clock schedule.

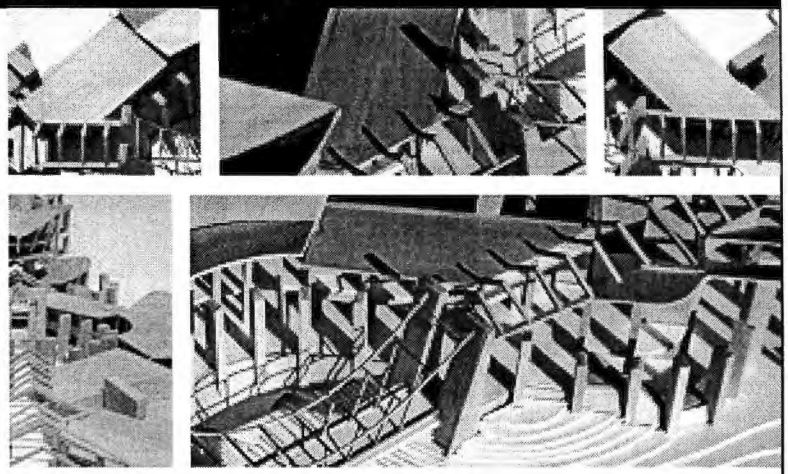
The scale of the ticketing zone is humanized, giving physiological reassurance to departing passengers in their voyage to lands beyond. The scale of the space will reflect local codes and ordinances, while maintaining a visually open and airy environment.

The materiality visible within the ticketing area include the use of local materials such as coal, stone, iron, and a variety of local hard and soft woods. These materials strengthen ones understanding of this place and create an experience quite different than most airports. To contrast the use of local materials, a large amount of exposed glass, steel, and metals are incorporated into the design to strengthen the architectural openness of the region and regions beyond, while simultaneously filtering in large amounts of natural light throughout the space. Decorative metal, lighting, and steel signage add detail and display information.

The positioning of ticketing, in direct relationship to the main lobby, the airline administration offices, baggage handling, land side, seating areas, phone, public restrooms, and storage, provides a smooth transition and appropriate adjacencies for space users.

6.3 AIRLINE ADMINISTRATION.





PLACE

TIME

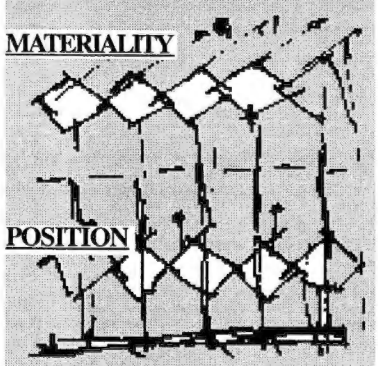
TECHNOLOGY

SCALE



MATERIALITY

POSITION



The administrative offices for the airline employees are non-public, and mostly used during business and peak hours of airline activity. They are designed to be comfortable, functional, work spaces within an office like environment. They offer encompassing views of the airfield and the region beyond, while providing ample natural light and pleasant work spaces.

Time is critical element in the design of the spaces due to the heavier occupancy during certain times of the day and at different periods throughout the year. The offices are designed to be flexible, accommodating, and interchangeable, providing ample room for the management, secretarial, and support airline staff to expand. Included within these spaces is an employee break-area, general filing and storage areas, and private restrooms for airport employees.

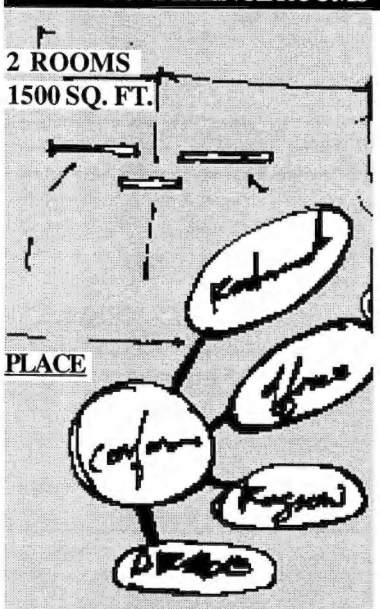
The constant need for instantaneous information and advanced communication has increased the technological demands of airport offices. High-tech mechanics, such as Computers, mainframes, teleconferencing capabilities, faxes, telephones, copy machines, water coolers, coffee machines, etc. are needed to accommodate the technologically advanced nature of aviation and the users general office needs.

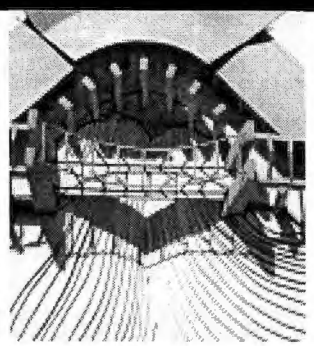
The scale of the offices vary depending on the requirements of the space. Generally, the scale of the offices are humanistic reflecting the needs of the collective users.

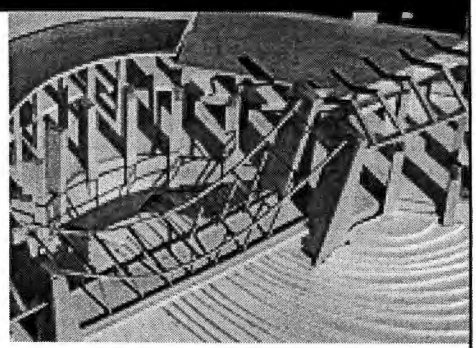
The walls,ceilings, and floor within the offices are designed to be of sound absorbant materials to shield the large amount of noise created by massive pedestrian traffic and heavy airplane activity. The millwork, equipment, and space partitions within the offices will be lightweight, nonpermanent, and flexible which are adjustable and flexible.

The positioning of the offices in direct relationship to ticketing, baggage handling, security, conference, and other airline administrative areas provides easy access to one another,as well as creating a physical buffer between land side and airside activity.

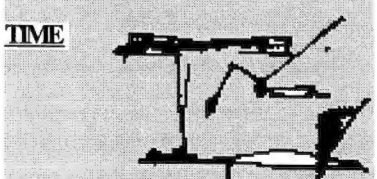
6.4 CONFERENCE ROOMS



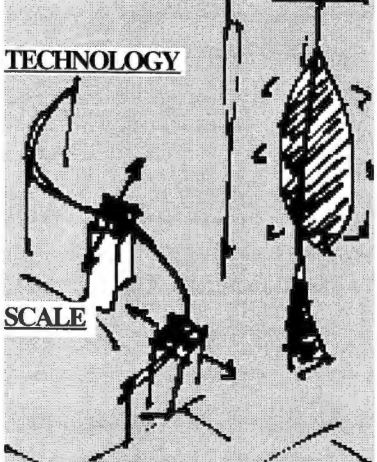




Two conference rooms are provided to facilitate meetings, conferences, and receptions for local and visiting professionals and their companies, as well as a place for the community and airport personnel to utilize. The spaces will be psychologically stimulating and open with expansive views to airside and the mountainous region beyond. The space will be somewhat flexible to accommodate both informal and formal gatherings with a regional and universal character and appeal.

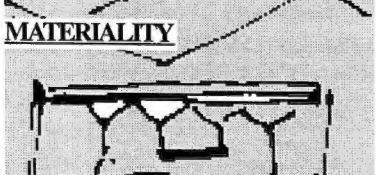


The importance of time within our day and age is reflected in the very nature of the demand for an airport and the need to accommodate conferences within the terminal. People have deadlines and meetings daily and these are often held in the quickest places to save time and money.

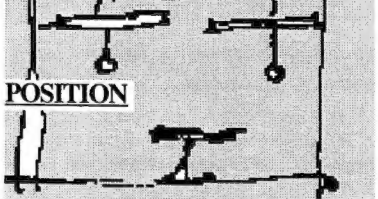


As in the office and administrative areas, technology is associated with the machines which serve the spaces. State of the art audio and video presentation equipment, teleconferencing equipment, overhead projector, phone, computer linkages, etc. are all elements needed to facilitate this space and its users. The use of accent and diffused lighting within the conference rooms highlight various features and finishes to create a uniqueness to the space.

The scale of the space is appropriate to accommodate the equipment needed for the space to function properly. The scale of the room relates to the furnishings and humanistic quality of terminal with a human scale.

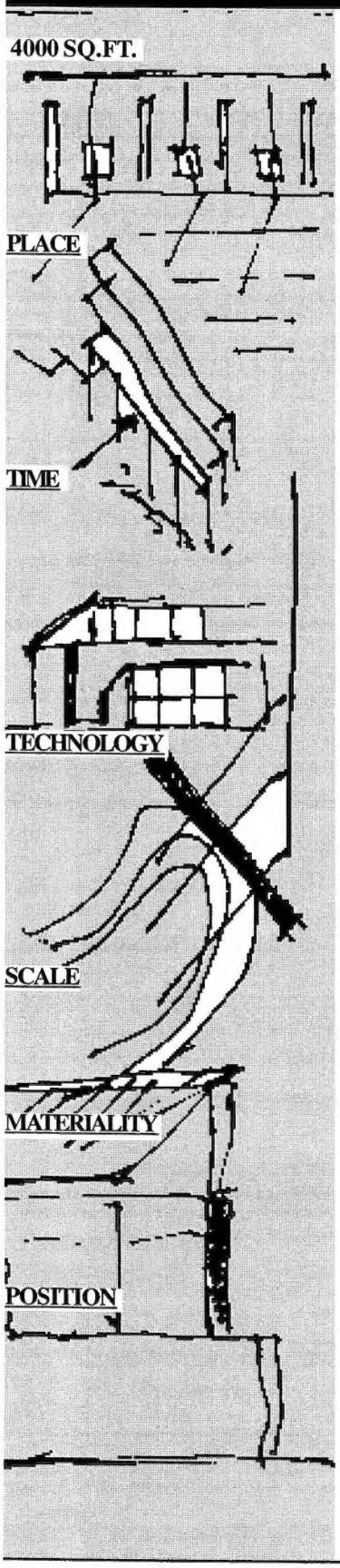


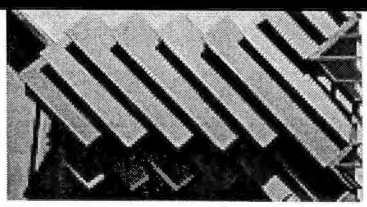
The materiality of the space consists of patterned hardwood finishes in combination with curved gypsum board walls to deflect the reverberation of sound while adding detail to the space. Acoustical panels and a furred down ceilings with wood trim to create an emphasis on the center of the room, while deflecting light and reducing noise within the space.

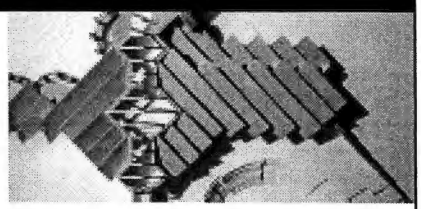


The positioning of the conference rooms adjacent to the administrative offices, airside, landside, main lobby, restrooms, and eating facilities provides easy access and convenience for the users of the space, while creating a physical barrier between air side and the public circulation of the terminal.

6.5 BAGGAGE DROPOFF







The baggage drop-off area of the terminal is a secured space with limited personnel traffic, constant noise, limited light, and a high amount of baggage turnover. It is a service oriented environment reflective of the function of the space and innovation. It is private and secured area facilitating the movement of baggage from the airplane (airside) to baggage claim. The area provides adequate space for continued maintenance and baggage inspection.

Time and efficiency are key to the success of the baggage drop-off space. The space functions as the key in the sequence in bringing the luggage from the ticketing counter to the cart for transportation of the luggage to the outgoing planes. The importance of time in relieving the terminal of baggage and providing continual operation is of utmost concern. Circulatory spaces within the terminal need a steady flow of passengers departing/arriving traffic to prevent congestion and related problems.

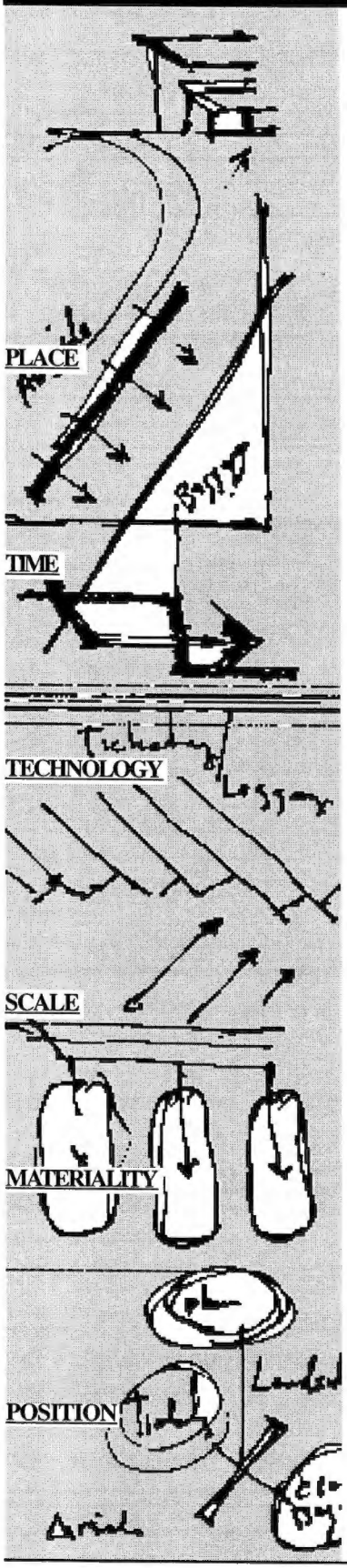
Baggage dropoff is representative of the advanced technology needed for the airport system to run efficiently. Similar to baggage handling, the baggage conveyer belt system, the computer system, and the unloading of equipment are all interrelated and needed to facilitate the operations of the luggage transition from one side of the airport to the other. Security, backup systems, and ease of maintenance are technological design considerations in the design of this space.

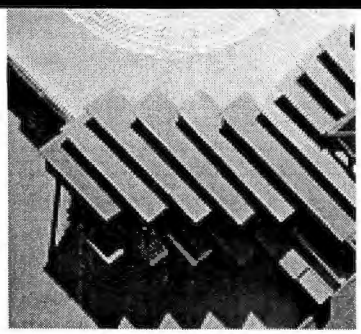
The scale of the baggage handling space reflects the size of the luggage throughout the system. Human scale should be maintained throughout the system to provide for continual maintenance and increased future demand of the space.

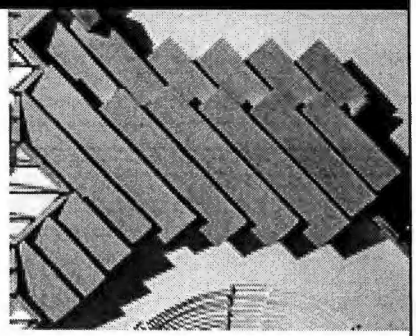
The materiality of the baggage dropoff space, providing little maintenance and safe conditions, is appropriate for the mechanically and technically innovative nature of the space.

The positioning of the baggage dropoff space maintains a direct relationship to airside, baggage claim, and operations allowing shorter travel distances for the baggage. This shared service spaces enables the airport to have a natural edge condition to the airport. Equipment storage, private restrooms, and locker room spaces are provided for service personnel.

6.6 BAGGAGE HANDLING







Baggage handling is a service environment reflective of innovation and function. They are mechanical spaces with ample lighting and space for maintenance and baggage inspection. It is secured and mechanical environment with little traffic and constant noise, a private and controlled space to facilitating the transportation of baggage from ticketing to airplane loading personnel.

The element of time and efficiency are critical components in the design of this system for fast and efficient turn around of airport passengers and their luggage. The space functions in way as to facilitate the baggage handling from the dropoff of at the ticketing to the pickup and loading by airplane personnel.

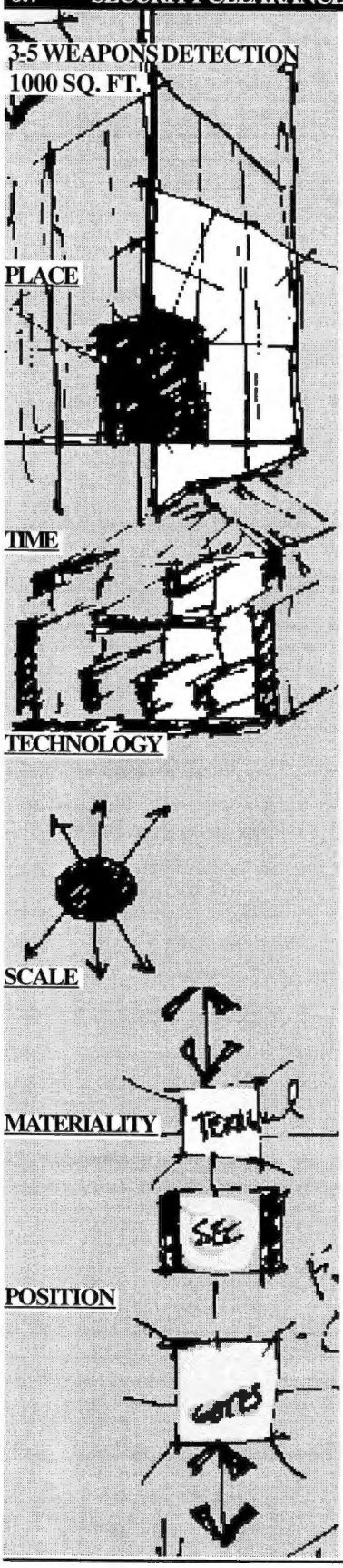
The baggage handling space is representative of the high technology needed for the airport systems to run effectively and efficiently. The baggage conveyer belt system, the computer system, and the loading and inspection equipment are all interrelated and needed within this system to facilitate the operations of the luggage transition from one side of the airport to the other side.

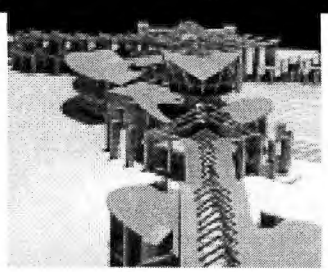
Human scale is maintained throughout the system for oversized luggage and continual maintenance. At beginning and end points of this system a larger scale predominates to maintain a respect to the airport personnel continual use.

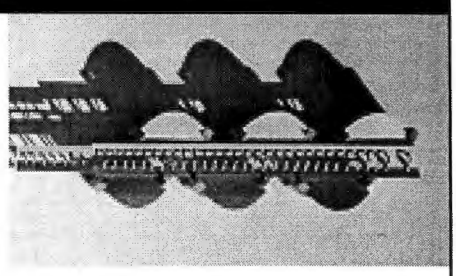
The materiality of the baggage handling spaces reflect the service nature of the space. The space is mechanical, innovative, and quite specific and reflects that in the materials chosen in the design. Other concerns of the space in the materials chosen reflect the need for a high amount of security, efficiency, and low maintenance characteristic of a service space.

An adjacency to ticketing, landside, airside, inspection, and airline administration is maintained throughout the system.

6.7 SECURITY CLEARANCE







This space is most representative of our day in age. Reflective of today's societal need to feel secure in a public space within a world characterized by increased terrorist and militia activity . Within this space an awkward feeling of invasion of privacy and nakedness is felt. A strong feeling of guilt and hopeful relief as one passes through the device praying against an embarrassing beep caused by a metal plate or set of forgotten keys.

Security check points are a relatively recent technological innovation representative of the demands of our culture to feel secure in a public space where a multitude of persons gather and pass through. The space reflects the increasing dependence on technology to make our environments more secure from terrorism and related activity.

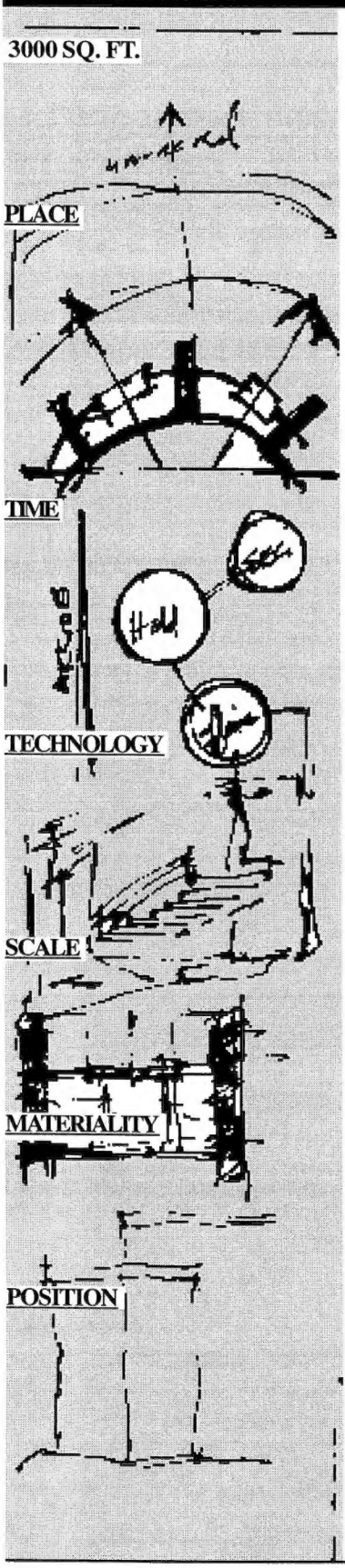
An extremely technologically advanced space employing weapons, screening detection walk through devices (magnetometer), x-ray screening for hand held baggage, security, and audio equipment. The numerous screening devices and related machines provides an appropriate gateway for the visitors transition from the regional (the terminal) and landside to the universal (airside/gates)

The scale of the spacesis humanistic with security and screening its primary role. Scaled to facilitate the screening of just over one million emplanements a year and all gates within the concourse.

The materiality of the space is consistent with its function, with a sterile, innovative, and a universal quality. The environment occupies advanced screening equipment and a continual presence of security personnel.

The positioning of the this space is limited due the spaces strictly defined function. The space must be placed well before access to airside and the gates can be achieved. The positioning of the space before the secured environment reflective of the universal - airside, concourse, and boarding gates with a direct relationship to the main lobby space, ticketing, and baggage claim. Indirect relationship are maintained with its central location within the terminal.

6.8 HOLD ROOM





The environment of the hold room is similar to that of the boarding gates, with ample seating, lighting. and circulation space. Direct feeling and association with airside activity is maintained throughout the space. A disconnection is achieved from the airport terminal. The space is secured with views and direct access to airside. A contained, in between, feeling is achieved, similar to that of being within the airplane, and within the terminal, although not as confined as the plane and not as free as within the terminal.

An increased feeling of the in between quality of the airport, where one is neither within the main components of the airport or within the aircraft, but suspended in time awaiting the arrival of the aircraft to which one will depart. The space is designed to facilitate the departure of passengers travelling on smaller aircraft that require a different approach and entrance to the plane.

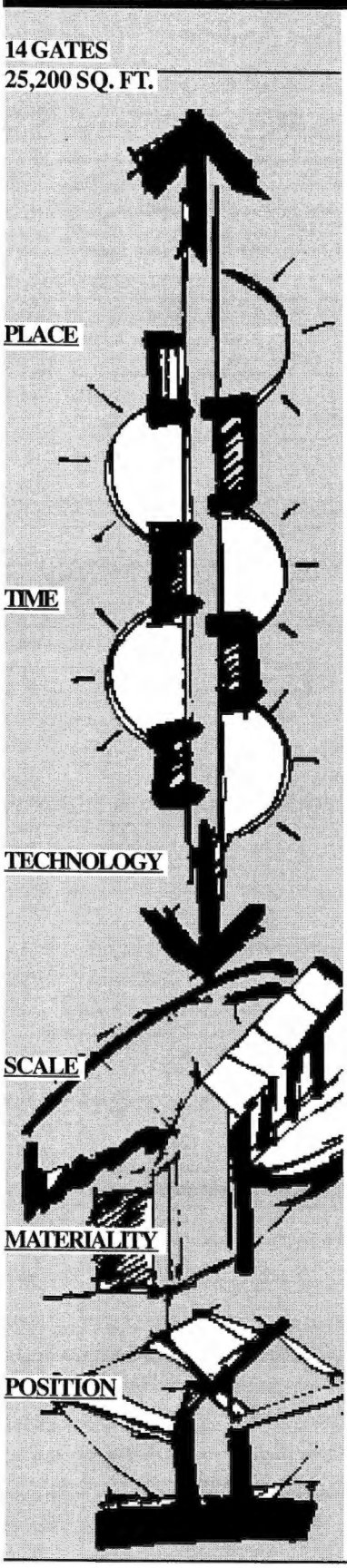
A high amount of technology is present within the space. Equipment necessary to facilitate the needs of the arriving and departing aircraft and passengers, including monitors, communication equipment, ascending and descending devices for the unloading and loading of passengers from ground level.

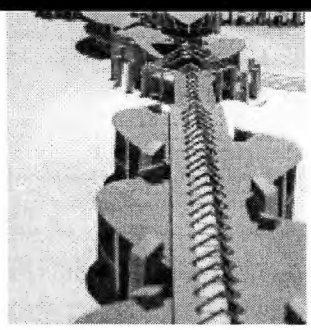
The scale present within the holding space reflects the universal, with high ceilings and expansive views of the arriving aircraft on the apron. A humanized scale is maintained at exits, staff positions, and general seating areas.

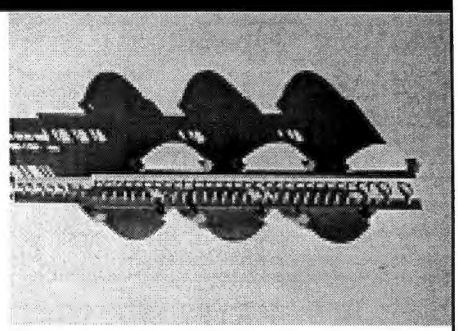
The materiality of the hold room is of sound-absorbing materials to shield the large amount of noise produced by the airplane traffic and related activity. Large amounts of insulated glazing is used to create an open and pleasant atmosphere.

The positioning of the hold room maintains an adjacent relationship to the commuter aircraft, airfield, boarding gates, concourse, and security, while at the same time maintains an indirect and close proximity to the concessions, restrooms, telephones, and lobby spaces for passenger convenience.

6.9 BOARDING GATES







The boarding gates are spaces reflective of the universal, technology, and flight. These spaces invoke feelings associated to that which is beyond - distant and far of places, the aircraft, the airfield, and distant regions. The spaces facilitate the visitors of the terminal as well as waiting, departing, and arriving passengers. Expansive views of the airfield, approaching and departing aircraft, and wilderness beyond are maintained throughout the spaces.

A transparent and temporary feeling of the state of the in between, an increased awareness of current and futuristic qualities of time is felt. One similarly is undercome by the increased awareness of time associated with the uncontrollable nature of our time in space. The space is a secured environment within an open, airy, and hurried atmosphere associated with massive transit. Feelings of arrival and departure are invoked simultaneously .

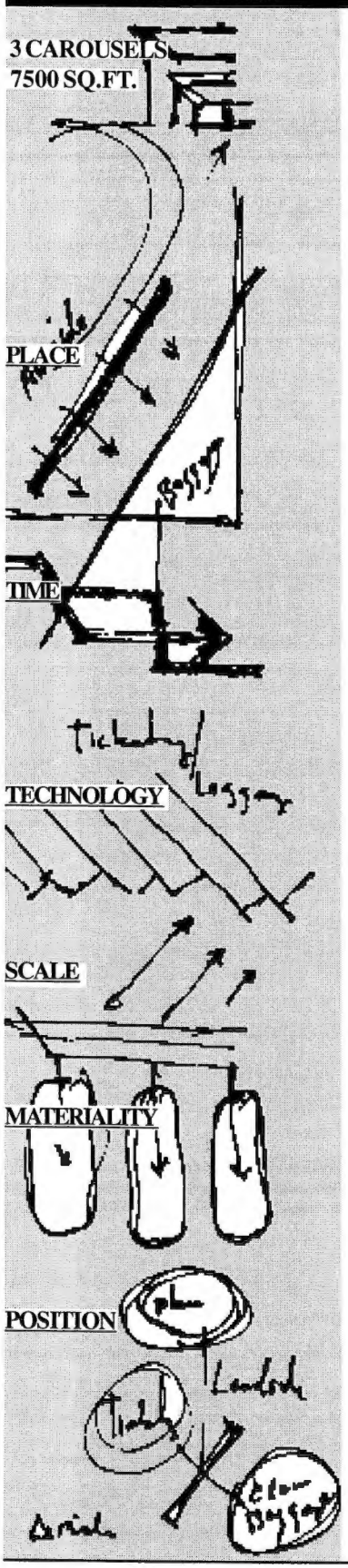
Other than the control tower and service facilities, the gates and accompanying concourse are most associated with technology and the universal nature of air travel and far off places. Technology is ever present within these spaces of arriving and departing passengers and aircraft with numerous plane connectors, monitors, and communication equipment are present throughout.

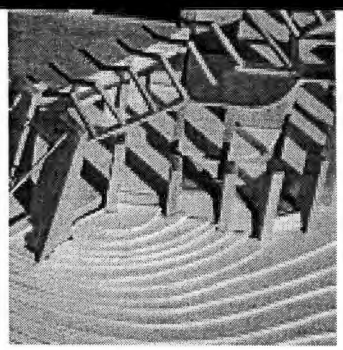
The scale within the gate areas reflect that of the airplane while simultaneously maintaining a human scale that strengthens the connection of the building to the people maneuvering through the spaces. The gates are visibly open with a dynamic associations to the universal quality of the spaces.

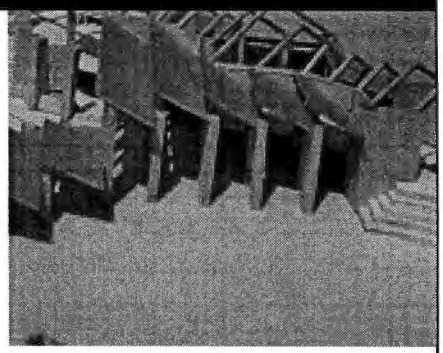
The materials are associated with the "High-tech," with flexible, temporary materials, reflective of changing technologies. A large amount of fenestration is present throughout the space with exposed structural and mechanical systems.

The positioning of the gates at the end of the sequence is maintained, with a direct relationship to the aircraft apron, loading and unloading devices, concourse, concessions, payphones, and restrooms for passenger convenience and use.

6.10 BAGGAGE CLAIM







The baggage claim area is the last space in the terminal sequence of arriving passengers, a space celebrating the arrival to the region. The space should have a clear and direct connection to that of place, while one should feel a sense of release from the other terminal components, the aircraft, the concourse, and security devices. Open and nonconfining with expansive views to the region, with all its rich natural beauty and context.

A sense of arrival is felt, as one reflects upon the natural environment and regional context of the spaces beyond while waiting for their baggage to be released from the bowels of the terminal. There is always a wait to receive baggage due to the amount of time it takes in processing the baggage from the aircraft to the baggage feeders.

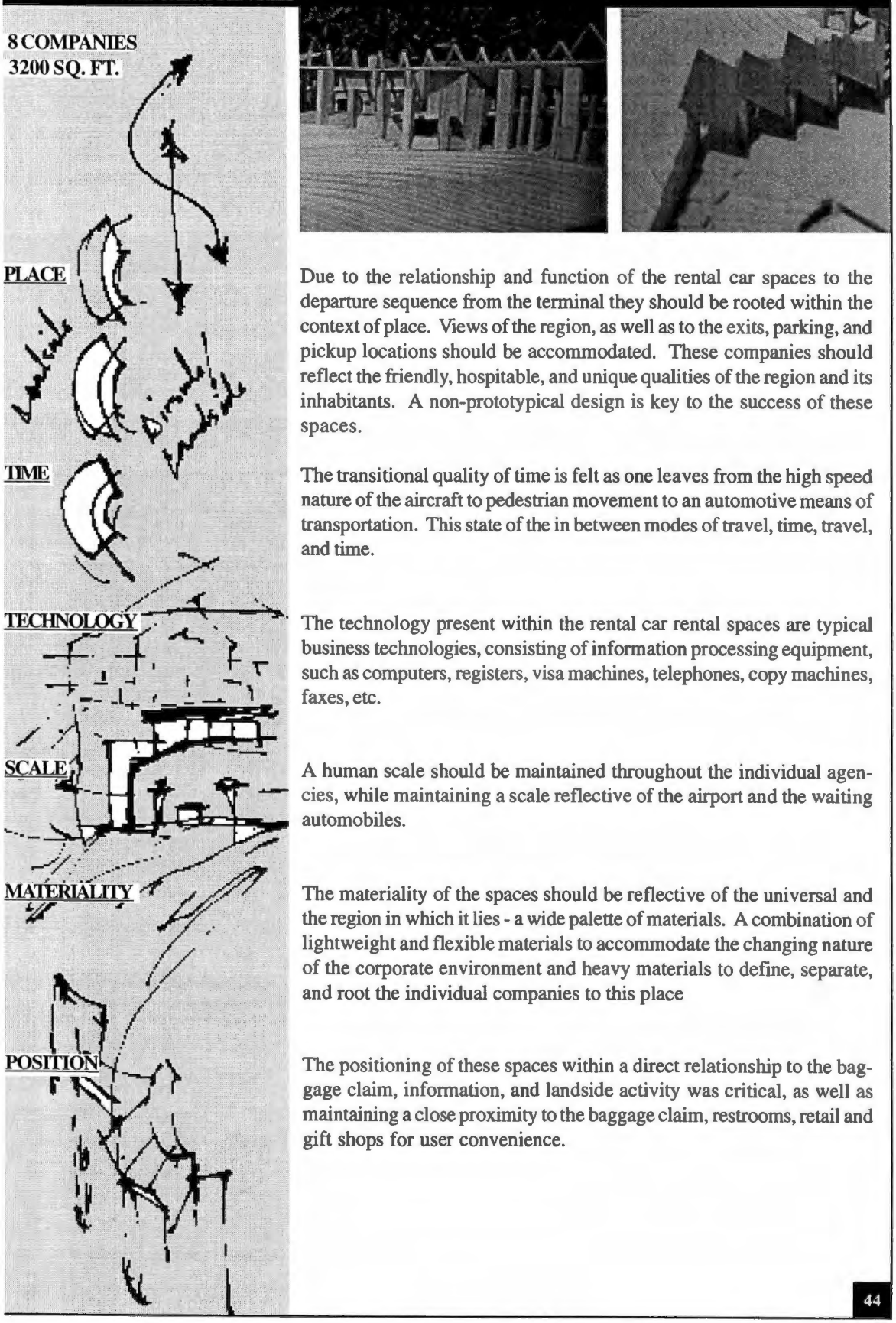
The technology associated with the space is seen in the placement of the baggage feeders and retrievable devices, monitors displaying baggage information, and security. Various audio and visual information equipment is used throughout.

The scale of the space is humanized, while simultaneously reflecting the scale of the trees, surrounding landscape, terminal occupants, and automobile.

The materials chosen consist of local materials such as field stone and heavy timber, with accents of coal and wrought iron, ground the space to the region and its natural characteristics. A large amount of fenestration is similarly used to strengthen the openness of the airport to the natural context of the region in which terminal rests.

The positioning of the baggage claim is adjacent to the main circulation route, parking facilities, information control, and rental car agencies. A clear and understandable spatial sequence is provided and maintained for passengers travelling to and from the baggage claim area.

6.11 RENTAL CAR AGENCIES



Due to the relationship and function of the rental car spaces to the departure sequence from the terminal they should be rooted within the context of place. Views of the region, as well as to the exits, parking, and pickup locations should be accommodated. These companies should reflect the friendly, hospitable, and unique qualities of the region and its inhabitants. A non-prototypical design is key to the success of these spaces.

The transitional quality of time is felt as one leaves from the high speed nature of the aircraft to pedestrian movement to an automotive means of transportation. This state of the in between modes of travel, time, travel, and time.

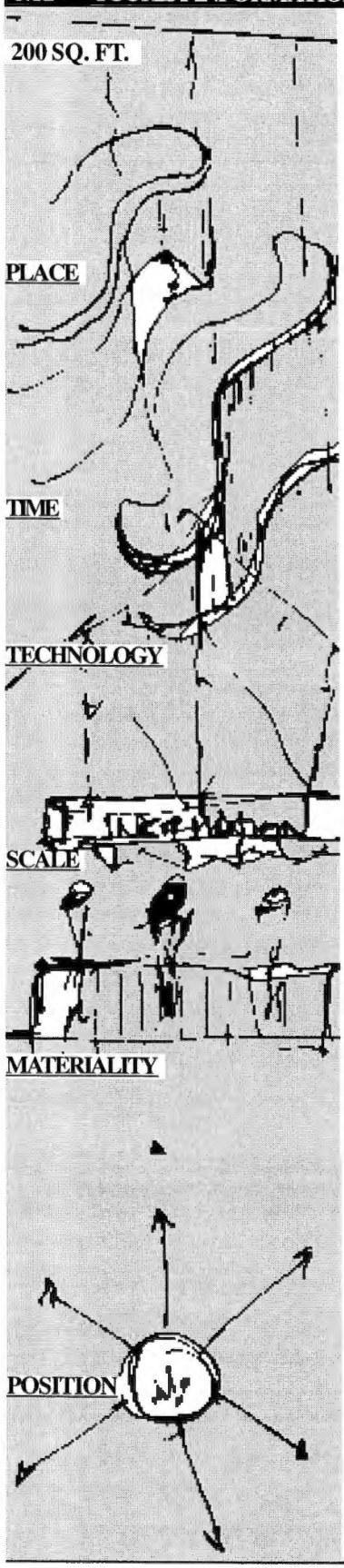
The technology present within the rental car rental spaces are typical business technologies, consisting of information processing equipment, such as computers, registers, visa machines, telephones, copy machines, faxes, etc.

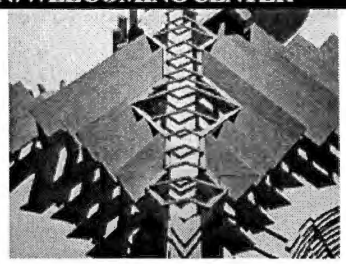
A human scale should be maintained throughout the individual agencies, while maintaining a scale reflective of the airport and the waiting automobiles.

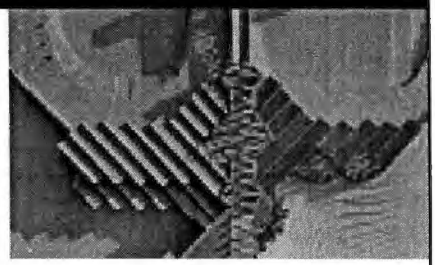
The materiality of the spaces should be reflective of the universal and the region in which it lies - a wide palette of materials. A combination of lightweight and flexible materials to accommodate the changing nature of the corporate environment and heavy materials to define, separate, and root the individual companies to this place

The positioning of these spaces within a direct relationship to the baggage claim, information, and landside activity was critical, as well as maintaining a close proximity to the baggage claim, restrooms, retail and gift shops for user convenience.

6.12 TOURIST INFORMATION/WELCOMING CENTER







The tourist information/welcoming center is a highly visible and accessible space. The space is visualized as a microcosm of the overall theme of the airport terminal announcing the uniqueness of the State. A space within a space reflective of West Virginia and its context, as well as, to the nature of the terminal and to that of the universal. The space is centrally located with an inviting, friendly, and open atmosphere.

The information center facilitates the timely distribution and display of all types of terminal, local, and tourist information to visitors in their search for entertainment, direction, etc.

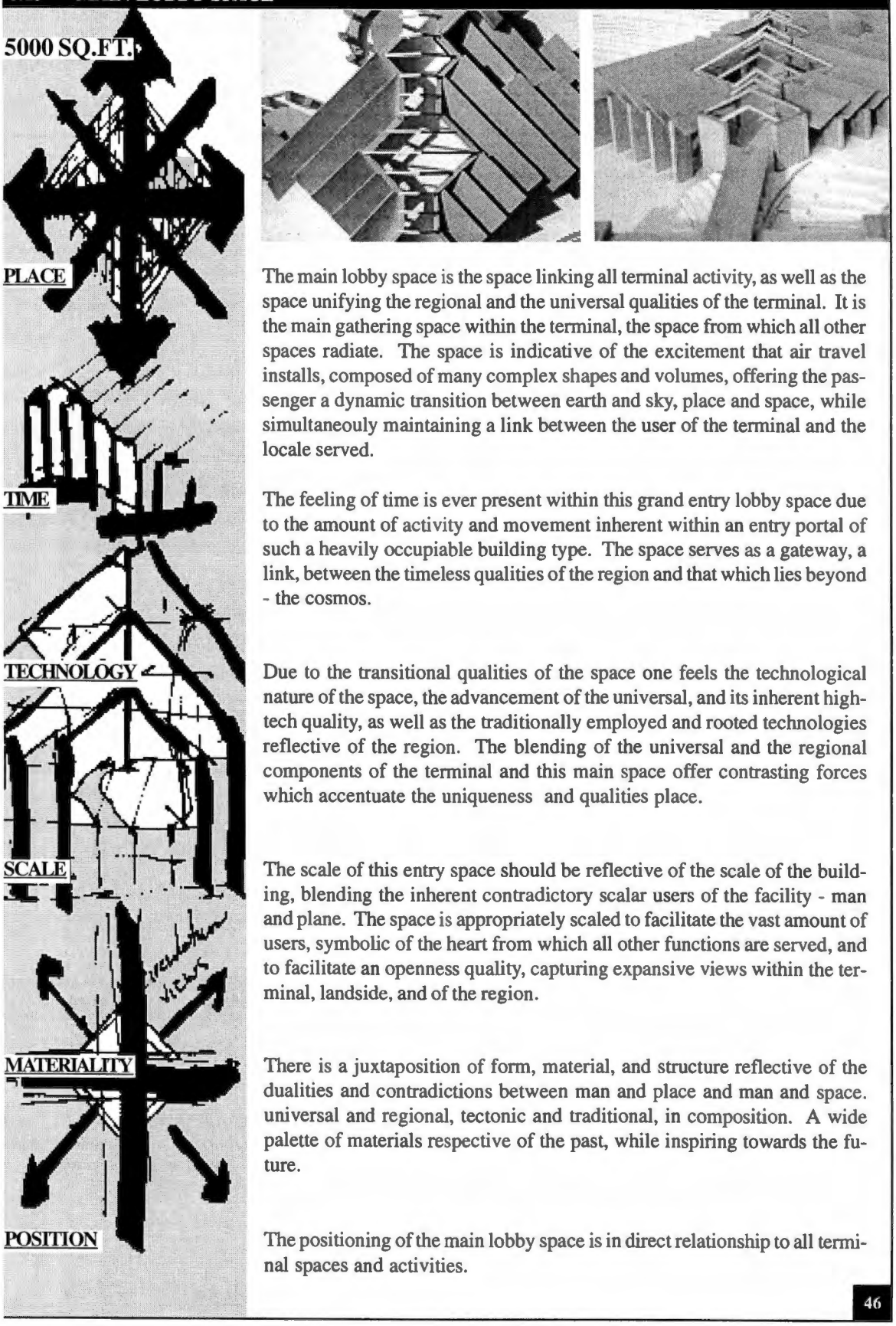
The technology incorporated in the space consists of basic office equipment such as computers, telephones, faxes, copy machine, etc. as well as intercom capabilities to communicate to lost passengers and, when needed, voice emergency information throughout the terminal over a central speaker system.

The scale of the of the information center varies depending upon ones perspective of the space. It is visible from a distance, but achieves a human-scale upon approach. The information center is a functional space which achieves its own identity with the use of varying degrees of scale and materials.

The use of various materials are used, representing both a local and a universal character while maintaining the consistent theme present throughout the terminal. Materials such as stone, local hardwoods, wrought iron, coal, etc. are used to express the regionalistic qualities of the terminal in contrast with the use of glass, plastic laminate, concrete, steel, sheet metal, etc. representing the universal qualities present throughout the terminal. The use of a wide range of materials sets this space apart from the other terminal spaces while at the same time expressing its similarities.

The positioning of the information center maintains a visibility to arriving and departing spaces of circulation while maintaining adjacencies to landside, the central lobby space, baggage claim, and ticketing.

6.13 MAIN LOBBY SPACE



The main lobby space is the space linking all terminal activity, as well as the space unifying the regional and the universal qualities of the terminal. It is the main gathering space within the terminal, the space from which all other spaces radiate. The space is indicative of the excitement that air travel installs, composed of many complex shapes and volumes, offering the passenger a dynamic transition between earth and sky, place and space, while simultaneouly maintaining a link between the user of the terminal and the locale served.

The feeling of time is ever present within this grand entry lobby space due to the amount of activity and movement inherent within an entry portal of such a heavily occupiable building type. The space serves as a gateway, a link, between the timeless qualities of the region and that which lies beyond - the cosmos.

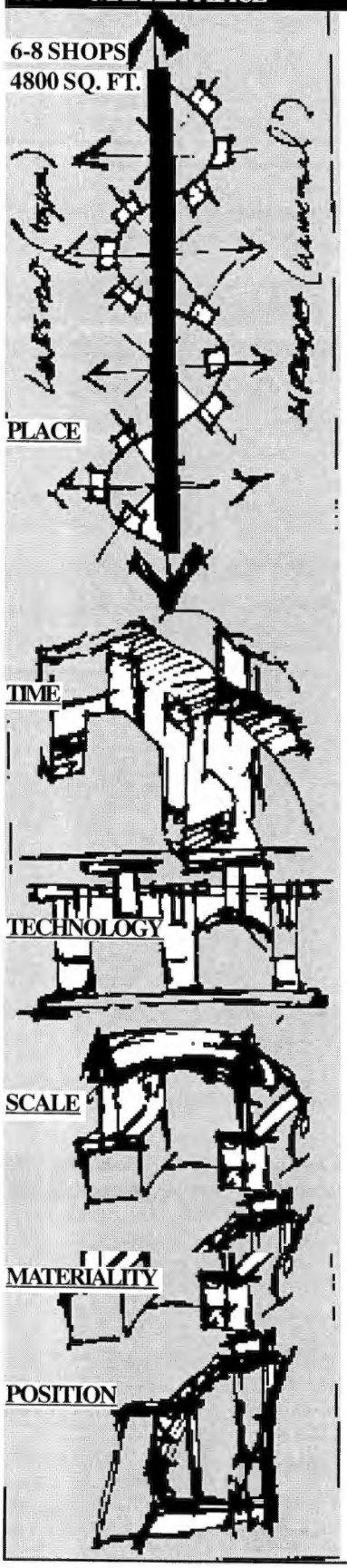
Due to the transitional qualities of the space one feels the technological nature of the space, the advancement of the universal, and its inherent high-tech quality, as well as the traditionally employed and rooted technologies reflective of the region. The blending of the universal and the regional components of the terminal and this main space offer contrasting forces which accentuate the uniqueness and qualities place.

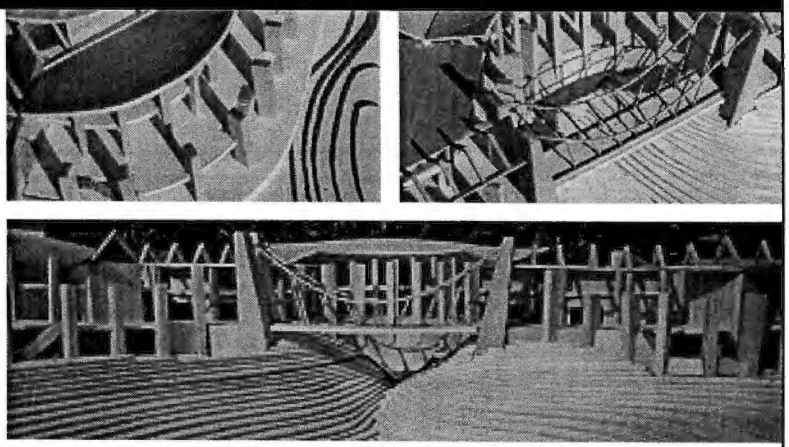
The scale of this entry space should be reflective of the scale of the building, blending the inherent contradictory scalar users of the facility - man and plane. The space is appropriately scaled to facilitate the vast amount of users, symbolic of the heart from which all other functions are served, and to facilitate an openness quality, capturing expansive views within the terminal, landside, and of the region.

There is a juxtaposition of form, material, and structure reflective of the dualities and contradictions between man and place and man and space. universal and regional, tectonic and traditional, in composition. A wide palette of materials respective of the past, while inspiring towards the future.

The positioning of the main lobby space is in direct relationship to all terminal spaces and activities.

6.14 MARKETPLACE





The marketplace within the terminal is centrally located within a vibrant and active environment. Expressive storefronts and merchandise with a regional and identifiable character rooted within the quality of place, while maintaining an association to the terminal, with its technological quality linked to flight, communication, processing, and their occupants. Open and dynamic spaces with views to the region/landside and to the concourse/airside.

The marketplace is indicative of our consumer, entertainment, and service driven environment reflective of our time. Within this space time is perceived at different levels dependant upon the amount of it the passengers has before his\her connecting or departure flight. Spaces for reflection, entertainment, and consumer activity are provided to add to the experience of the spaces.

Technology present within the marketplace reflect typical retail technologies with registers, telephones, computers, decorative lighting, etc. within all the spaces. The technology will vary dependant upon the specific users of the space.

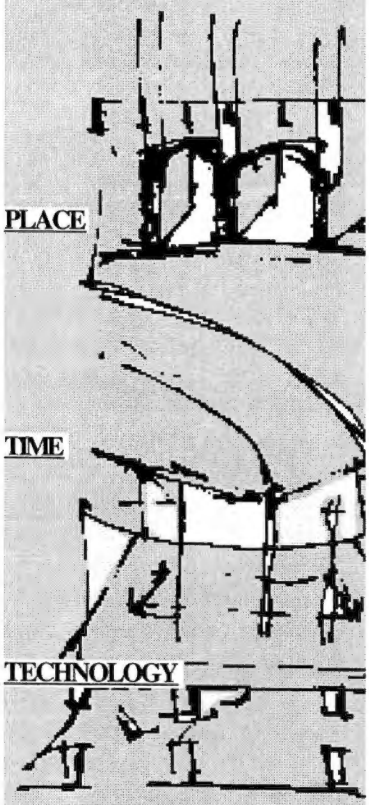
A humanized scale is present within the individual retail shops while maintaining sympathetic to the masses within the common circulatory spaces. This provides a comfortable atmosphere for the sale of local goods, ideas, and traditional memorabilia to visitors and people passing through West Virginia.

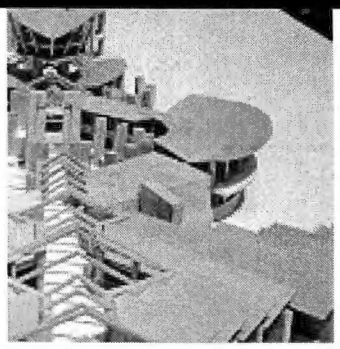
A wide palette of materials are incorporated, reflective of the varietal nature of the spaces. An open and comfortable environment is maintained with the selection of the materials.

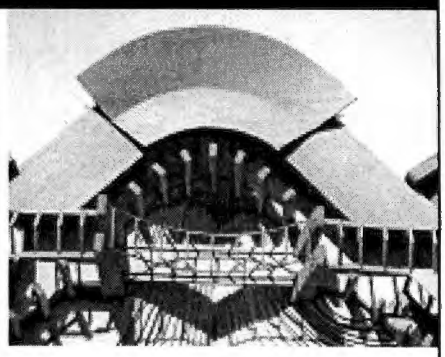
The positioning of the marketplace adjacent to the main lobby space, museum parts, restaurant, video game room, restroom facilities, and information provide smooth transitions to adjacent spaces. A strong connection to both landside and airside activity and their adjacent spaces is maintained throughout the marketplace.

6.15 RESTAURANT / LOUNGE

20,000 SQ.FT.







The restaurant within the terminal provides a fine dining experience with local entertainment and a regional character and ambiance. The placement of the restaurant within the terminal allows varying and expressive views of the airfield and the mountainous region beyond. The restaurants relationship to the bridge, circulation, provides a visual destination.

Time is important in ones perception of the restaurant space. Different cultures and regions have varying degrees of intensity associated with the phenomenon of time and dining. The restaurant will provide local music and attitude, with a fully stocked bar to ease the frustration of passengers experiencing plane delays, cancellations, and long hold-overs.

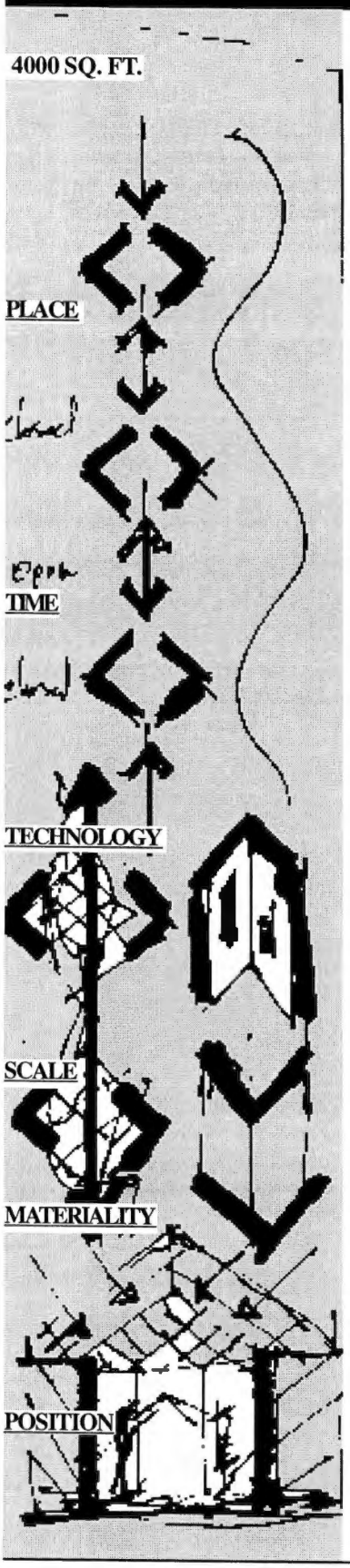
The technology associated with the restaurant is typical of most restaurants with phones, televisions, and audio and video equipment for entertainment. The kitchen will be full service with all the modern appliances and equipment, walk-in cooler and freezer, and buffet bar.

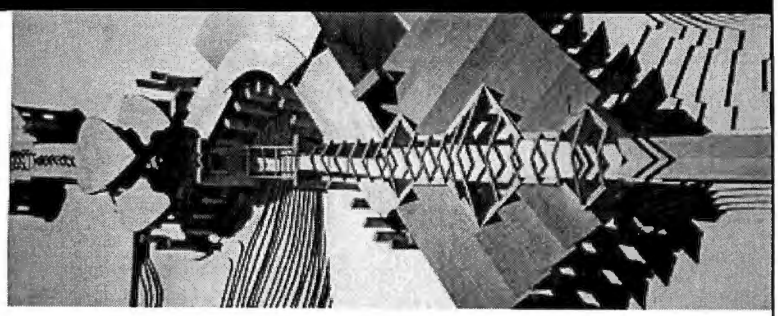
The scale of the restaurant will vary throughout while maintaining a human scale appropriate to facilitate reflection outward upon the unique qualities inherent within the region and the departing aircraft.

The materiality of the restaurant will play off the theme of the terminal, consisting of a local palette of materials and construction techniques in combination with an abundance of glazing to capture distant views of region and airfield. Acoustical treatment is incorporated to minimize noise of heavy passenger and aircraft movement.

The positioning of the Restaurant is central within the marketplace with adjancies to the main lobby space, landside, airside, retail and gift shops, restrooms, and the museum spaces. The positioning of the restaurant along the secondary circulation pattern allows one the option to by-pass the space if in a rush to the gates and reduces the amount of thru traffic by the restaurant.

6.16 MUSEUM





The museum spaces within the terminal offer areas of celebration of West Virginia history, providing information on local culture, wildlife, and the historic past of West Virginia and its Appalachian heritage with an informative, visual, and interactive sequence of dynamic spaces. The spaces are envisioned to enlighten the visitor or passerby of the beauty and history of the Mountain State. It is an opportunity to make the airport a museum in itself reflective of West Virginia's past and its drive towards the next millennia and new found identity.

The museum spaces represent the transition of West Virginia from its earliest beginnings through the timeless heritage of the Mountain State's natural features and kindred spirit to its future direction and leadership. The pieces of the museum are at different points throughout the terminal allowing the visitor a sequence of past, present and future elements while going from one end of the terminal to the other (landside-airside).

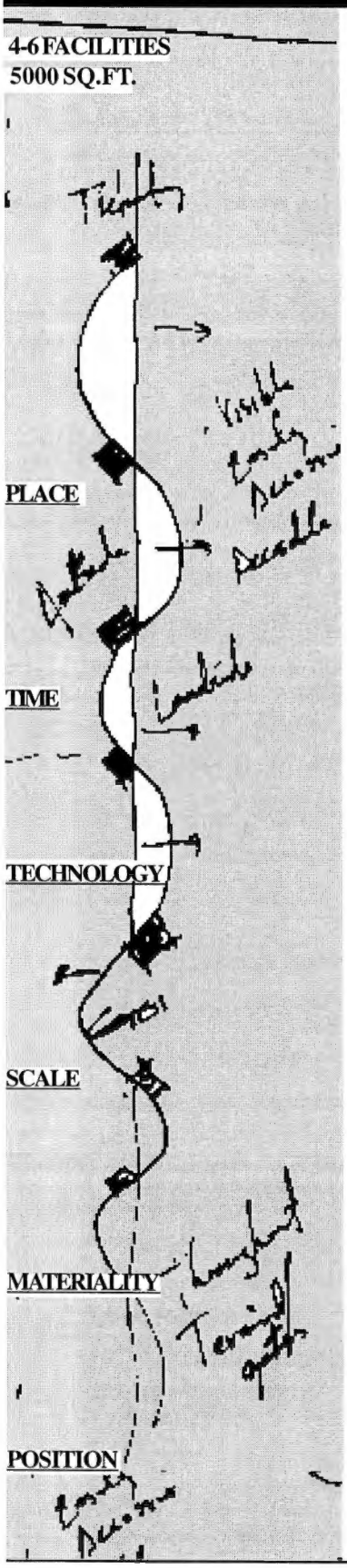
The technology associated with the museum elements are innovative and expressive as seen against the backdrop of a cliff/rock quarry like wall with an abundance of natural light filtering from above. The museum is visualized as a sequence from place to space, bridging the gap between the region and the cosmos. Diffused and innovative lighting, sound, and acoustical systems are employed throughout.

Varying degrees of scale are employed and seen in juxtaposition to one another. The regional and the human scale are seen in light against that of the more universal and global scale.

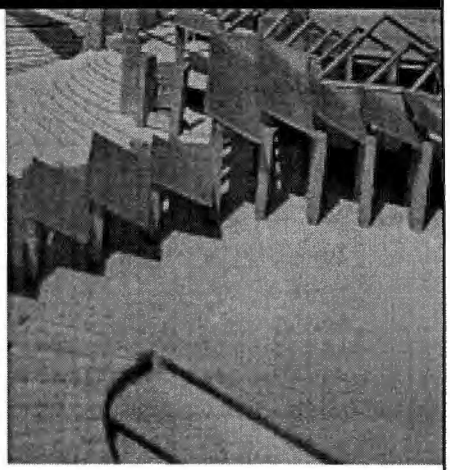
The materiality of the museum spaces is seen as permanent with a massive stone, concrete, and coal facade open to the sky above. The glass and steel frame above shelters the monolithic backdrop from which the history is displayed, distilling a timeless sense of permanence and broader purpose.

The positioning of the museum elements are strategically placed at the major nodes of circulation interchanges, forcing one to engage the terminal and its symbolic qualities in a sequential and progressive manner.

6.17 RESTROOMS







Restrooms are provided throughout the terminal to provide adequate facilities for the terminal's occupants basic needs and relief of natures calling. The qualtity of the restroom spaces are typical of a modern restroom facitiliy with a disinfected, clean, and well-kept environment associated with the universal quality of the space.

Time is important in the location of these spaces in that they need to be adjacent the places where people gather, wait, rest, and dine for convenience. Restrooms should be provided within these general locations to provide a timely sequence and minimal confusion.

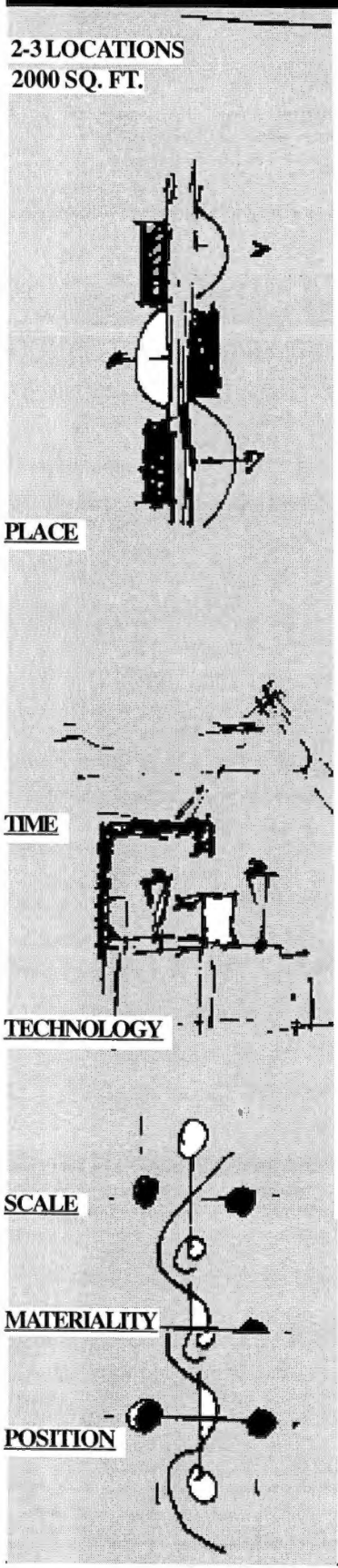
Within such heavily occupied service spaces, such as restrooms, modern equipment is employed to provide a low maintenance and somewhat sterile evironment Automatic urinals, toilets, sinks, etc. are all employed to prevent continual maintenance and waste in a space which maintains a constant use.

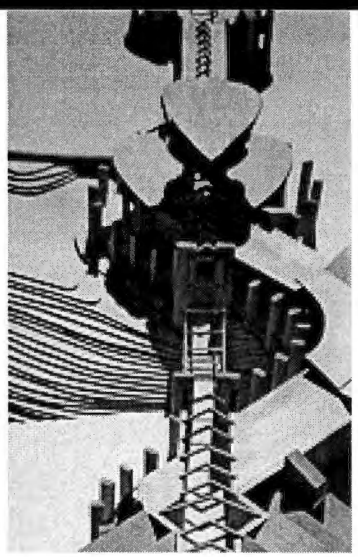
The scale of the restrooms will be humanized, while providing adequate facilities for the disabled, as written within the local and national building codes and their amendments. The design of these spaces meet all the necessary ADA requirements of the standard design of restroom facilities.

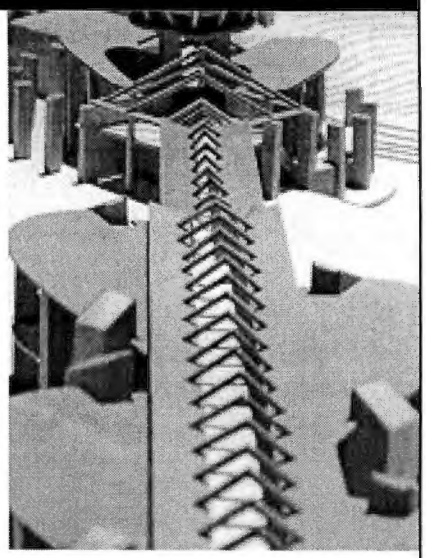
The materiality of the restrooms will be such as to provide minimal maintenace and damage resistancy. Sterile and maintenance free materials such as wall/floor tile with commercial fixtures and partitions firmly mounted and sealed.

The postioining of these spaces thoughout the terminal add convenience and provide for needed public facilitites.

6.18 CONCESSIONS







Concessionary areas are spaces that traditionally offer a congested and irritating experience, which is consistent with our fast food culture. These spaces reflect the pace with which we have become accustom in our daily lives. To accommodate the terminal occupants not able to dine within the restaurant due to time or budget constraints the need for these spaces are warranted: However, similar to the terminal they need not be so confined and poorly visualized. They should be inviting, open, and respectful of place and to the regional aesthetic.

Similar to fast food restaurants these spaces survive by offering a service in demand of our society today, allowing one to grab a bite/drink on the run at an affordable cost. Conceptually, these spaces make sense within our culture, but most often they are done at the expense of our environment, our economy, and to the quality of our neighborhoods.

The technology present within the individual concession stands is dependant upon requirements of that space. In general, standard small restaurant / concession appliances and equipment, audio equipment, register, and telephone are needed for these spaces to function properly.

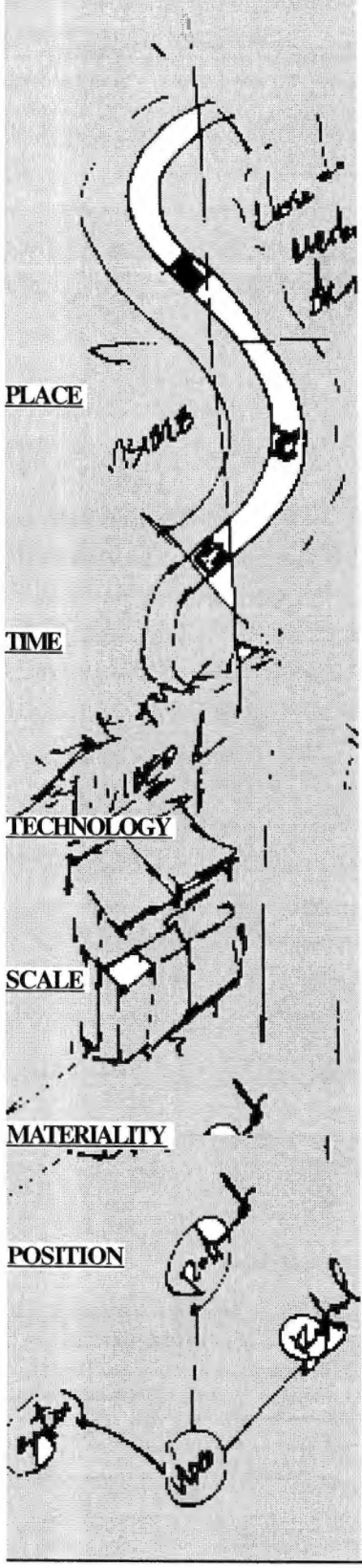
The scale of the concessions should be humanized, accessible to the disabled, and reflective of the scale of the terminal on a smaller level.

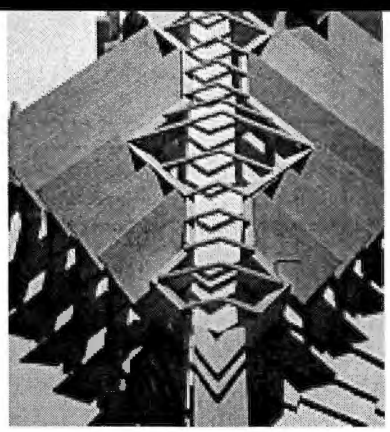
A combination of regional and universal materials similar to the materials chosen throughout the terminal.

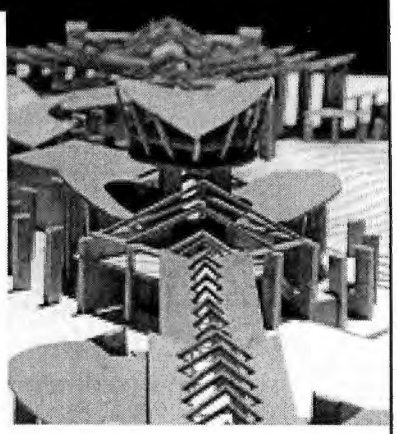
The positioning of the concession areas should occur along the major circulation routes with adjacencies to the main lobby space, the terminal gates, and the retail and gift shops.

6.19 VIDEO GAME ROOM

200 SQ. FT.







PLACE

The video game room is an active, exciting, and fun environment for people of all ages. The space should is confined, but visible from the secondary circulation pattern, with no direct natural light. The space is easily accessible from the market place. It is a space to provide entertainment and retreat for people of all ages while experiencing the delays of air travel.

TIME

Video games are a form of entertainment associated with our time. Advancements within the computer industry has increased the capability, the quality, and the demand for video related games and entertainment for our youth.

TECHNOLOGY

The atmosphere of the game room is "High-tech," with state of the art audio and visual games and equipment. A heavy amount of lights, noise, and movement characterizes the space.

SCALE

The scale of the space is proportionate to the scale of the machines and their users. The space is petite in scale with room for storage and possible future expansion.

MATERIALITY

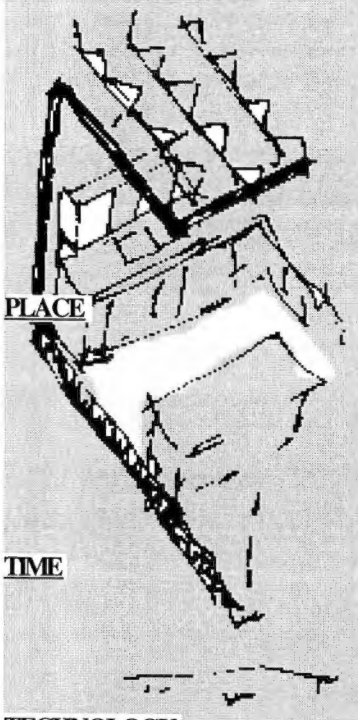
The materials within the space are of sound absorbent, non-reflective, and interchangeable materials.

POSITION

The positioning of the video game room is adjacent the market, within a close proximity to the concessions, ticketing, the concourse, and boarding gates.

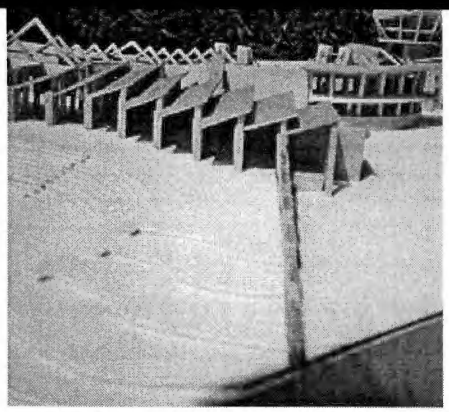
6.20 FIRST AID CLINIC

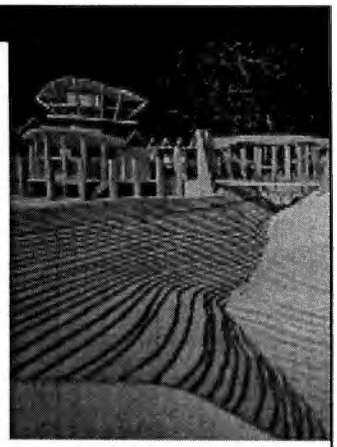
200 SQ. FT.



PLACE

The first aid clinic is a sterile/hygienic, white, comfortable, safe, and a clean environment. The space is centrally located with easy accessibility from all areas of the terminal. The purpose of the clinic is to provide care for the injured or sick terminal occupants while accomodating storage for emergeny situations and basic pharmaceutical supplies and equipment.



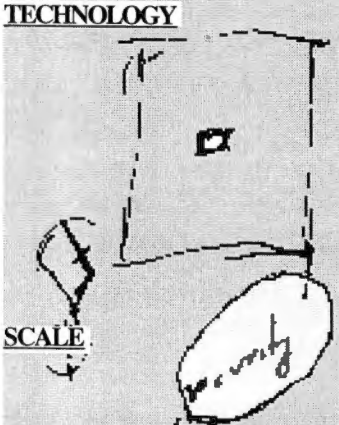


TIME

The clinic is reflective of our changing medical advancements on a global scale and the need to provide for medical attention within all large scale public facilities.

TECHNOLOGY

The technology associated with the first aid clinic is related to the advancement within the medical field and the need to facilitate aid to needing occupants on an occasional basis. Procedures for emergency catastrophes and different ailments was considered in the planning of the space. Standard medical clinic equipment, with an examining table, storage cabinets for medical supplies, refrigerator, sterilizer, telephone, audio equipment, and computer is a short list of the technological requirements of the space.

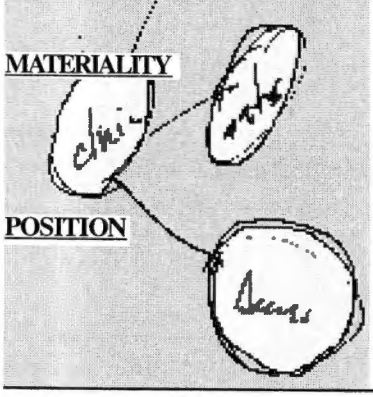


SCALE

The scale of the clinic relates to the users of the clinic and the equipment needed to serve the space. The space is an adequate size and shape to accommodate a large number of visitors in a comfortable and secured environment while awaiting medical transport.

MATERIALITY

The materiality of the space is reflective of the increased advancement of service and quality within the field of medicine. Low maintenance, sterile, and soothing materials are used throughout.

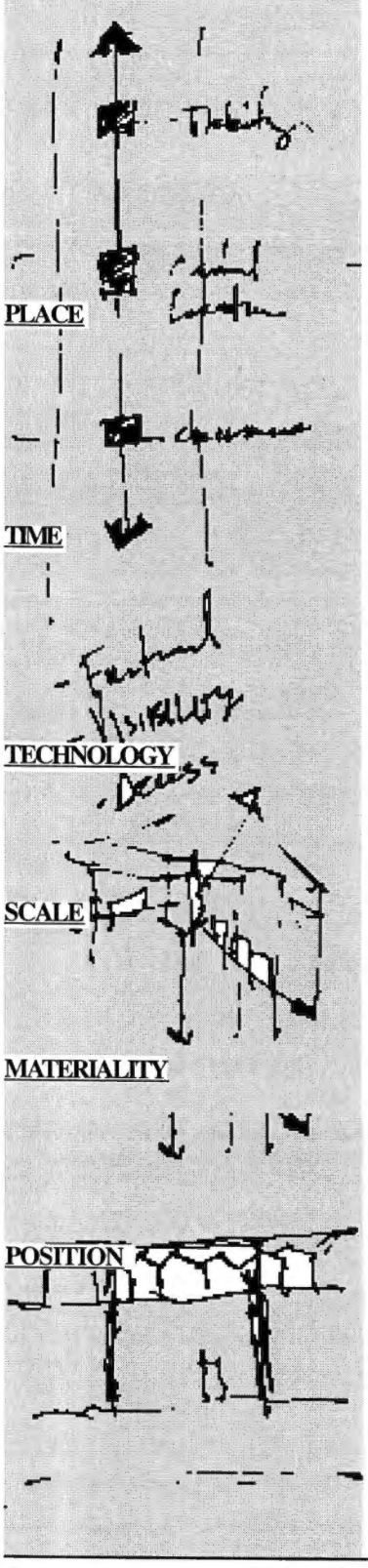


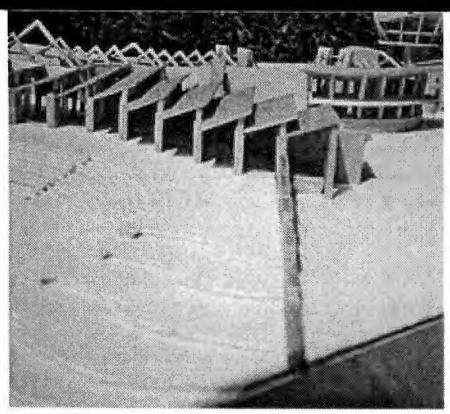
POSITION

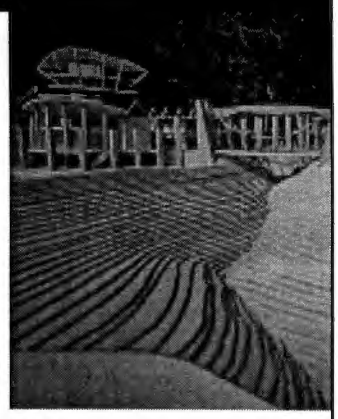
The positioning of the clinic should is in a location that is easily accessible to all airport activity.

6.21 SECURITY OFFICES

2 OFFICES
400 SQ. FT.







The security offices are private and secured rooms for the monitoring and protection of the passengers, visitors, and airport staff within the terminal. A strictly functional space reflective of our changing demands of safety and control. The space is secured and offer a concealed security office environment with two temporary holding cells.

The need for security offices is a reflection of our day in age of increased international crime and terrorism. The equipment, monitoring devices, weapons, etc. needed for the space is a reflection of our technologically changing demands for safety and protection while within a public domain.

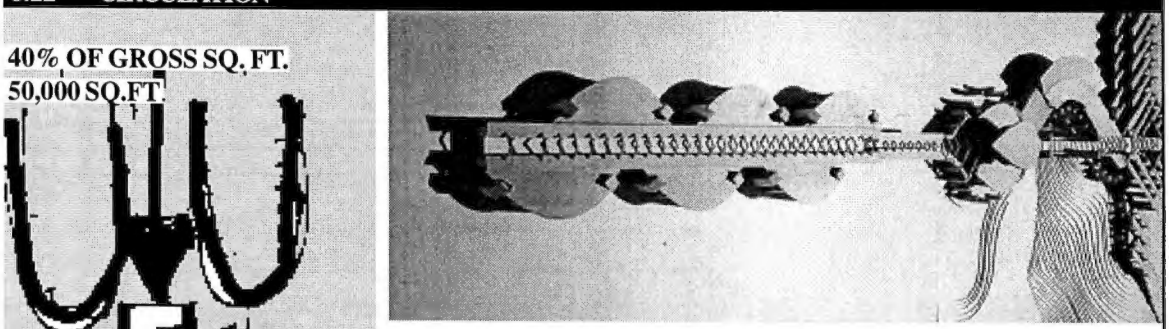
Within the security offices, state of the art security equipment for the monitoring of the airport terminal and its occupants are present throughout. Monitors, audio and visual communication equipment, scanners, weapons of defense, etc.

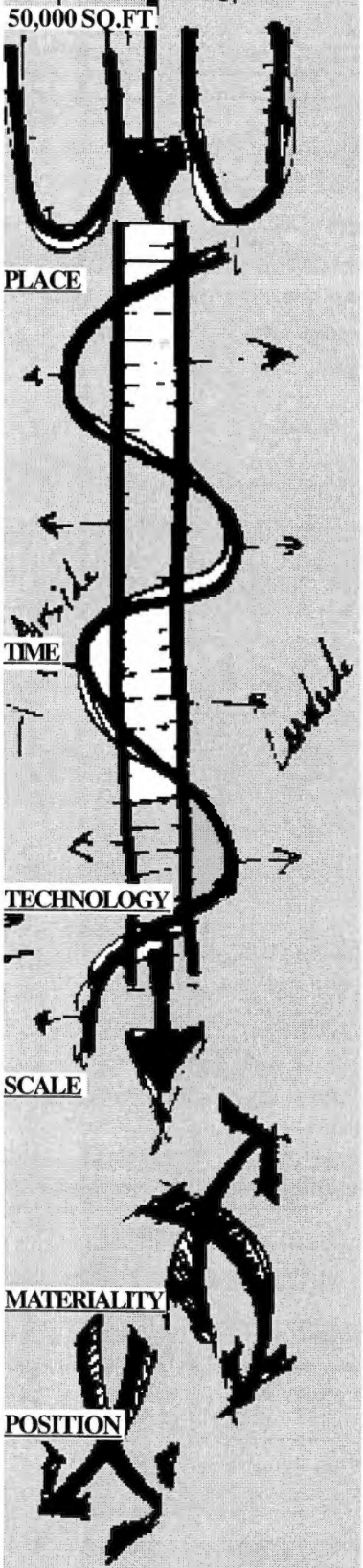
The scale of the space is reflective of the users of the space and the equipment needed to facilitate the degree of security required for this scale of airport.

The materiality of the space is such that the space remains self-sustaining, and flexible, with technologically advanced materials. The space should require little to no maintenance with two secured steel and concrete holding cells adjacent.

The positioning of the security offices should be adjacent the walk - through scanners and baggage/ticketing areas, while maintaining a close proximity to all terminal activities.

6.22 CIRCULATION





The circulatory spaces of the airport link all terminal activity, while simultaneously serving to unify the qualities of place to that of the universal. Wide open and airy spaces are consistent throughout the terminal, offering a smooth flow of traffic even during the airports peak hours of activity. Within this system of circulation, a clearly defined sequence of spaces is established that offer numerous views of the region and airfield activity while one progresses through and around the terminal. The celebration of the regional qualities of WV and the advancing technologies associated with air travel is experienced throughout these circulatory spaces.

Throughout the terminal varying levels of time are experienced as ones perceptions and movements are manipulated by the airports complex assemblage of parts. These parts are linked by these common circulatory spaces. As one ascends/descends, arrives/departs, hurries/reflects, walks/runs, etc. time is experienced at different degrees of intensity. The only constant within the terminal is that of time.

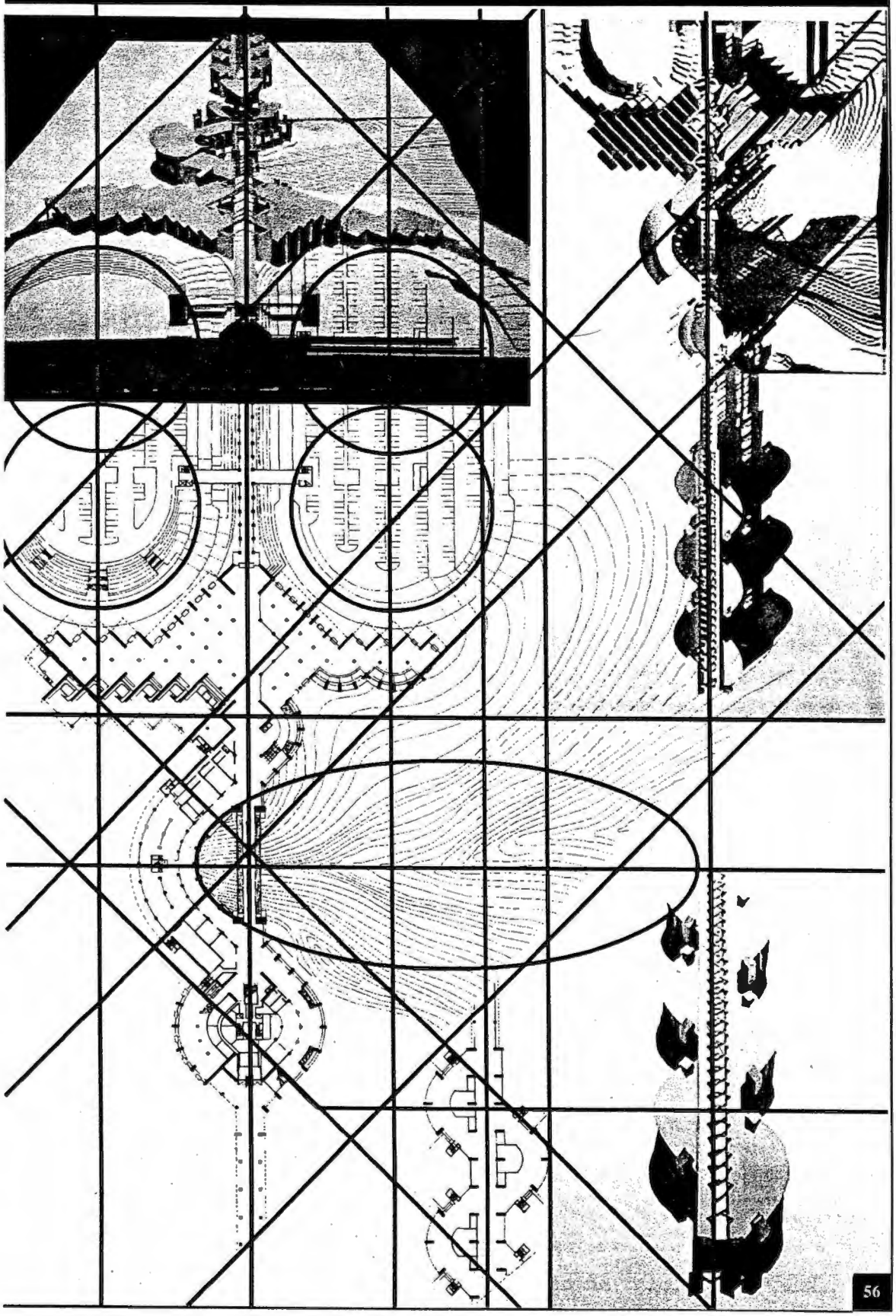
An enormous amount of technology is employed in the manipulation of movement within the terminal ranging from people movers, elevators, and escalators to telephones, audio and visual equipment, and computer monitors.

The public corridors are 30 ft. wide with additional space for obstacles - queueing space, viewing areas for video displays, telephones, seating areas, wastebaskets, etc. with a minimum distance of approximately two feet on either side (boundary layer), in which a person will maintain between corridor, walls, and obstacles.

The materials used within the circulatory spaces unite the qualities of place to that of the universal.

The positioning of the circulation routes facilitate the movement of large amounts of people to and throughout the terminal's many parts. A large amount of circulation space is provided within areas such as ticketing and baggage claim where lines and waiting are common.

7.0 SITE SELECTION AND ANALYSIS



As increased technologies and global influence encounter even the most isolated of our regions an increased homogenization and loss of identity will continue to occur. The Appalachian region, due to its history, individuality, under-capitalization, and its geographical setting has been historically isolated physically, culturally, and socially. This has shielded the Appalachia, to a degree, from the homogenizing effects of rapid technological advancement and an increased globalization which other areas of the country have experienced. Time has come to diminish the boundaries further to provide the inhabitants of West Virginia a better transportation system, while strengthening the economy and opening its barriers, accepting ideas and benefits from other parts of the world.

The Appalachia is symbolic of its people with a long standing, rich tradition deeply rooted in the settling of our country. The natural characteristics within the Appalachia (the mountainous terrain, the lakes and rivers, the variety of wild-life, the abundance of rich natural resources, etc.) is central in understanding the uniqueness of the region. This landscape has helped shape the culture and the resultant value systems, truly bestowing the region its identity.

The values (individualism, tradition, familism, and religion) of the Appalachian inhabitants are deeply seeded and have been somewhat resistant to outside cultural influence and change. These values have strengthened the regions traits and sense of place, but have led to a decreased economic competitiveness and a lower quality of living compared to modern American standards.

Appalachia has been characterized as a region of contrasts. Within the mountains are found variations of life styles, ranging from the frontier past of deep isolation to the middle class close to the metropolitan areas. Within this spectrum numerous duality's and conflicts exist between rural and urban families, poverty and affluence, coal miners and coal mine owners, alienation and hope, along with highly advanced technologies and historic log homes. Kenzo Tange once stated, " that the greatest, overriding inconsistency is the one "that arises from the confrontation of technology and human existence." These duality's and contradictions, along with the ones presented within the program, precedence, and project analysis are central to the ideas inherent in my thesis and project.

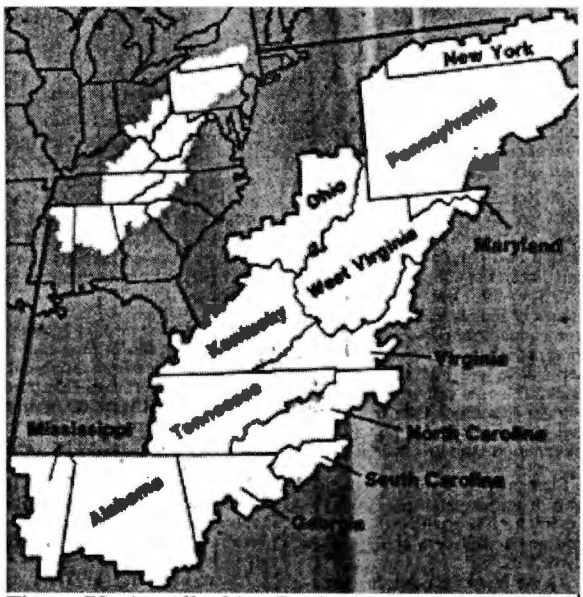
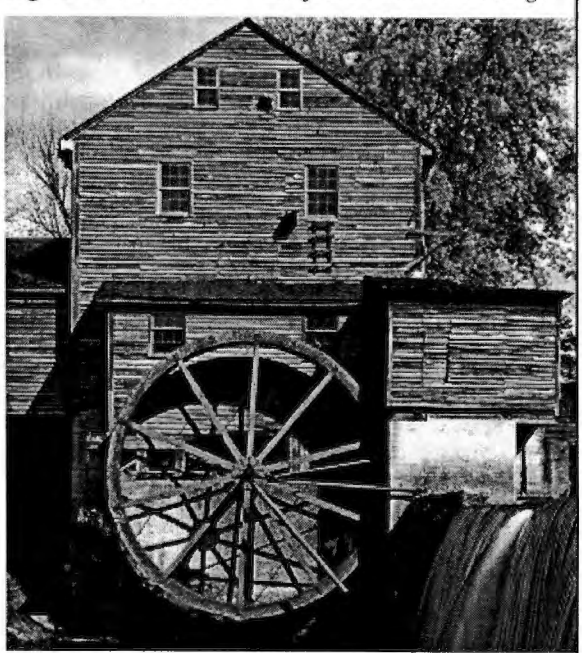


Figure 73: *Appallachian Region.*


Figure 74: *New River - View from New River Bridge.*


Figure 75: *Widmill - Rear View.*

In the face of growing depersonalization, accompanied by universalization, it is increasingly important to retain the person-orientation, family and kin relationships, and basic religious beliefs which give life substance and meaning. Herein, Appalachian culture has much to offer to in terms of a regional place within today's globalized environment.

Regionalism strives to establish an imaginative response to a particular place and to traditional ways of doing and seeing things which are conditioned by factors as fundamental as climate, vegetation, and topography.

It is my contention that architecture should grow out of a deep understanding of local need and local circumstance. West Virginia is in need of improved air transportation if it is to compete within the global community and not succumb to past conditions of increased migration and welfare. While our state has been successful in maintaining/ creating a vast network of interstate, rail, and water transportation routes, it has failed in providing an air transportation network. Our States current airports in Charleston, Huntington, and Parkersburg are out dated and not up to current FAA airport standards and code requirements.

Advanced air transportation networks play an important role in the ability of high technology industries such as computers and electronics to compete. The tourism industry has also become dependent on the availability of air service to compete with other destinations. Tourism and computer industries are major proponents in the targets of strategic develop ment programs within West Virginia, but without an advanced air transportation system these industries will not reach there full capabilities.

West Virginia borders five states and is within 500 miles to most every major city on the east coast. This location should be an opportune setting to attract large business' and industry to the area. With this location West Virginia should be able to attract a major airliner to use its facilities as a hub.

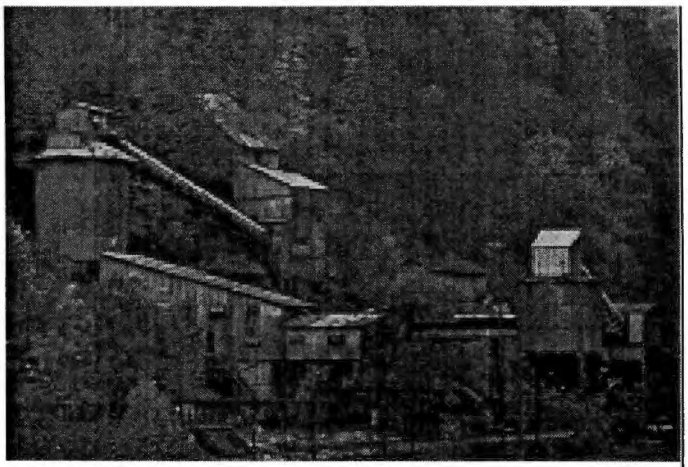


Figure 76: *Coal Mine - View from Interstate.*



Figure 77: *Whitewater - The Gaulley.*

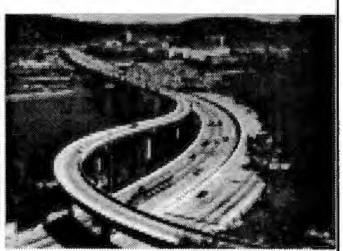


Figure 78: *Interstate Exit - From South Hills..*

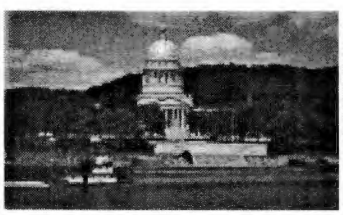


Figure 79: *State Capital - View from River.*



Figure 80: *Train - View from River.*

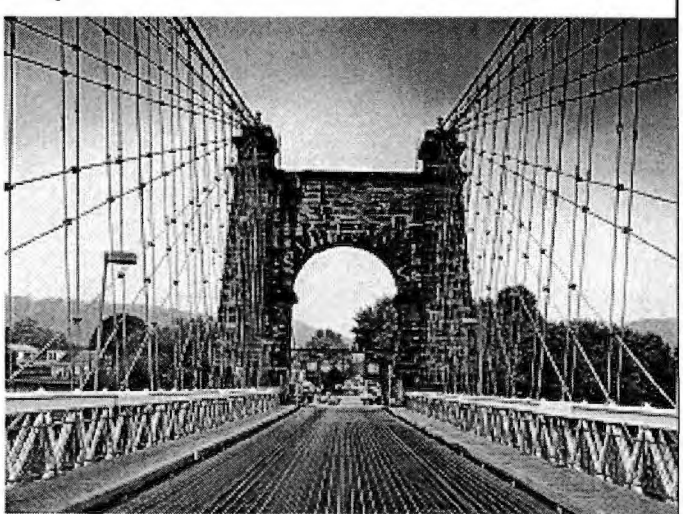


Figure 81: *Wheeling Suspension Bridge - Approach View.*

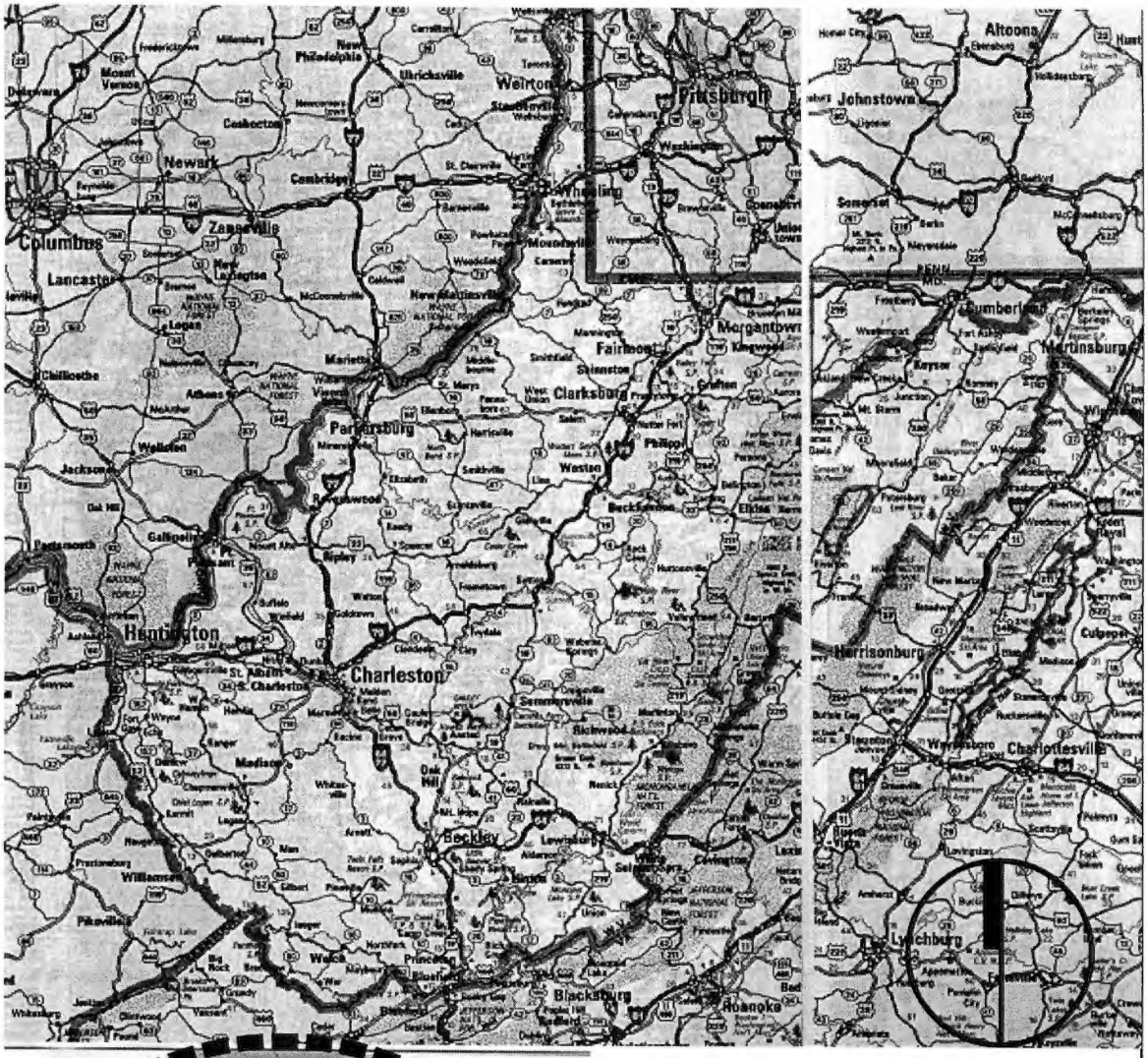


Figure 82: *West Virginia - Appalachia.*

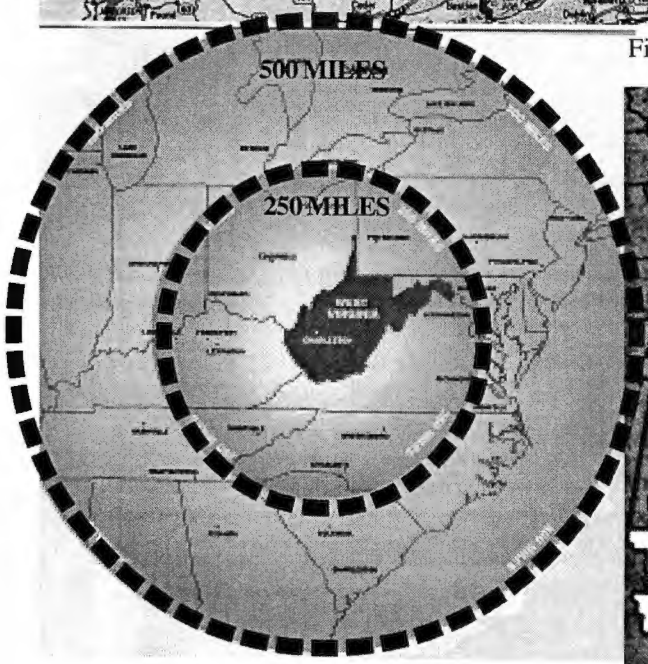


Figure 83: *Diagram - Vicinity Map*

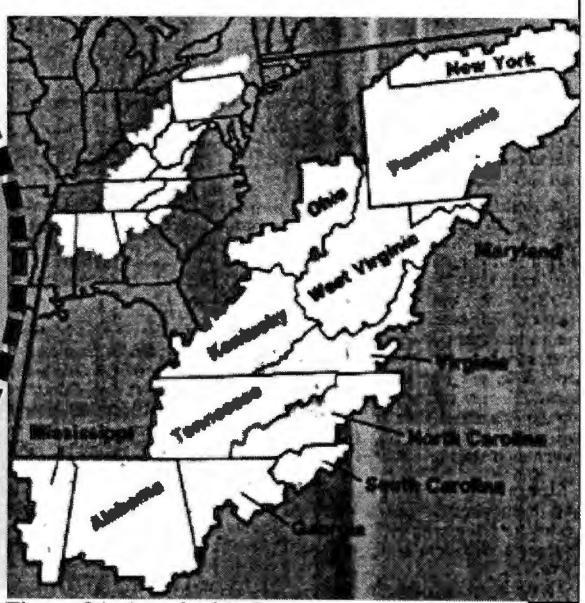


Figure 84: *Appalachia Region.*

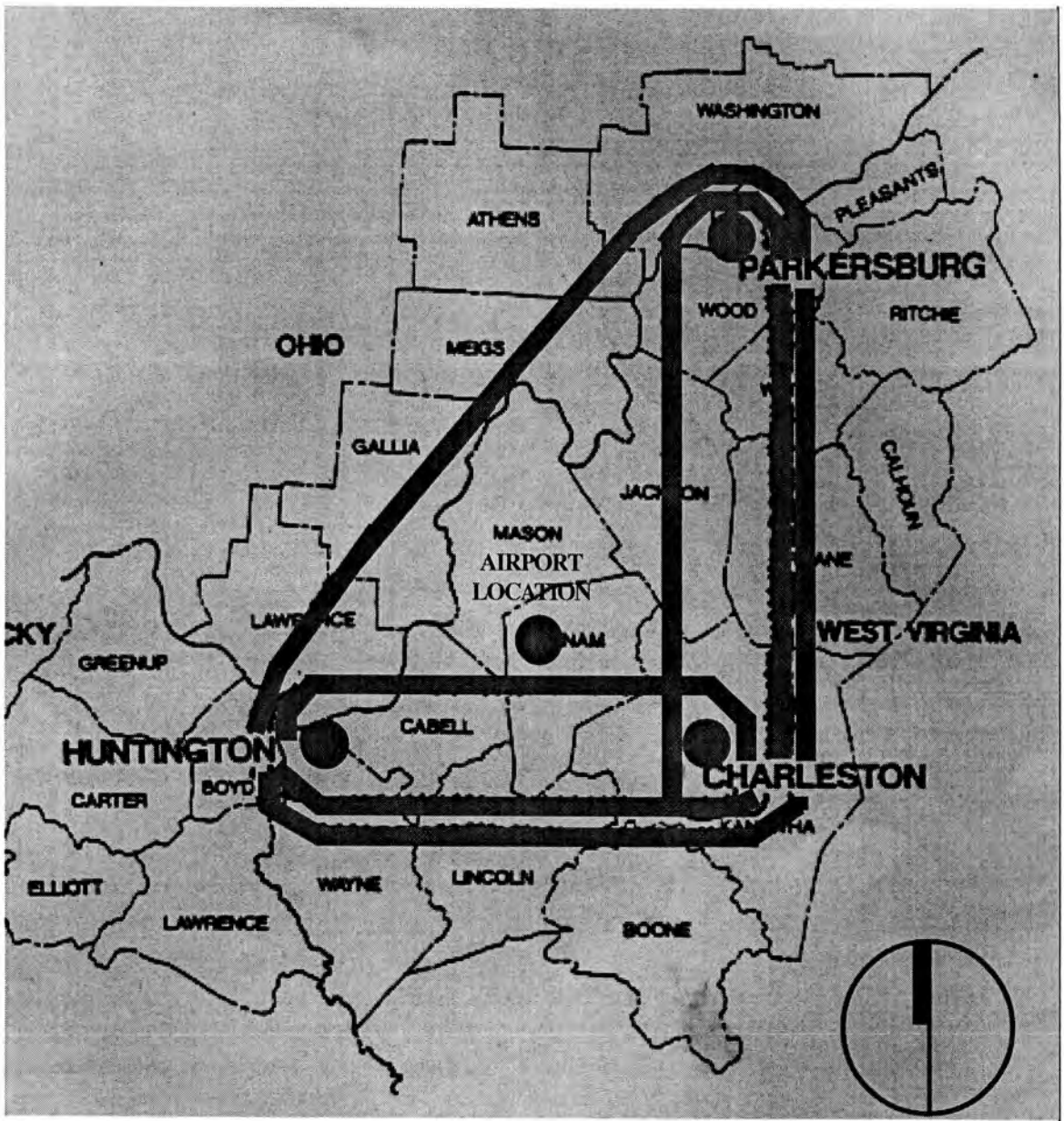


Figure 85: *Diagram of Market Areas*

Functional factors in the selection of the site included the sites physical features (topography, climate and hazards, flexibility and expandability, geology, obstructions to runways, etc.), environmental factors (parks/ refuges, wetlands, floodplains, air and water quality, hazardous waste, etc.), community concerns (displacement of homes/businesses/ churches/etc., noise, travel times and distance from market, availability of primary roads, etc.), and of course costs (land, site preparation, facilities, utilities, access of highway, etc.)

Proximity to the market centers of Charleston, Hunntington, and Parkersburg (see diagram above), as well as to the major transportation links within the State (figure 82) were primary factors in the selection of this particular site. This area of West Virginia contains the most significant amount of flat and open land for potential further development and growth due to increased airport related activity and new business within the area.



Figure 86: *Counties.*

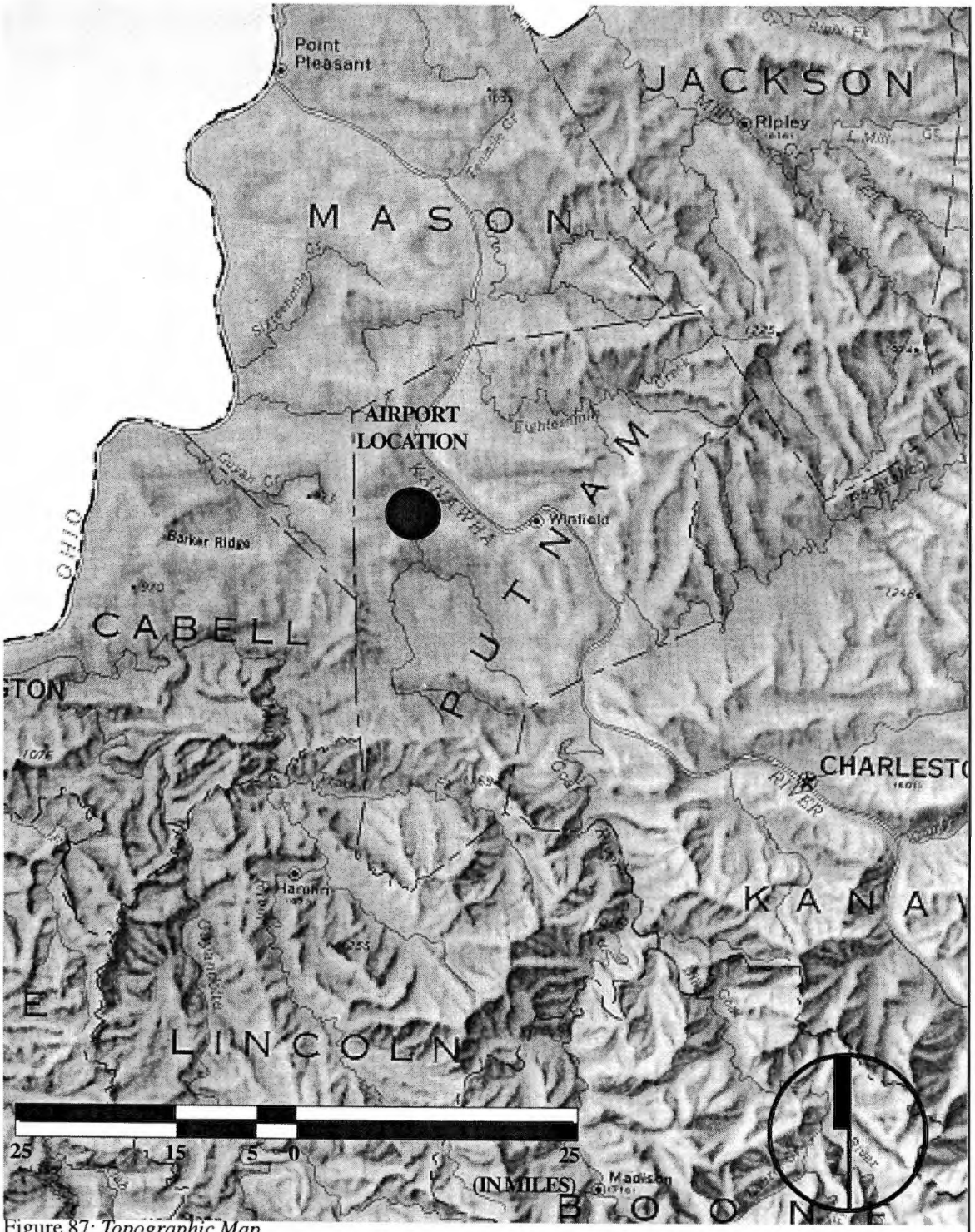


Figure 87: *Topographic Map*

As can be seen from the topographic map, this area of West Virginia is relatively flat in comparison to the rest of the state. Due to the mountainous terrain, further development of existing airports within West Virginia is limited and unfeasible. This area of West Virginia is suitable for an airport and has an abundance of flat land for future growth of the airport, industry, and/or business development. The site maintains a close proximity to the market centers of Charleston, Huntington, and Parkersburg without disrupting the integrity the cities and residential districts.

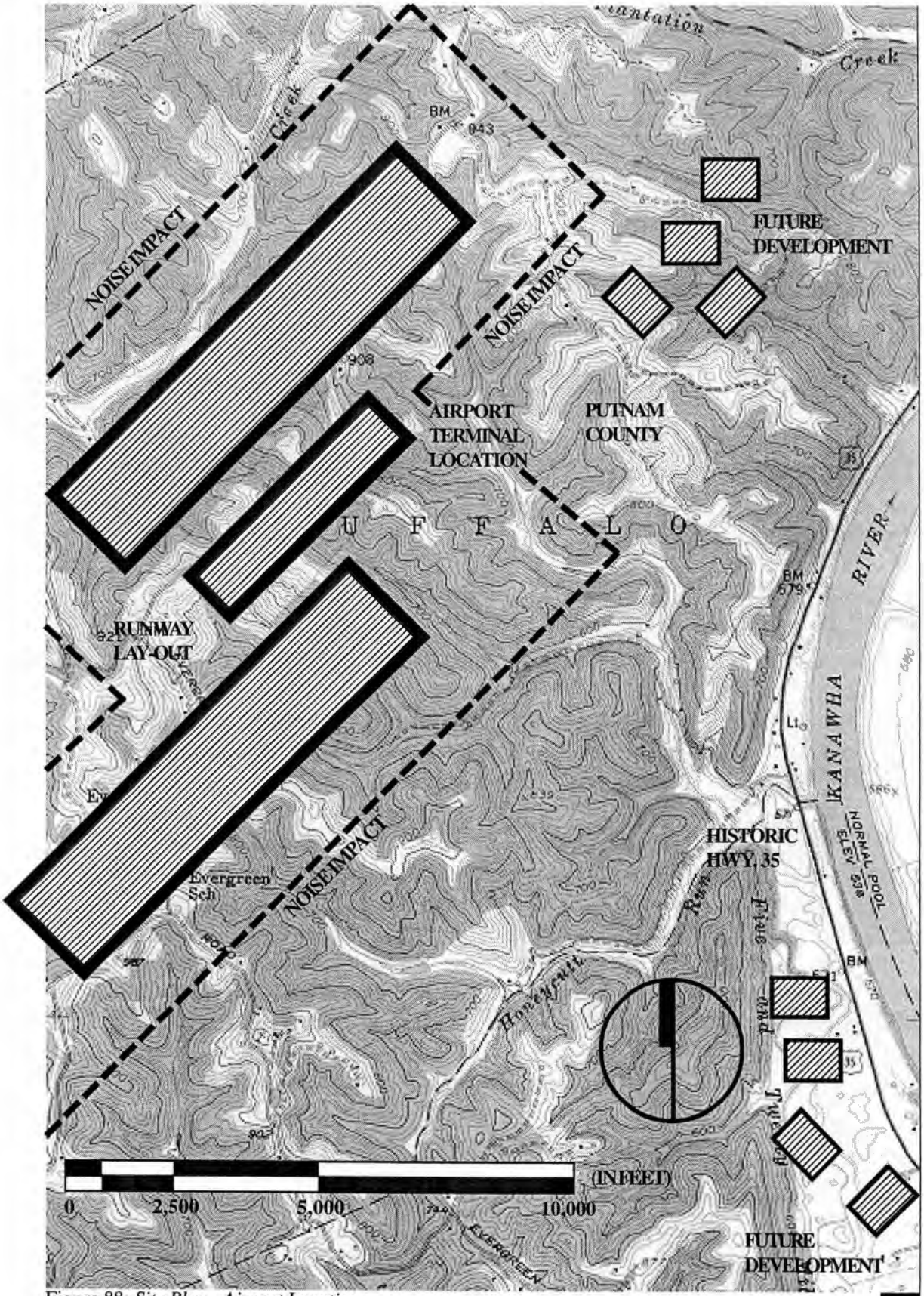


Figure 88: *Site Plan - Airport Location.*

The site selected for the airport is in Western Putnam County within a close proximity to the Kanawha River, an existing railroad, and a major interstate. The airport site was chosen based on numerous factors. The primary factors of choosing this site over the numerous other possible sites within the State was based on this sites closeness to the market areas of Charleston, Huntington, and Parkersburg and the amount of sizeable flat acreage for further development and growth. Access to US 35 and I-64, a major interstate connecting Charleston and Huntington, via the Winfield interchange proves to be an excellent location in terms of travel time and distance from all market areas.

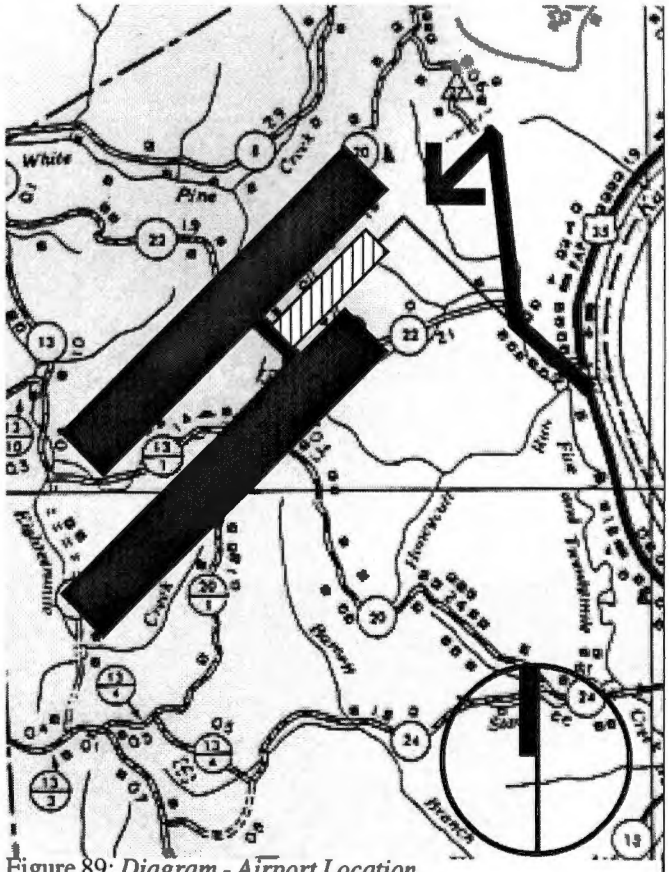
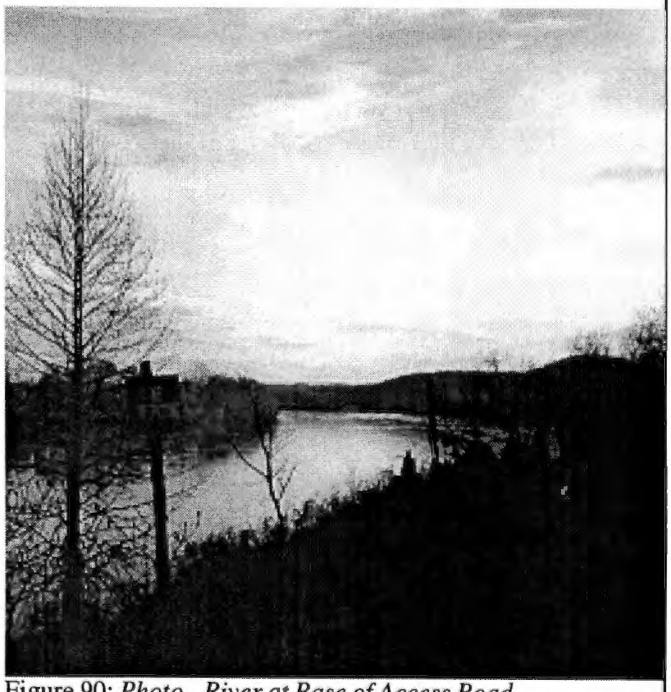


Figure 89: *Diagram - Airport Location.*

No hazardous waste or natural resources, including threatened or endangered species, parks, wildlife areas, historic or archeological resources, wet lands, flood plains, or prime farmland will be affected by this development. With this site relatively minimal impacts would occur on water or air quality and no parks or recreational areas within the State will be disrupted. Only minimal residential displacement and one community facility, Evergreen Church, with its adjacent cemetery will have to be relocated.

Due to the mountainous surroundings the elevation of the airport will be between 800-900 feet with road access from US35. US 35, running parallel to the Kanawha River and perpendicular to I-64, was one of the first roads into and through the State of West Virginia.

The approach to the site manifests all the unique qualities inherent of West Virginia and the Appalachian Region. The approach offers an abundance of wildlife, foliage, streams, and creek beds which carve the way and define the boundaries of the site. The airport site's location adjacent the Kanawha and Ohio Rivers, each of which have aided in shaping, defining, and characterizing the region, is appropriate due to the fact that all historic settlement and transportation routes within the State were generated by and linked to these rivers.


Figure 90: *Photo - River at Base of Access Road.*

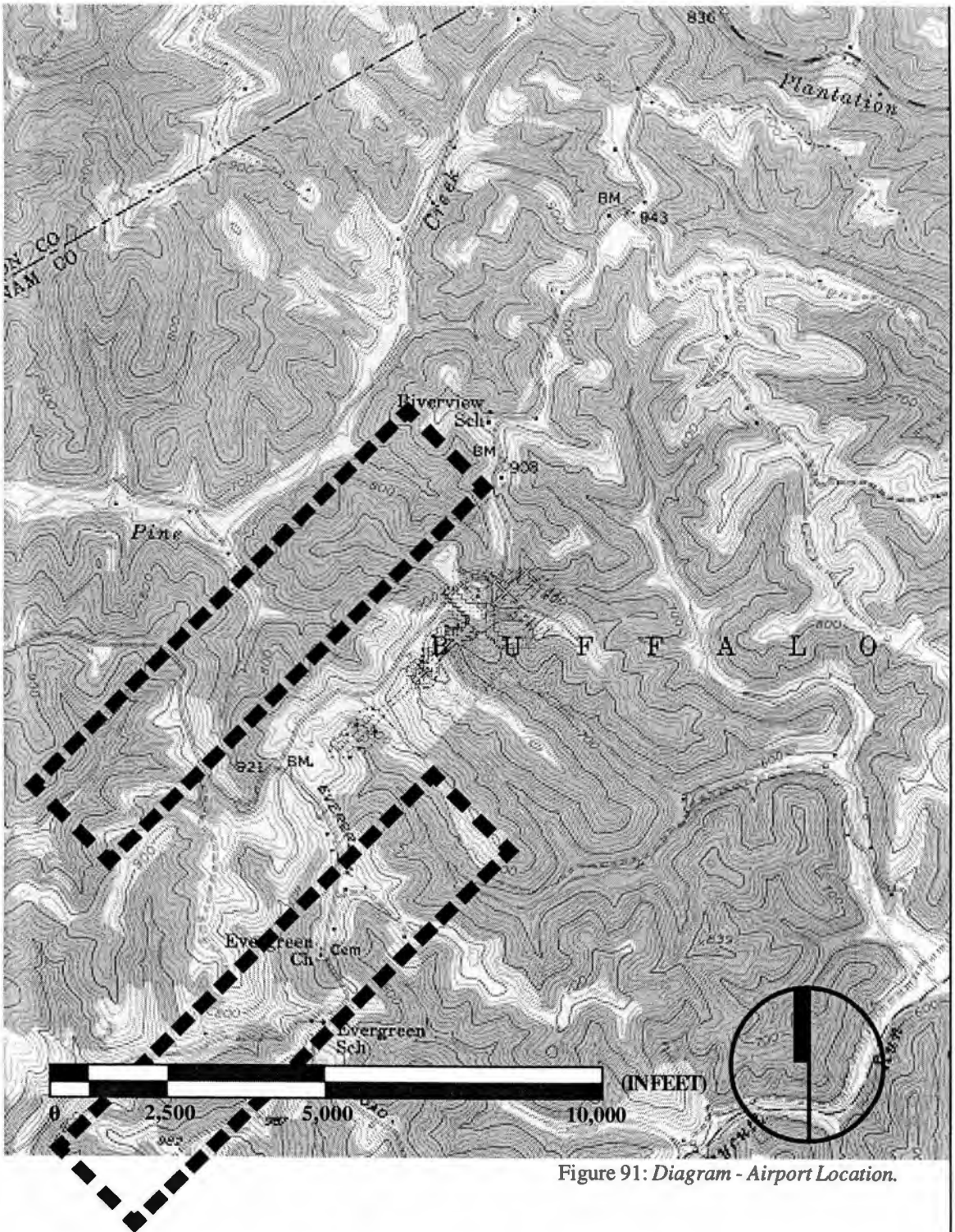


Figure 91: *Diagram - Airport Location.*

Due to topography of the site, the runway configuration will be similar to the above diagram. The topographical map demonstrates the enormous amount of land mass needed to accommodate an airport terminal, its runways, and other related activity. The site chosen obviously requires a significant amount of cut and fill, but far less than other feasible sites within the state. The strategic skew of the runways allows the crest of the hill to facilitate a majority of the cut and fill, while minimizing the destruction of the site and the environment surrounding the airport.

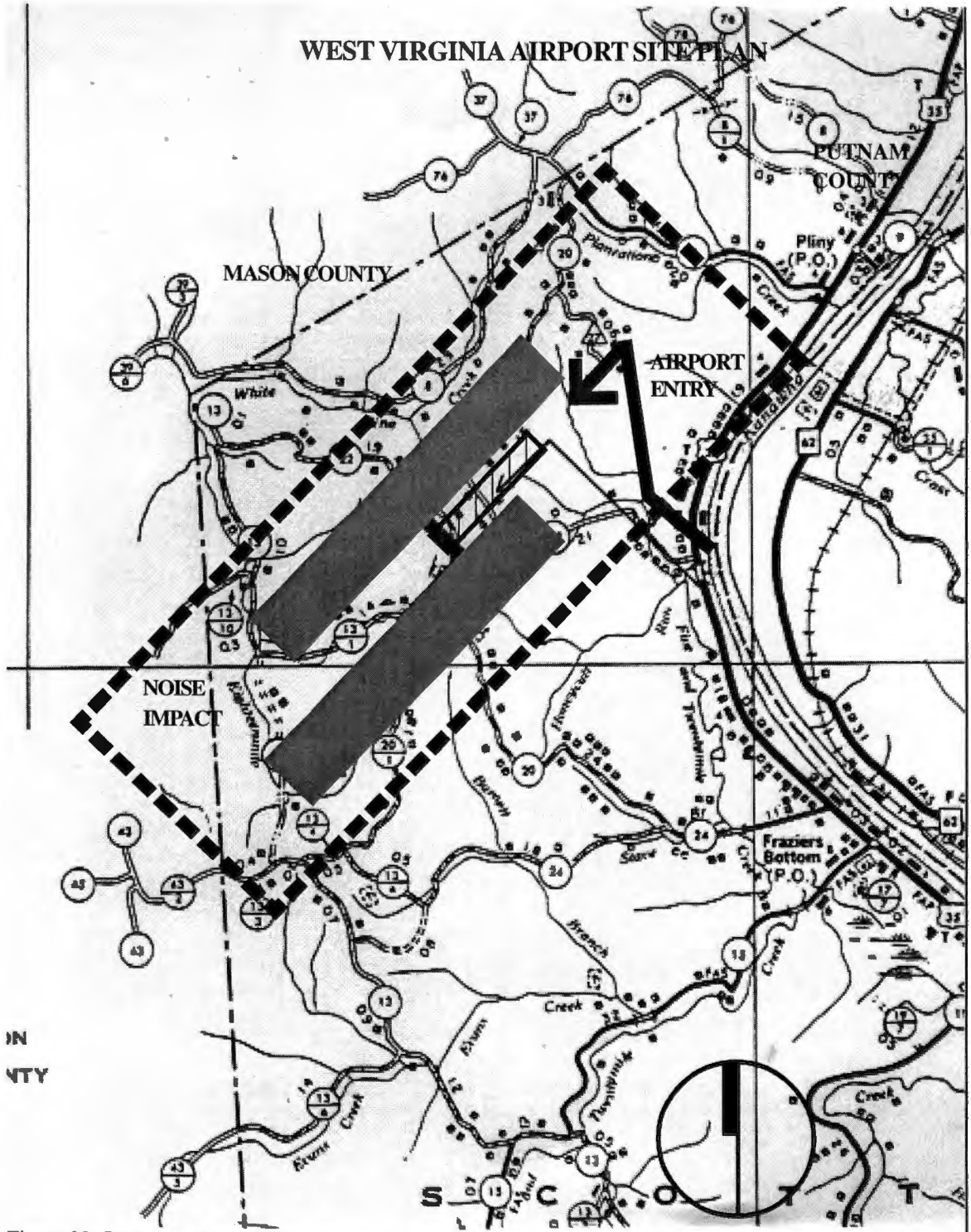


Figure 92: *Diagram - Airport Diagram.*

7.1 SITE PHOTOS

PHOTO 1 :

Although the site rests on a high elevation, it maintains a relatively flat grade. The natural setting, with the wooded surroundings, seasonal changes, open fields, and expansive views offer the visitor a sense of West Virginia throughout the year.



Figure 93: *Diagram - From Terminal*

PHOTO 2 :

The entry to the site, directly of highway 35. The automobile runway of the terminal - runway to the mountains and nested airport. Uniquely flat and open with streams and fields opening up to you as you begin your ascent to the airport.

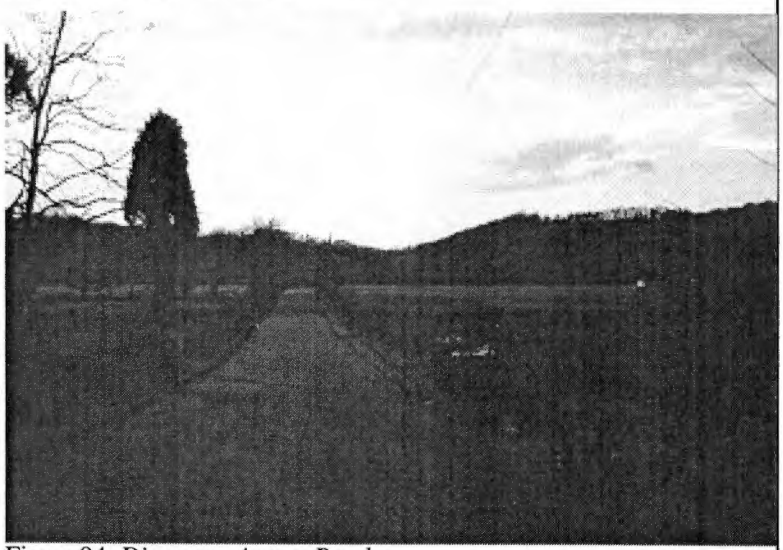


Figure 94: *Diagram - Access Road*

PHOTO 3 :

A variety and abundance of deciduous trees, evergreens, shrubs, wildflowers, and open fields afford the passerby a unique and pleasant spacial sequence.



Figure 95: *Photo - From Terminal*

PHOTO 4 :

View from front of what will be the airport terminal with a distant view of the Kanawha River and rolling hills. The natural setting and beauty of the area truly offers one a sense of the appalachia and identity for West Virginia.



Figure 96: *Diagram - View from airport*

PHOTO 5 :

Acollapsed barn structure on the approach to the terminal. Typical appalachian barn structure with a pitched metal roof and wood structure.

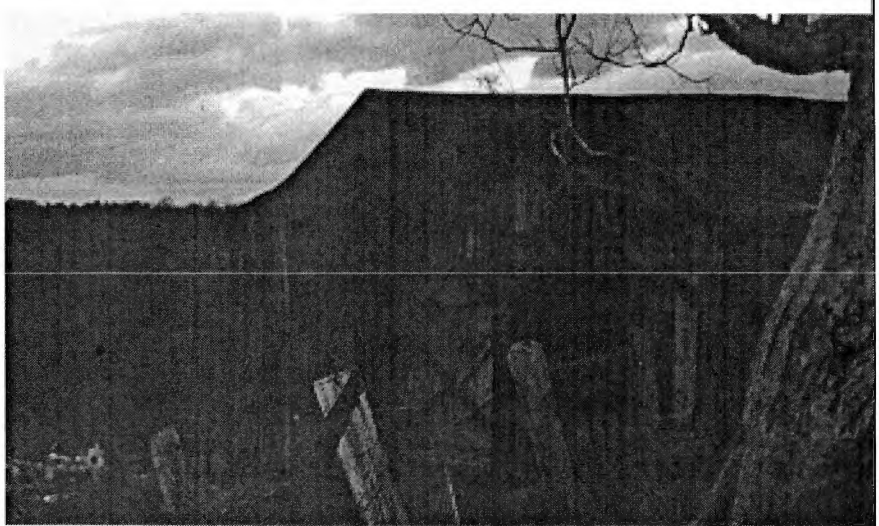


Figure 97: *Diagram - Existing Barn Structure.*

PHOTO 6 :

Distant view of John Amos power plant through the valleys and ridges. Power lines scale from hilltop to hilltop, contrasting nature and technology.



Figure 98: *Photo - view from future bridge.*

PHOTO 7 :

Gravel road leads you the church, location of the new terminal. The street is lined by an abundance of trees, fallen leaves, and beautiful vistas.



Figure 99: *Photo - View from Approach Rd.*

PHOTO 8 :

House adjacent evergreen church and cemetery that will need to be relocated during site clearing. View on descent looking back at the location of the terminal.

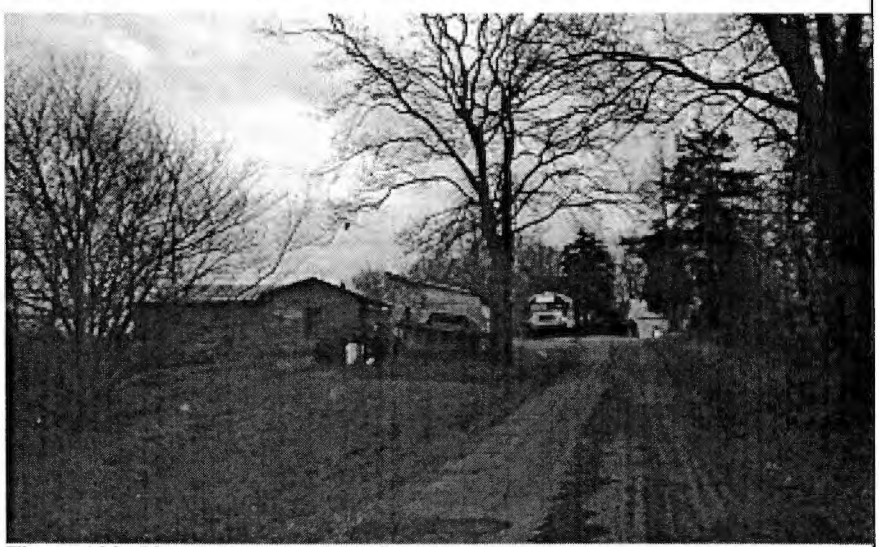


Figure 100: *Photo - Existing Barn Structure.*

PHOTO 9 :

Open valleys and beautiful views of the region grab you as you descend the mountain top. A variety of deciduous trees and evergreens define your path, views, and nature of the area.



Figure 101: *Photo - view from future bridge.*

PHOTO 10 :

The area closet the river offers the greatest width of open and flat land within the state, providing plentiful space for future construction and development.



Figure102: *Photo - View from Highway 35.*

PHOTO 11 :

The entry to the terminal. Evergreen Cemetery which will need to be relocated. The area where the terminal will rest.



Figure 103: *Photo - Existing Cemetery to be relocated.*

PHOTO 12 :

Existing Evergreen church and adjacent cemetery which will be relocated. Metal roof and wood siding with simple and efficient massing.

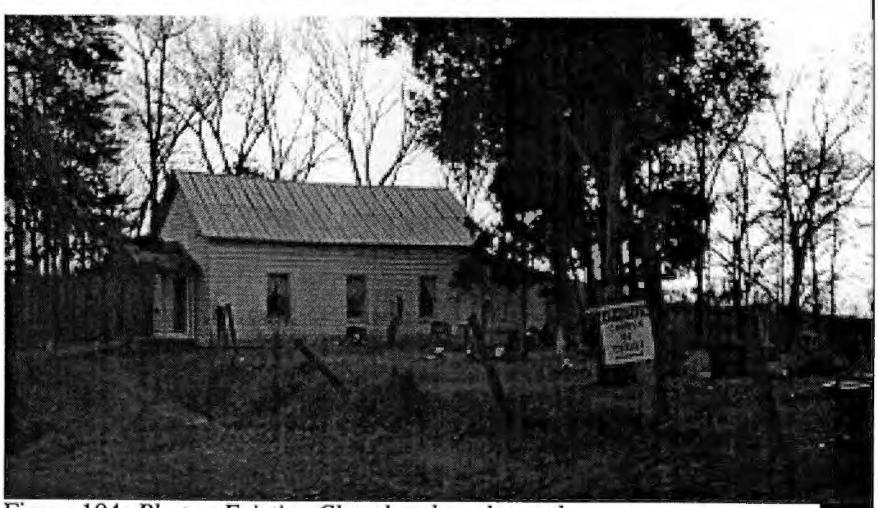


Figure 104: *Photo - Existing Church to be relocated.*

PHOTO 13 :

View looking over the tree-tops and meadow of over-grown grass.



Photo 105: *Photo - Top of Hill*

PHOTO 14 :

View on decent approaching plain below. . Winding roads, piercing through the wilderness shielded by trees and the embankment of the hill-side - typical side road in rural West Virginia.



Figure 106: *Photo - Access Road.*

PHOTO 15 :

View cutting the Forest and providing the pass-erby a glimpse of the mountainous region. Truly unique series of spaces as one descends/ ascends the mountain side.

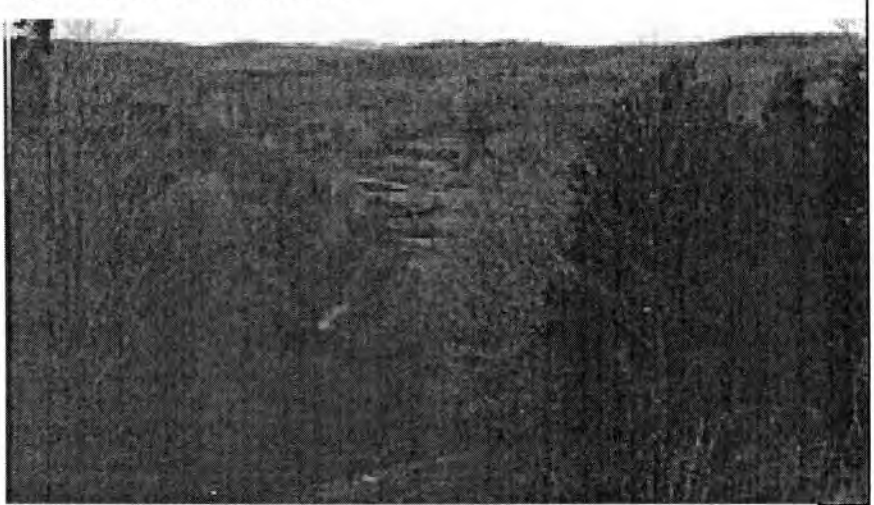


Figure 107: *Photo -Top of Hill.*

PHOTO 16 :

A series of open meadows, hillsides, and woodlands with clearly defined edges and an occasional farm or house structure, reflective of the area.



Photo 112: *Photo - Top of Hill*

PHOTO 17 :

View of a West Virginia rolling field on the forest and street edge. One feels the presence of the time of day as the mountain casts a shadow on the east side of the mountain.



Figure 111: *Photo - Top of Hill.*

PHOTO 18 :

A final view of the terminals location from roadside looking south east.

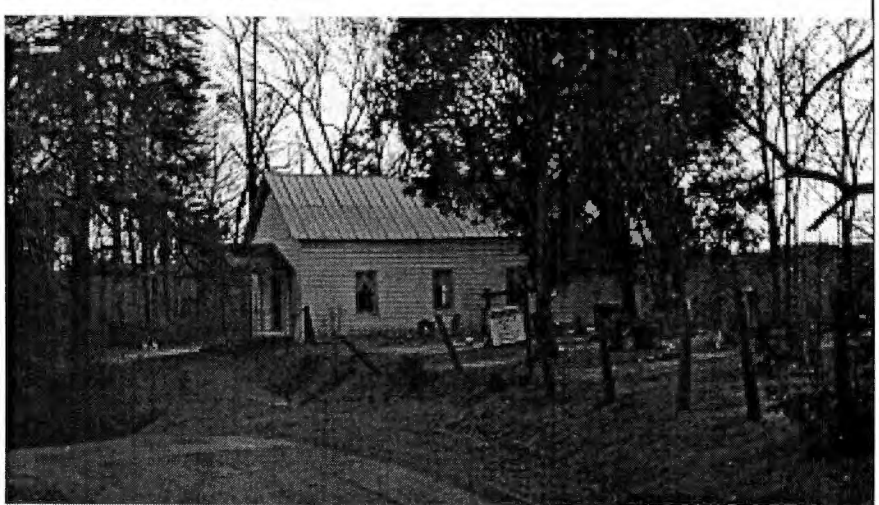
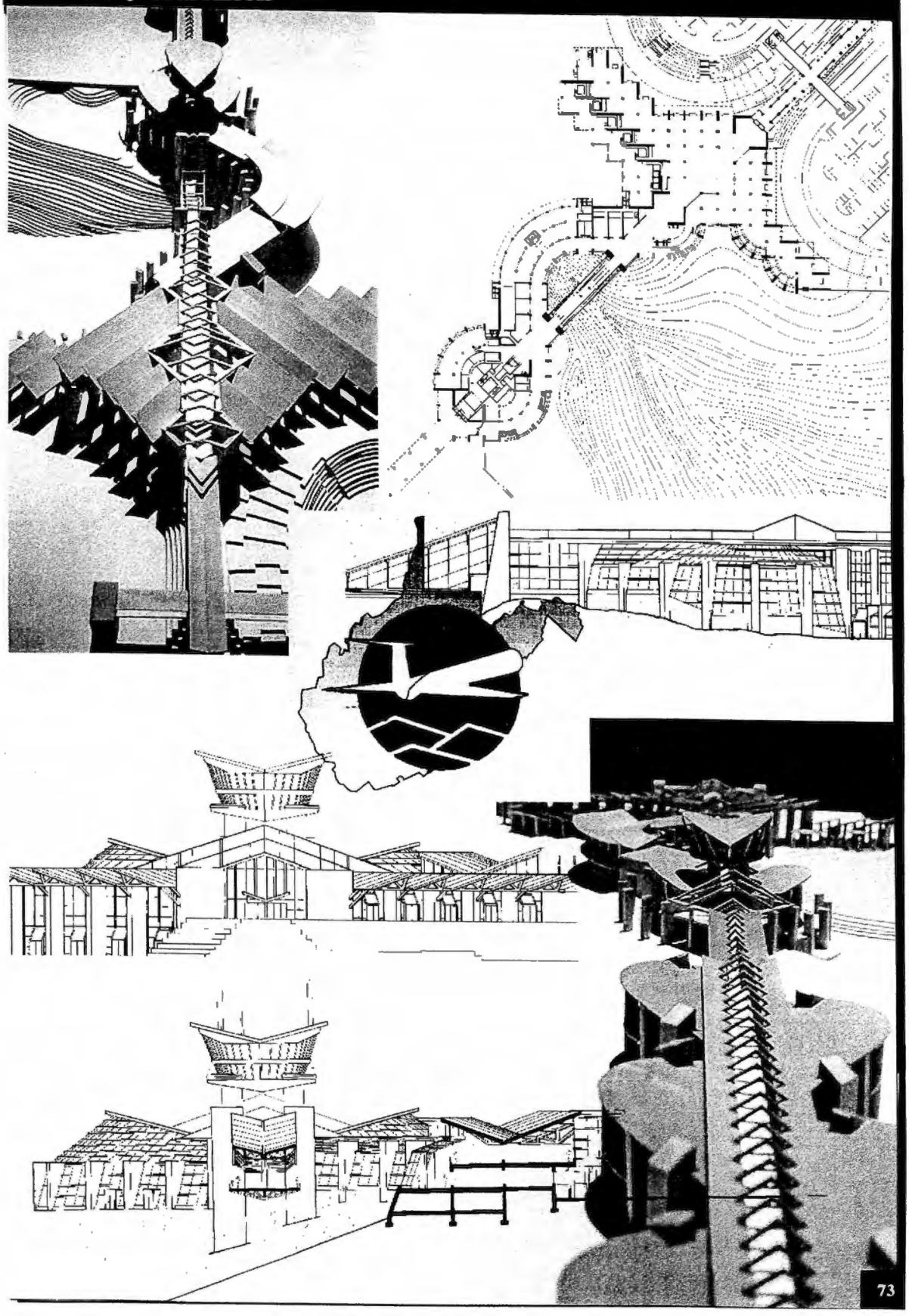


Figure 110: *Photo -Top of Hill.*



Several ideas were explored within the initial design studies as can be viewed from the study models to the right. This early exploration led to several determinants in the direction of the design. Several key architectural issues surfaced which each incorporated themselves into the project. Time, scale, technology, regionalism, materiality, and position are but a few, and were each explored in depth to create this terminal that is unique to the region and symbolic of its drive to the next millennium.

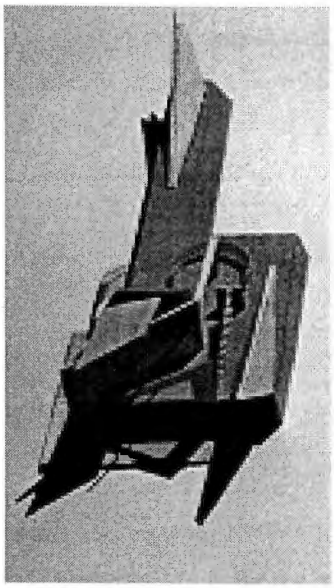


Figure111: *Study Model.*

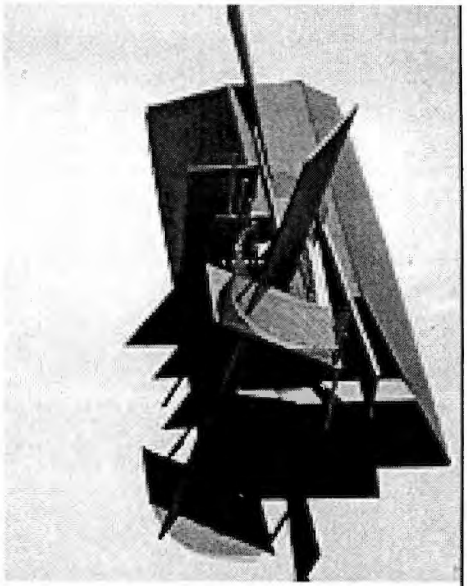


Figure 112: *Study Model.*

The nature of an airport and history of West Virginia create and interesting dialogue for design direction. West Virginia has encouragingly continued to push for more respect as a leader in technology and industry, while simultaneously maintaining its commitment to the regional and historic traditional qualities of the state. A major airport would give the state a greater marketability to attract new technology companies and business to the area. A unique, state of the art airport facility would heighten the state's awareness and lead to an increased economic competitiveness, more in comparison to neighboring states.



Figure 113: *Contour Model.*

Regionalism strives to establish an imaginative response to a particular place and to traditional ways of doing and seeing things. This can be seen not only within the thesis proposal, program, site analysis, but in the positioning of the airport upon the site and in the forms created.

The stretching and stepping of the terminal creates a more natural connection to the site, strengthening the symbolic gesture towards the development of West Virginia. West Virginia's earliest developments occurred along the rivers and on the flat and open fields, but with the advancements in building technologies and the use of bridges, to span the mountainous terrain, its present day cities and neighborhoods have taken to the hills and have continued to develop into the sides and tops of the mountains and hillsides.

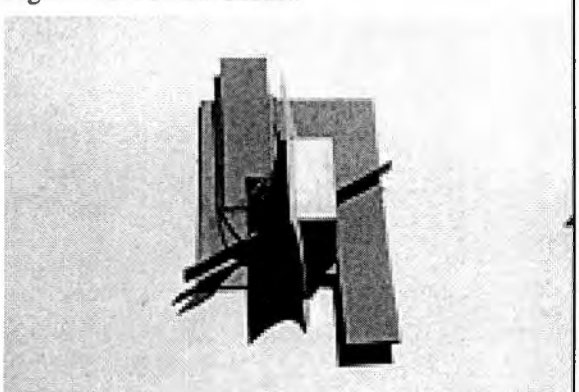


Figure 114: *Study Model.*

Staggering the parallel runways enabled the site requirements to be reduced, lessening the amount of cut and fill while minimizing the amount of destruction to

the site. The staggering of the runways allowed the runways to be placed closer to each other, minimizing the taxiing distances and the overall destruction of the site.

The goal of this project was to create a building which is representative of our technological advanced time, while simultaneously incorporating aspects of the past and the qualities of the region. The combination of program elements, the diverse palette of materials, the sequence of program spaces, and the site specific design components all work in relation to one another to achieve this, creating a building that is both regionally and universally sympathetic.

The notion of time was critical in the layout of the spaces and in the overall forms developed in the final building design. A bridge is designed to span the terminal from the ticketing/baggage/main lobby area to the gate/concourse areas to shorten travel distance, minimize the amount of destruction to the site, and strengthen the connection one feels to the terminal and region.

Bridges have been used to span the terrain of West Virginia long before the state even achieved its sovereignty. Historic, as well as, modern bridges are found throughout the state, connecting one city/town/area to the next; therefore, lending itself an appropriate and

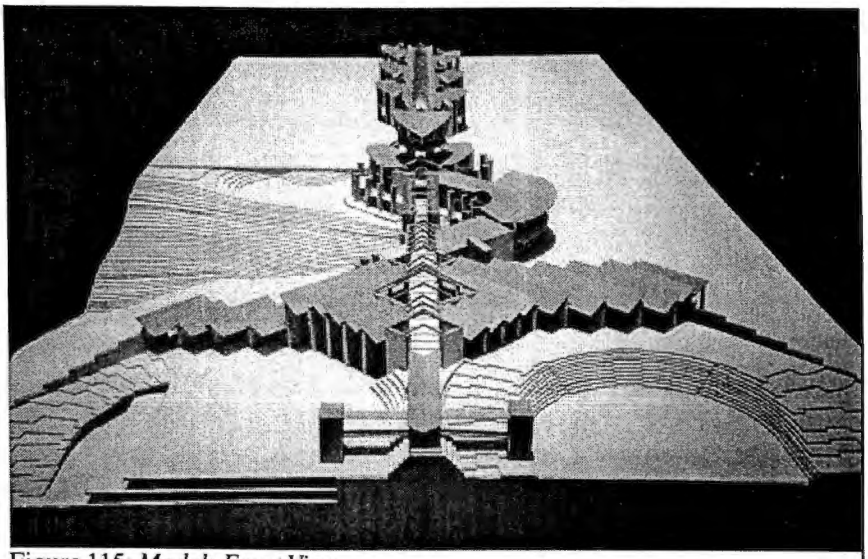


Figure 115: *Model: Front View.*

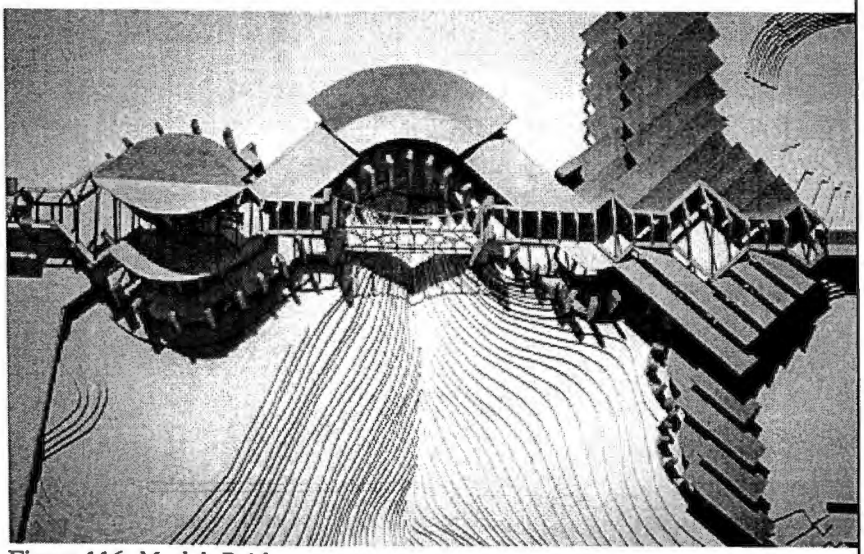


Figure 116: *Model: Bridge.*

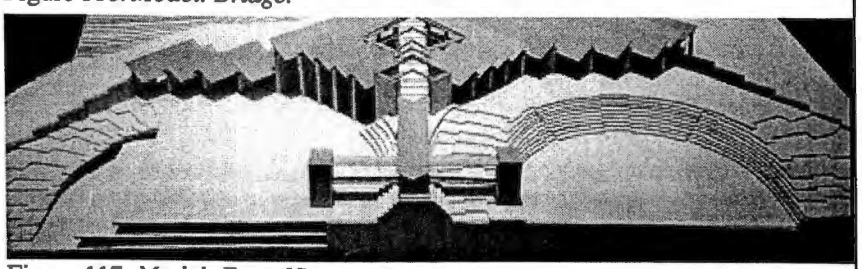


Figure 117: *Model: Front View.*

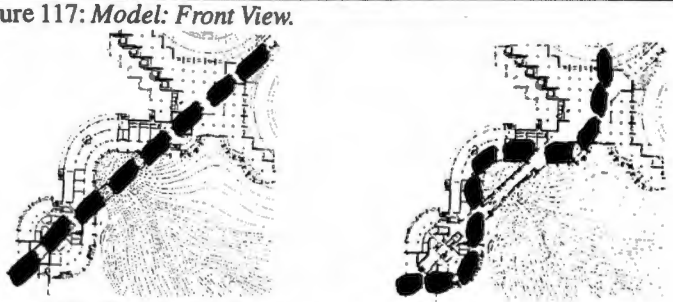


Figure 118: *Circulation Routes.*

symbolic element to incorporate within the design of the terminal. While spanning this bridge one achieves a strong connection to the qualities of the site and to the region in which it lies.

Circulation routes, another critical factor in designing the layout of the spaces within the airport terminal, are clearly defined. The organization of the program spaces is such that one feels his/her place at any point while either inside or outside of the terminal. The primary and secondary circulation patterns formed allow the passengers the flexibility to explore the terminal, taking part in the multitude of shops, restaurants, and activities, or if in a rush, bridge directly to the gates/exits.

The primary "formal" circulation pattern is on axis with the main entry, the lobby, the bridge, the control tower, the museum elements, the security clearance, and the gates which provides for the least amount of confusion, future building expansion, and a straight and clear route from one end of the terminal to the other. This route offers varying degrees of scale, both horizontally and vertically, which creates quite a unique experience to the users of the terminal.

The secondary "informal" circulation pattern interweaves the primary and allows one to take part in the numerous airport activities- the shops, restaurants, entertainment, etc. While both circulation patterns offer vastly different experiences of the terminal one constant remains, an openness to nature and technology, which forms a strong connection to the terminal, the region, the history of the state, and to that which lies beyond.

The openness of the airport terminal is inherent throughout, strengthening the connection to the airfield, the region, and the regions beyond. This condition allows expansive views of the region throughout the terminal, creating a false sense of being within nature while actually being within a technologically controlled space. This inside/outside relationship persists throughout the terminal, strengthening the sense of place and lending the airport its unique identity.

Unlike most terminals, passengers are allowed the freedom to escape the congestion of the terminal at strategic locations within the terminal to experience the site in a more natural way. Hiking trails, water activity (fishing/paddle boats), picnic areas are to be included within the overall design concept.

The materials chosen in the design of the terminal strengthen the connection of place and technology. Throughout the terminal one is exposed to expansive amounts of glass, concrete, sheet metal, and steel in combination/contrast to heavy timber, native stone, brick, and coal. The diverse palette of materials continues the dialogue between place and technology and offers the visitors a more sensual experience much unlike typical modern airports which often provide a more limited, temporary, and cold palette of materials skin the building's surfaces.

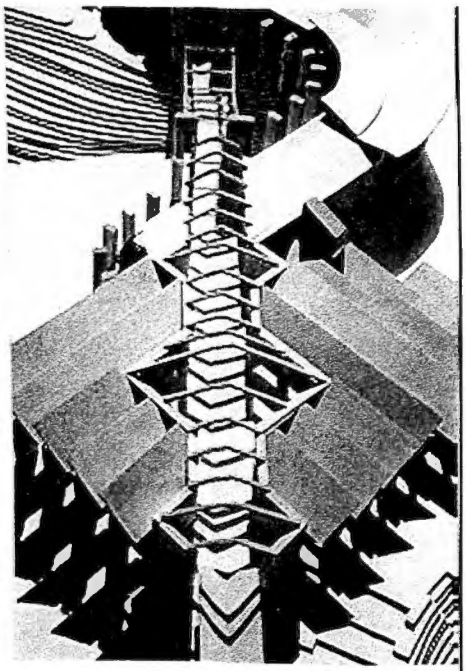


Figure 119: *Model: Top View of Main Lobby Space.*

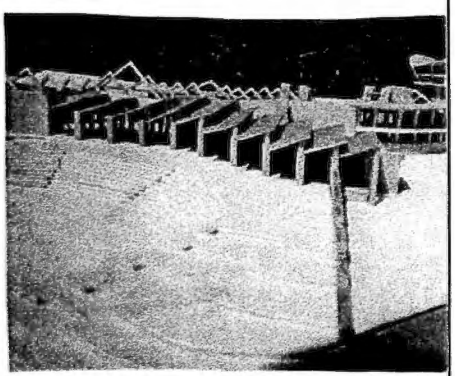


Figure 120: *Model: Approach View.*

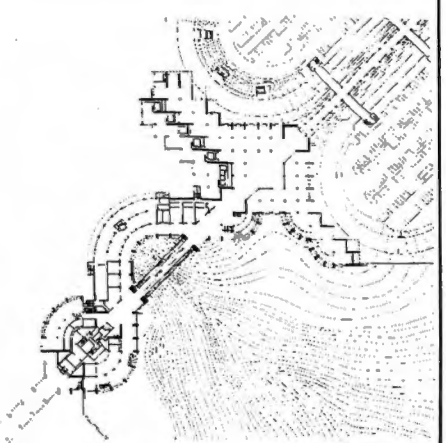


Figure 121: *Main Floor/Site Plan.*

Massive freestanding stone piers anchor the terminal to the site, define the circulatory spaces, frame the passenger's views from the terminal, and define areas of reflection and refuge for passengers in route from land side to /from air side. The stone piers also create a timeless element to the terminal and conceal the enormous amount of mechanical/electrical/plumbing necessities inherent in an large airport facility.

Scale is another critical element in the success of the terminal. Scale is used to define and strengthen areas of importance, main circulation routes, and areas of gathering within the terminal. These pivotal areas of the terminal are defined by their open and airy environment and are highly visible throughout the terminal. On approach to the airport, whether dropping off or picking up a passenger, one is introduced to the scale and materiality of the airport by the repetitious pitched roofs and exposed wooden trusses resting on large stone piers, aligned so that they draw the visitor inward to the terminal.

Throughout the terminal the sky and region open up to the visitors creating a strong connection to the beauty of nature. Contradictions of regional "rooted" and universal "High - Tech" symbolism persist throughout and add to the quality of the design. In conjunction to the contradictions within the scale and materiality of the terminal, the positioning of the program elements emphasize this as well - one crosses a bridge, ascends an escalator, passes through a time capsule of West Virginia history, through a security check, etc. While one might not take the same sequences through the terminal or have the same general purpose for being there the positioning of the program elements, and the terminal , on the site is clear and one knows this airport is unique to West Virginia and to this place in time.

Within the terminal, nodes of circulation are created, defining areas of intersection between the primary and secondary circulation patterns. These locations define areas of importance and are envisioned to become time capsules of West Virginia heritage, as museum elements within the terminal, with an abundance of local art, sculpture, artifacts, photographs, etc., depicting the history and future direction of the state and its people.

Lets Go Mountaineers!!!!

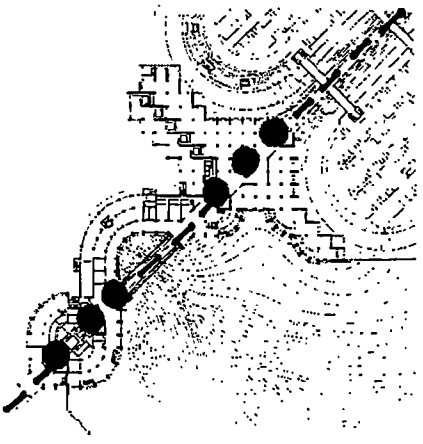


Figure 122: *Nodes/Areas of Interest*

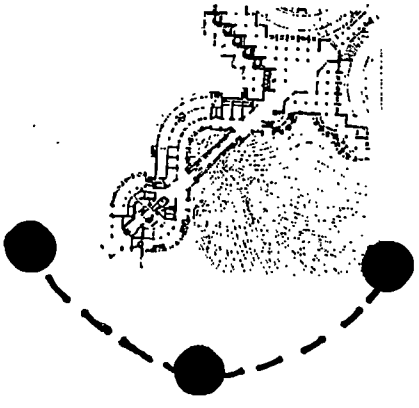


Figure 123: *Sun Patterns.*

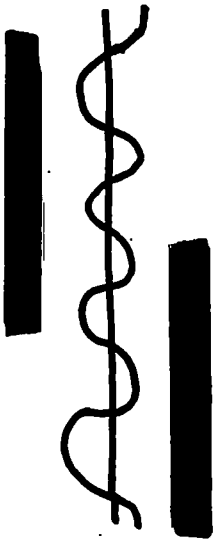
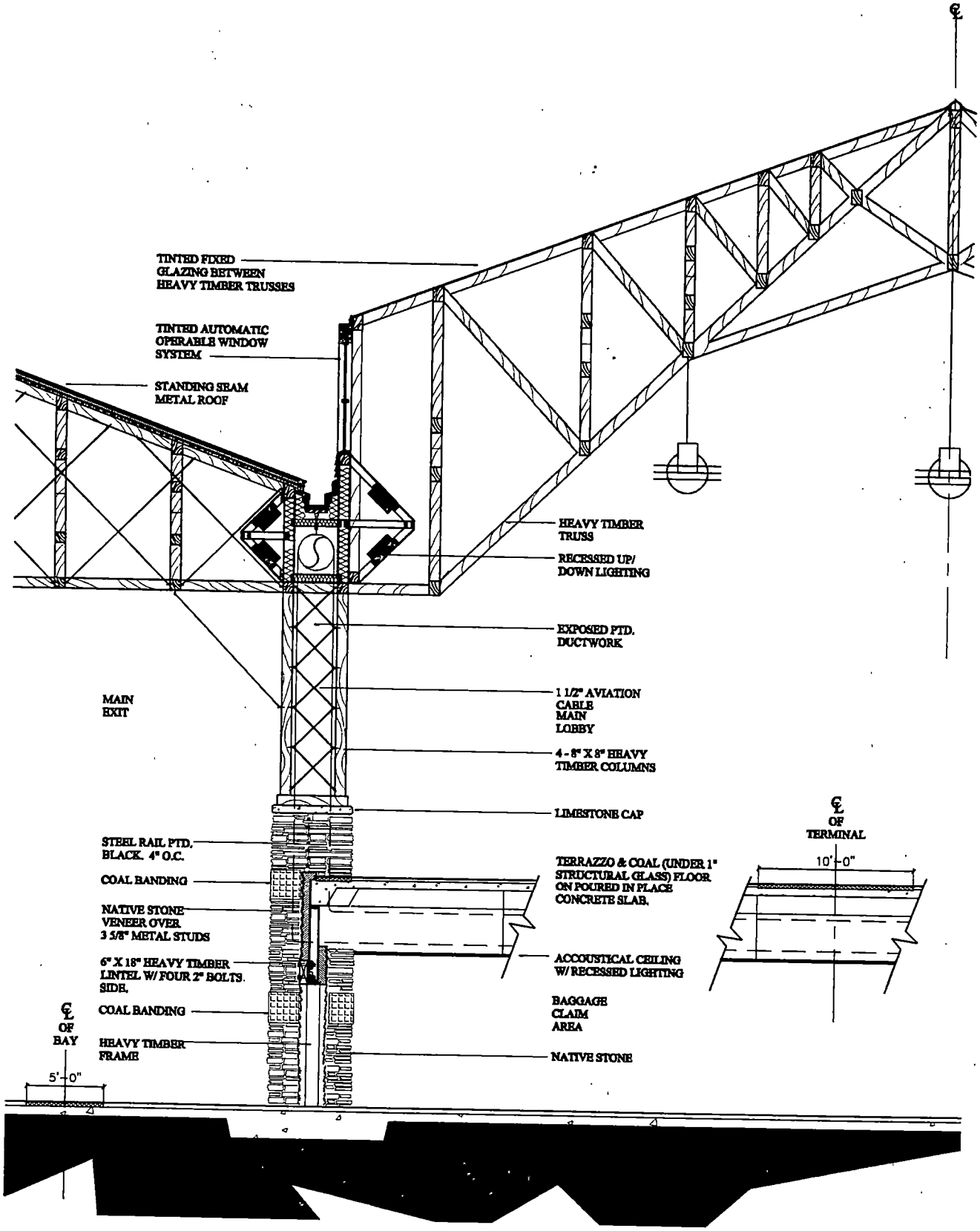
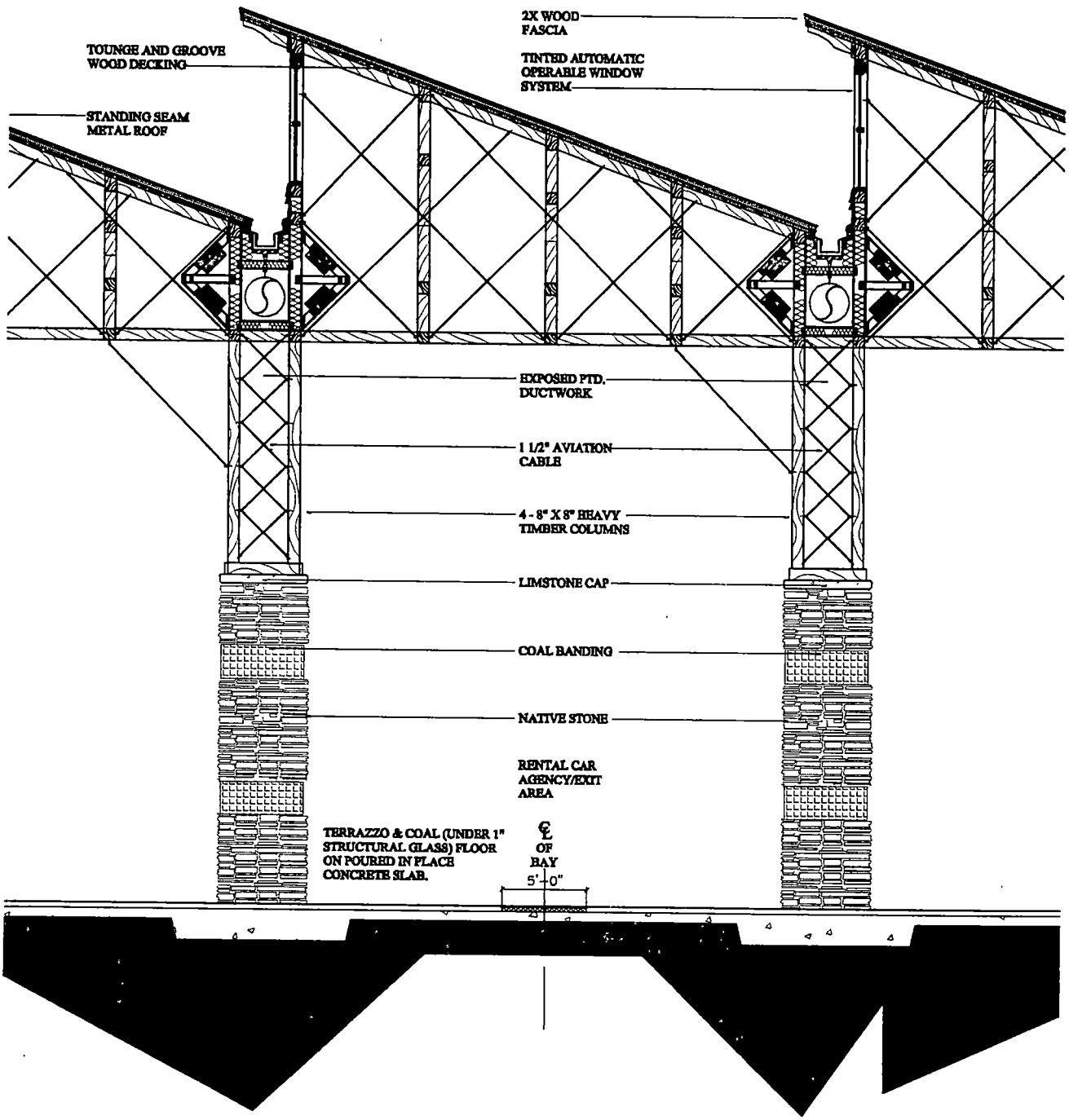


Figure 124: *Parti Diagram.*


℄
TINTED FIXED GLAZING BETWEEN HEAVY TIMBER TRUSSES
TINTED AUTOMATIC OPERABLE WINDOW SYSTEM
STANDING SEAM METAL ROOF
HEAVY TIMBER TRUSS
RECESSED UP/ DOWN LIGHTING
EXPOSED PTD. DUCTWORK
MAIN EXIT
1 1/2" AVIATION CABLE MAIN LOBBY
4 - 8" X 8" HEAVY TIMBER COLUMNS
LIMESTONE CAP
STEEL RAIL PTD. BLACK. 4" O.C.
COAL BANDING
NATIVE STONE VENEER OVER 3 5/8" METAL STUDS
6" X 18" HEAVY TIMBER LINTEL W/ FOUR 2" BOLTS. SIDE.
COAL BANDING
HEAVY TIMBER FRAME
℄ OF BAY
5'-0"
TERRAZZO & COAL (UNDER 1" STRUCTURAL GLASS) FLOOR ON POURED IN PLACE CONCRETE SLAB.
ACCOUSTICAL CEILING W/ RECESSED LIGHTING
BAGGAGE CLAIM AREA
NATIVE STONE
℄ OF TERMINAL
10'-0"


2X WOOD FASCIA
TOUNGE AND GROOVE WOOD DECKING
TINTED AUTOMATIC OPERABLE WINDOW SYSTEM
STANDING SEAM METAL ROOF
EXPOSED PTD. DUCTWORK
1 1/2" AVIATION CABLE
4 - 8" X 8" HEAVY TIMBER COLUMNS
LIMSTONE CAP
COAL BANDING
NATIVE STONE
RENTAL CAR AGENCY/EXIT AREA
TERRAZZO & COAL (UNDER 1" STRUCTURAL GLASS) FLOOR ON POURED IN PLACE CONCRETE SLAB.
℄ OF BAY
5'-0"

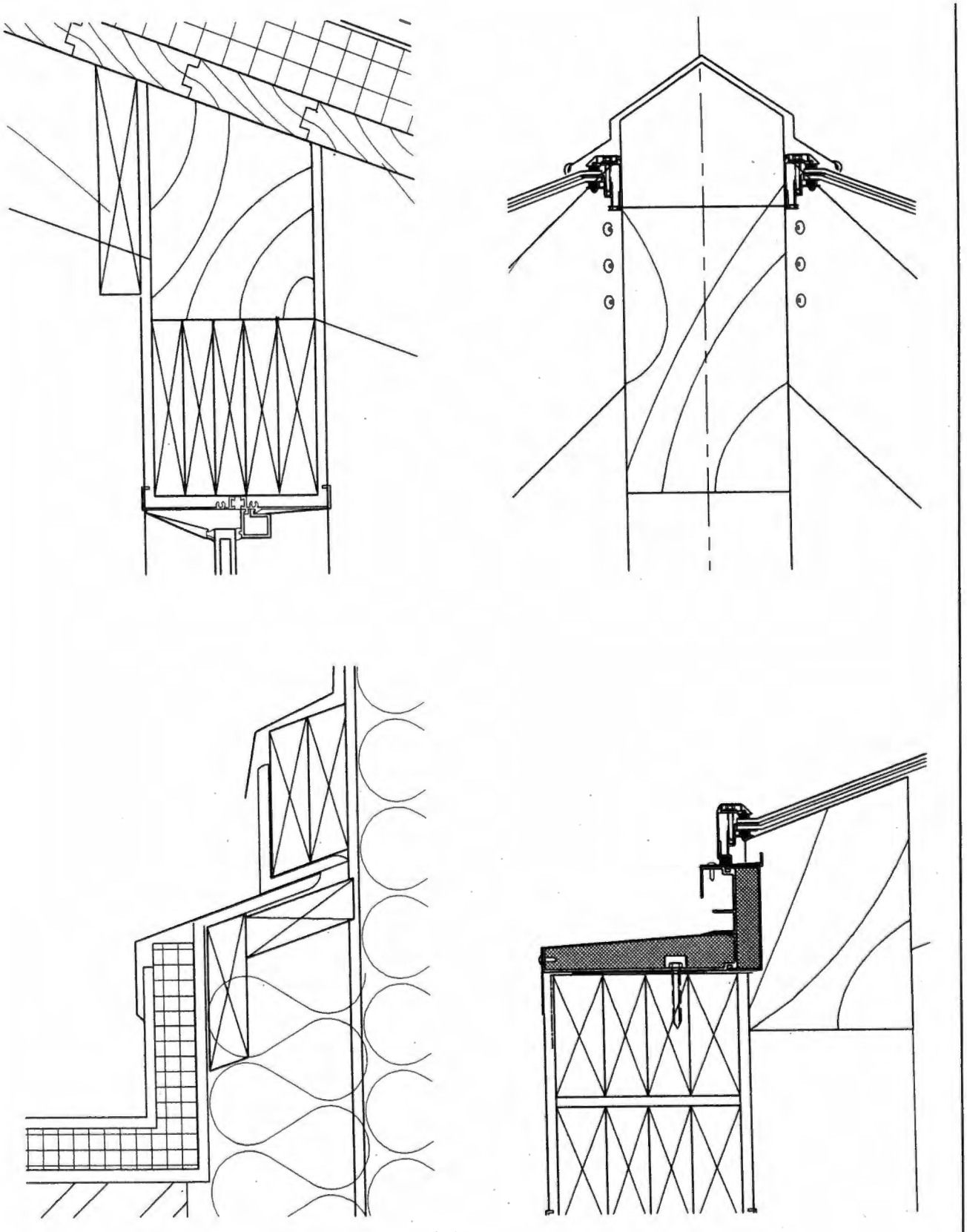
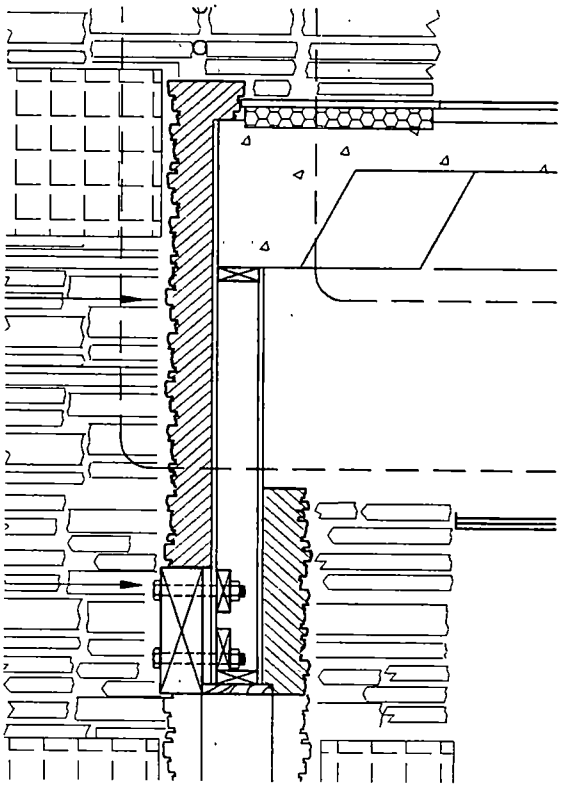
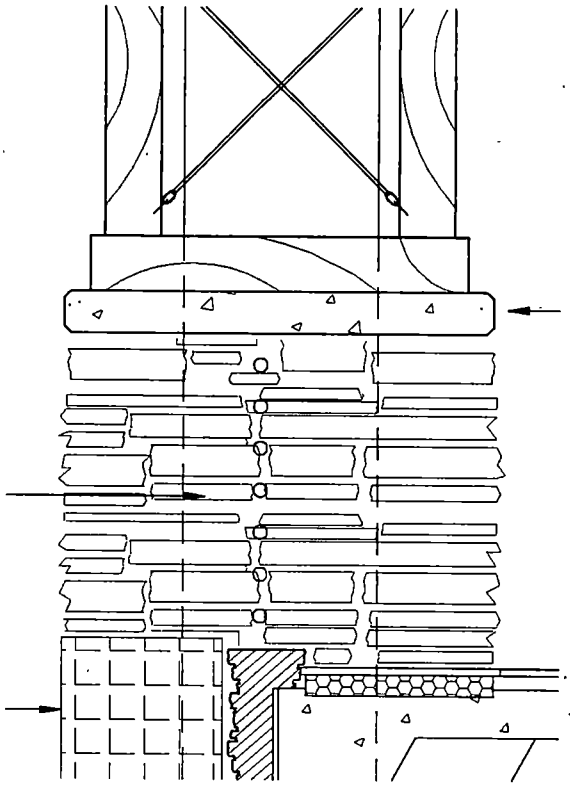
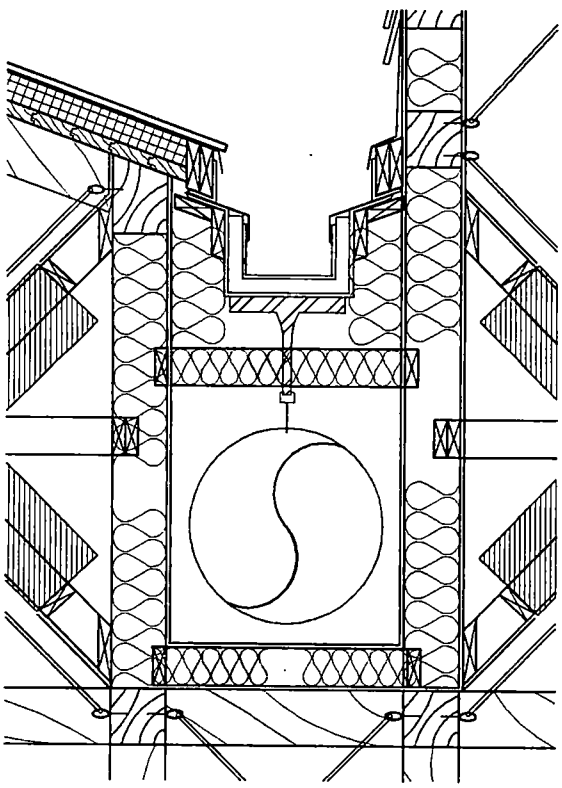
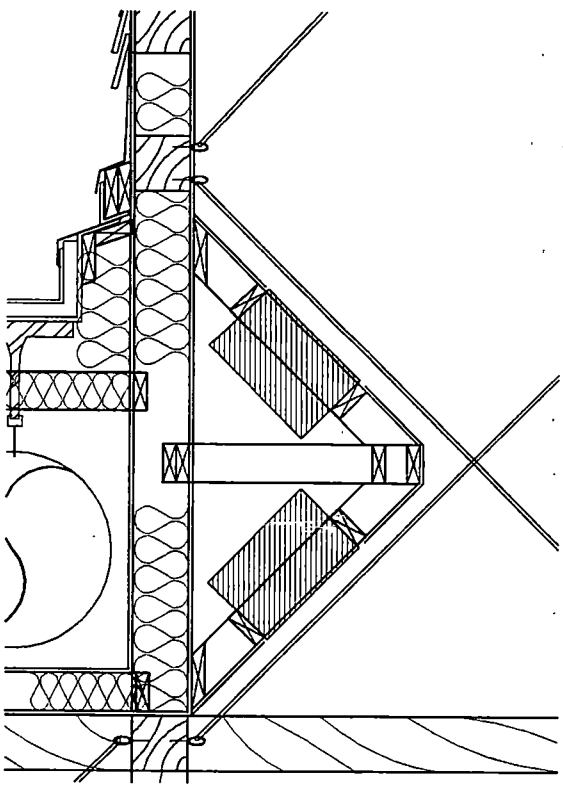


Figure 127: *Details.*









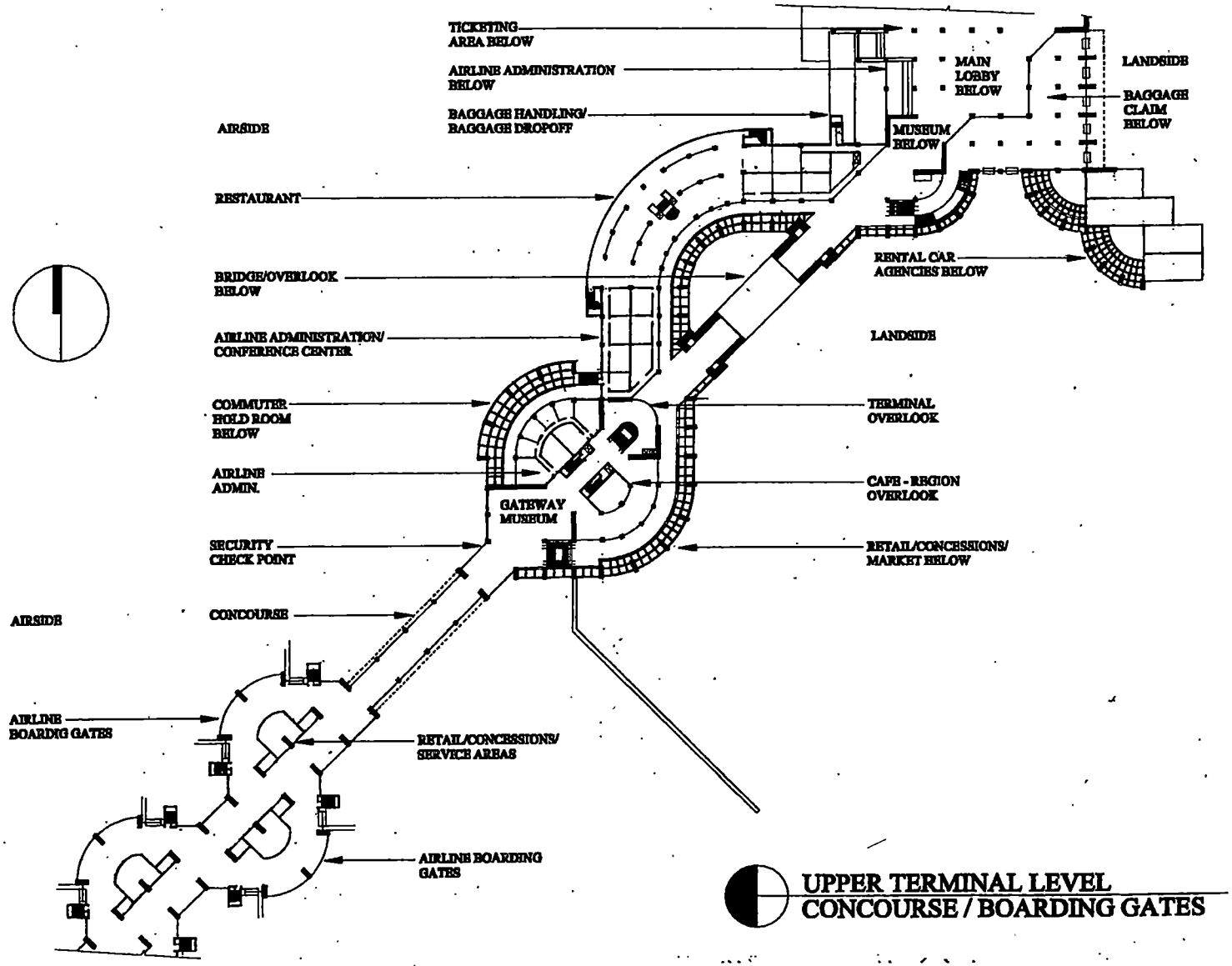


Figure 129: *Floor Plan - Gate Level.*

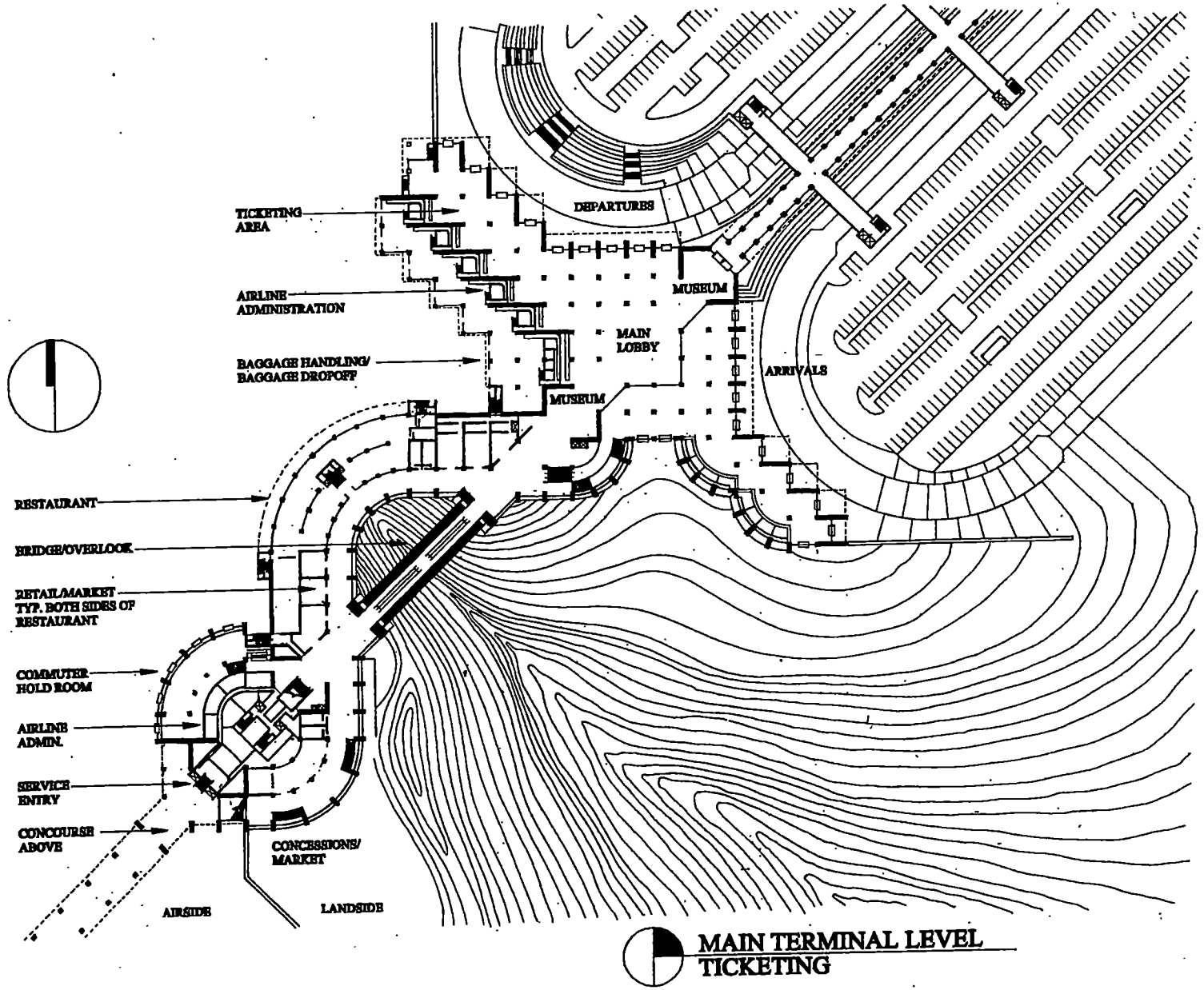


Figure 130: *Floor Plan - Arrival/Ticketing Level.*

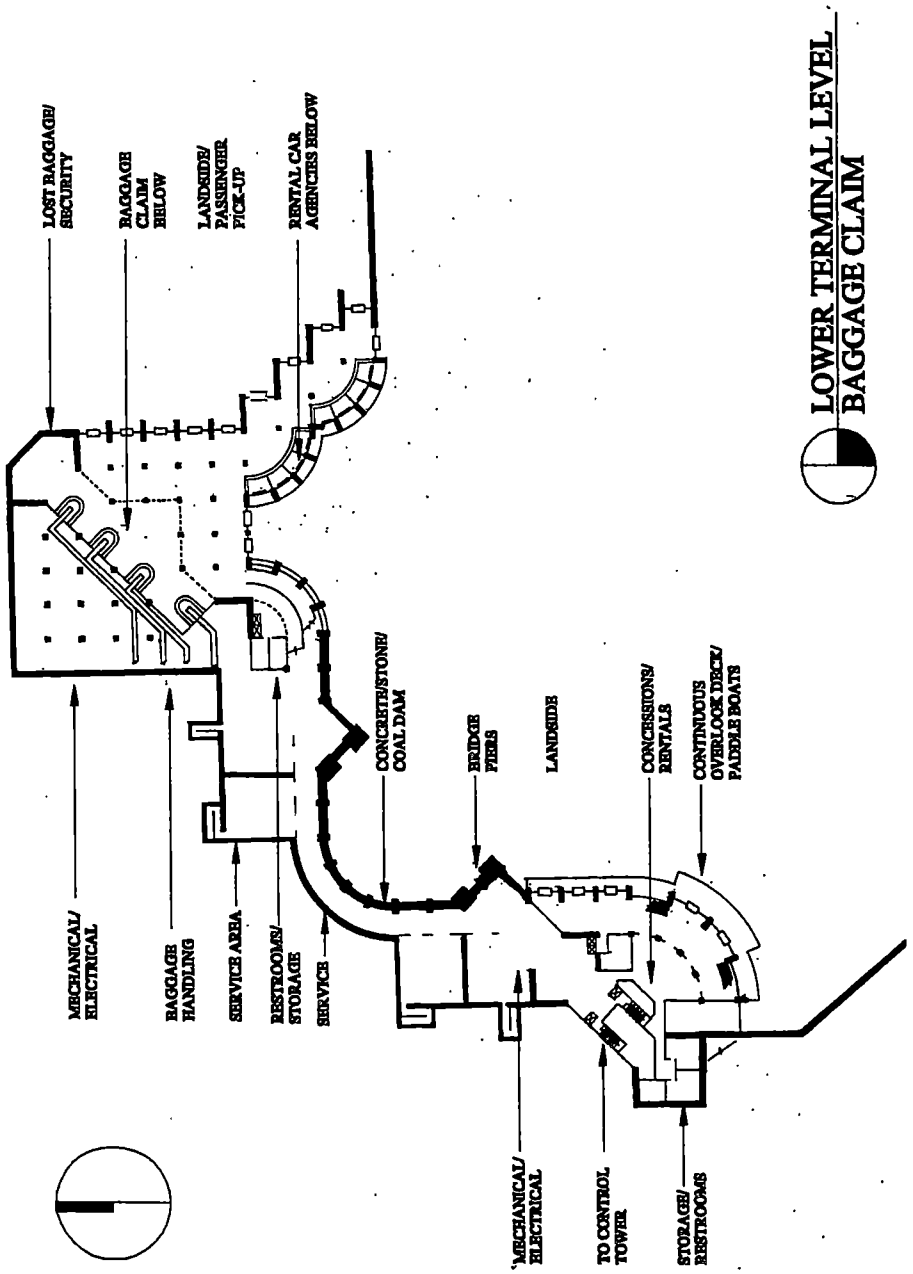


Figure 131: *Floor Plan - Departure Baggage Claim Level.*

Figure 132: Elevations

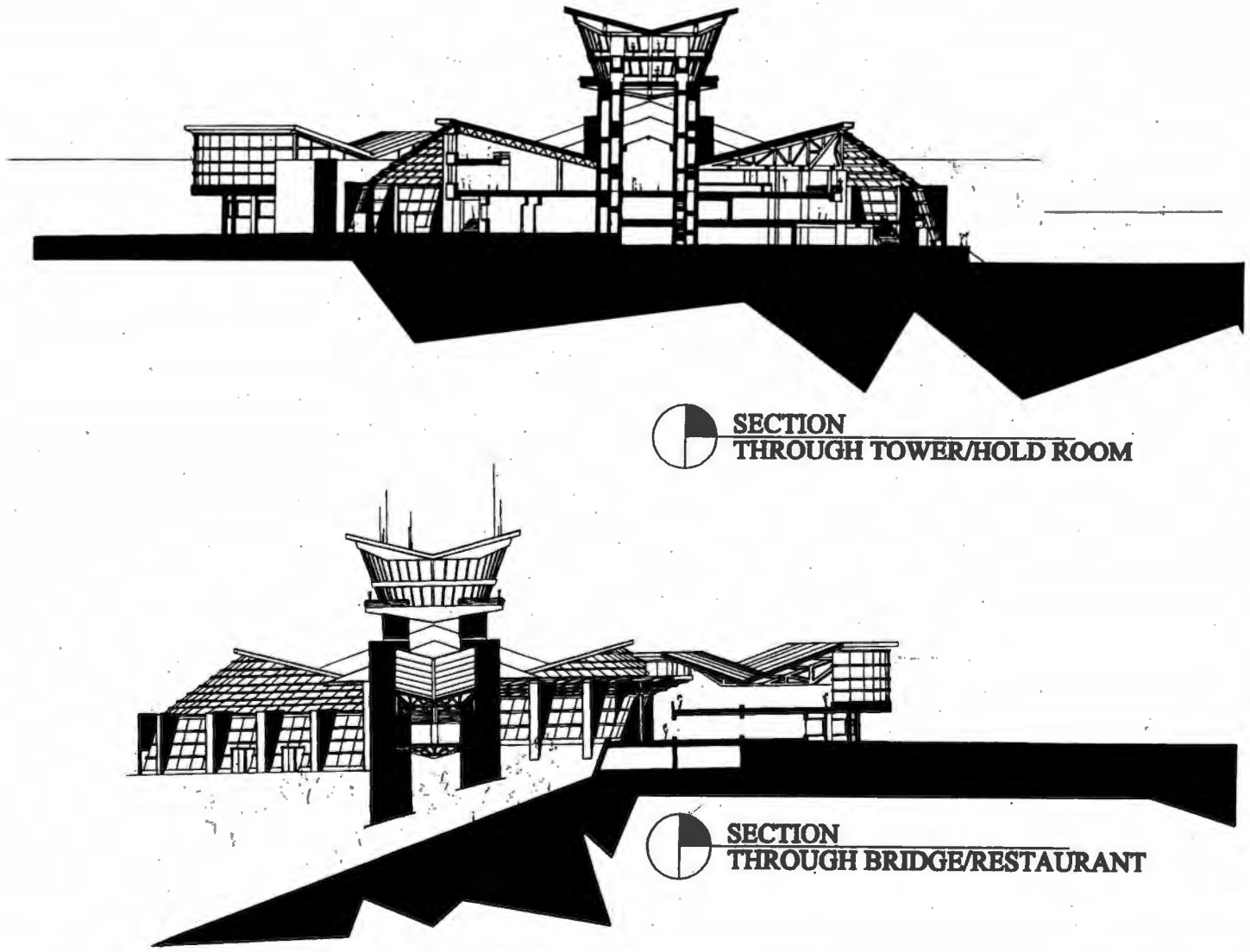


Figure 133: *Sections.*

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VITA

Matt Lerfald achieved his undergraduate in business administration while attending Mayville State University, North Dakota State University, and the University of Tennessee. In his undergraduate studies he was involved in athletics, and was unable to partake in an architectural curriculum on a full time basis. He took several design courses at North Dakota State on a part-time basis, commuting an hour from one school to another, before he eventually transferred to the University of Tennessee to pursue his interest in acquiring a master of architecture degree. His desire to become an architect, through the achievement of this degree and registration, has never swayed, and with the completion of this book he will have accomplished a major step towards that end.

Becoming an Architect has been a dream to him since he was a child. Throughout his early childhood he loved to model, paint, color, etc. – anything and everything he was unable to figure out he would take apart, analyze, and figure out a way to make it work. He is a creative problem solver who always has an answer to a particular question, one that is, in most cases, against the norm and unique. He has a strong desire to be successful and with his determination, drive, and persistence he will continue to achieve his goals and ambitions.