FOREWORD

The major objective of the master plan and protective covenants is "the preservation and enhancement of the natural beauty of the Research Park site". This guide has been prepared to assist in that objective and help the architect and the owner in the development and presentation of satisfactory plans and specifications for those projects located in the Research Park at the University of Utah.

It is not intended that this document should impose restrictions on creative efforts, but it should aid and simplify the architectural process by providing answers to many of the questions faced in creating a building and relating it to the surrounding environment. In addition to reflecting items of special interest and concern to the Architectural Review Board of the Research Park, definitions and general information which should be most helpful in the project development are provided.

Of course, no guidelines can anticipate and answer all of the questions that will relate to a given project. Continuing communication between the administration of the Research Park and the project architect is encouraged. The Director of the Research Park and the University Architect are ready to assist with any individual problem.

TABLE OF CONTENTS

TITLES	SECTION
Introduction	1
Research Park Land	2
Executive Director	3
Advisory Board of Review	4
Architect	5
Protective Covenants	6
Building Permits and Inspections	7
Codes and Zoning Ordinances	8
Change Orders	9
Public Services	10
Weather Conditions	11
Master Plan	12
Site Plan and Survey	13
Soil Testing	14
Utility Connections	15
Roads and Traffic	16
Fences and Screens	17
Truck Loading Facilities and Storage	18
Signs	19
Illumination of Buildings and Grounds	20

TITLES	SECTION
Buildings	21
Hazards	22
Noise	23
Vibration	24
Dust	25
Smoke	26
Odors	27
Gases	28
Waste	29
Ionizing Radiation	30
Nonionizing Radiation	31
Parking Standards	32
Site Regulations	33
Schematic Design Phase	34
Design Development Phase	35
Construction Document Phase	36
As-Built Drawings Phase	37
Landscape	38

SECTION 1

INTRODUCTION

The purpose of this guide is to aid the Architect in preparing his project in conformance with the objectives of the Research Park and to present the essential elements in order to secure the approval of the Advisory Board of Review.

Should the Architect have any questions not covered, or need clarification of any portion of this guide, he should contact the Director of the Research Park.

SECTION 2

RESEARCH PARK LAND

The land designated for development of the Research Park consists of approximately 300 acres situated adjacent to the southeast corner of the University of Utah.

Because the land was formerly owned by the U. S. Army, certain restraints have been placed on portions of the land which are: rights-of-way for ditches, canals, water reservoirs, gas and oil pipelines, telephones and existing utility lines. Further, a Military Cemetery is to remain within the tract. The Division of Highways will be given a right-of-way through the land to develop a scenic drive and interchange, location of which has not been determined at this time. The Architect will be informed at the commencement of the project whether or not any of these conditions occur on his client's property.

SECTION 3

EXECUTIVE DIRECTOR

The Executive Director of the Research Park is the chairman of the Advisory Board of Review. As the chairman, he directs the development of the Park through the Board and represents the Board in all contacts and correspondence with the tenant or architect.

All correspondence directed to the Research Park should be addressed to the Executive Director. His address is as follows:

Executive Director
Research Park - University of Utah
Research Park Office
505 Wakara Way
Salt Lake City, Utah 84108

Telephone (area code 801) 581-8133

SECTION 4

ADVISORY BOARD OF REVIEW

The function of the Board is to exercise control over the development of the Research Park as to its aesthetic qualities, tenant use within the confines of the covenants, and to maintain the conceptual integrity of the Park. Its purpose is to review all architectural presentations and approve or disapprove same. It shall also act on all complaints entered by tenants, owners, architects, etc. and render judgments.

SECTION 5

ARCHITECT

The Architect shall mean any of the principals, partners, or staff members compensated by the Architect. This shall also apply to consultants, contracted by the Architect to serve as consultants on the project. The Architect will be required to be registered in the State of Utah or may form a legal association with a registered Utah Architect.

SECTION 6

PROTECTIVE COVENANTS

The Protective Covenants are the legally binding aesthetic control of the Park. They are made a part of each lease. This Architect's Guide should assist the architect in meeting all of the requirements of the Protective Covenants. Copies of the Protective Covenants will be made available to the architect on request and should be read prior to commencing design.

SECTION 7

BUILDING PERMITS AND INSPECTIONS

Building permits are required of each project and are issued by the City of Salt Lake Building Inspection Department. The general contractor is responsible for obtaining the permits. Inspection of all buildings in the Research Park is under the jurisdiction of the City of Salt Lake Building Inspection Department.

SECTION 8

CODES AND ZONING ORDINANCES

The design and construction of the project shall comply with all national, state, and local codes. For the convenience of out-of-state architects, the following list of codes govern the project:

CONSTRUCTION:

Construction work shall comply with the Uniform Building Code published by the International Conference of Building Officials, 50 South, Los Robles, Pasadena, California 91101.

ELEVATORS:

Elevators shall comply with the American Standard Safety Code.

MECHANICAL:

a. Mechanical shall comply with the "Code and Manual for the Design and Installation of Mechanical Warm Air Heating Systems" National Warm Air Heat and Air Conditioning Association (NWAH & ACA) Manual No. 9, 4th edition.

b. ASME Boiler Construction Code for Low Pressure Heating Boilers.

c. ASME Boiler & Pressure Vessel Code.

d. Unfired Pressure Vessels - ASME Boiler and Pressure Vessels Code, including Section VIII.

e. "Code of Minimum Requirements for Comfort Air Conditioning (ASHAE)."

f. Building Materials and Structures (BMS).

g. Uniform Plumbing Code as adopted by the Western Plumbing Officials Association.

h. American Standard Plumbing Code ASA A40, 7-1949.

i. Utah Plumbing Code.

j. "Uniform Building Code" of the Pacific Coast Building officials conference.

k. Salt Lake City Ordinances.

l. Heat Exchangers - Standards of Tubular Exchanger Manufacturers Association - TEMA Standards for Class "C" Heat Exchangers.

m. Standards for the Installation of Air Conditioning and Ventilating Systems other than Residence Type - National Board of Underwriters (NBFU) and National Fire Protection Association (NFPA) Pamphlet No. 90A.

n. N.B.F.U. Sprinkler Equipment Standards.

o. American Society of Heating, Regrigerating and Air Conditioning Engineers standards.

p. American Welding Society Standards.

ELECTRICAL:

a. Electrical shall comply with the National Electric Code.

ZONING ORDINANCES:

a. Regulations for the Research Park fall under Salt Lake City Research Development "R-D", District Chapter 19A.

FACILITIES FOR PHYSICALLY HANDICAPPED:

a. Elimination of architectural barriers for the physically handicapped State of Utah S.B. 120, 1969.

SECTION 9

CHANGE ORDERS

Any change order or revision to an approved submittal that would alter the appearance of the building, parking, landscaping or produce an objectionable condition must be submitted to the Director for the Board's consideration. All other change orders need not be submitted to the Director. The Architect shall determine which change orders should be submitted.

SECTION 10

PUBLIC SERVICES

The City of Salt Lake is responsible for all public roads, curbs and gutters, walks, sewers, storm sewers, and water for the Research Park. Inquiries regarding any of these services should be directed to the following City Departments:

City Engineer
City and County Building
Salt Lake City, Utah 84111

Other public services are as follows:

Gas: Engineering Department
Mtn. Fuel Supply Company
180 East First South
Salt Lake City, Utah 84111

Power: Electrical Engineer
Sales & Marketing Department
Utah Power and Light Company
36 South State Street
Salt Lake City, Utah 84111

Telephone: Utah Chief Engineer
Mountain Bell Telephone
77 East First South
Salt Lake City, Utah 84111

SECTION 11

WEATHER CONDITIONS

In order to familiarize the Architect with the weather conditions for the Salt Lake Valley, the following information is presented:

Meteorological Data

Latitude 40° 46' N., Longitude 111° 58' W., Elevation 4,800 feet.

Temperature						
	Normal			Extremes		Normal Heating Degree Days Base 65° F.
Month	Daily Max.	Daily Min.	Average Monthly	Record Highest	Record Lowest	
Jan.	36.8	17.5	27.2	58	-18	1,172
Feb.	42.0	22.9	32.5	65	- 4	910
Mar.	52.0	28.8	40.4	78	2	763
Apr.	63.4	36.4	49.4	85	23	459
May	74.0	43.8	58.9	92	25	233
June	83.7	51.0	67.4	104	35	84
July	94.1	59.6	76.9	107	40	0
Aug.	90.8	58.2	74.5	103	37	0
Sept.	80.3	48.5	64.4	96	27	81
Oct.	65.2	38.2	51.7	89	18	419
Nov.	47.5	25.9	36.7	75	11	849
Dec.	39.0	21.2	30.1	67	-10	1,082
Year	64.1	37.7	50.9			6,052

Precipitation							
					Snow		
Month	Normal Total	Max. Monthly	Min. Monthly	Max. In 24 Hrs.	Mean Total	Max. Monthly	Max. In 24 hrs.
Jan.	1.35	3.14	0.09	1.36	13.4	32.3	9.7
Feb.	1.18	3.22	0.12	1.05	9.9	27.9	8.7
Mar.	1.56	3.67	0.10	1.83	9.4	35.6	15.4
Apr.	1.76	4.90	0.45	2.41	3.7	21.8	11.1
May	1.40	3.37	0.00	2.03	0.5	5.3	5.3
June	0.98	2.93	0.01	1.88	0.00	0.00	0.00
July	0.58	2.52	0.00	2.35	0.00	0.00	0.00
Aug.	0.87	3.66	0.00	1.96	0.00	0.00	0.00
Sept.	0.53	2.35	0.00	0.91	0.1	2.2	2.2
Oct.	1.15	3.61	0.00	1.47	0.7	10.4	6.7
Nov.	1.30	2.57	0.01	1.13	6.1	18.5	11.0
Dec.	1.24	3.82	0.28	1.41	11.3	34.4	10.5
Year	13.90				55.1		

	Relative Humidity				Sunrise to Sunset			Wind
Month	05 Hr.	11 Hr.	17 Hr.	23 Hr.	Clear	Partly Cloudy	Cloudy	Fastest M.P.H.
Jan.	78	70	68	77	6	7	18	52
Feb.	78	66	60	76	6	6	16	56
Mar.	71	51	45	68	8	8	15	71
Apr.	67	44	39	62	7	10	13	57
May	64	36	31	55	9	12	10	57
June	63	33	28	53	14	10	6	63
July	50	25	19	40	17	10	4	49
Aug.	56	30	23	46	16	11	4	58
Sept.	61	35	28	54	17	8	5	61
Oct.	67	40	37	65	15	8	8	67
Nov.	74	58	59	74	10	7	13	63
Dec.	79	72	72	79	7	6	18	54
Year	67	47	42	62	132	103	130	

Note:
Temperature in degrees F., precipitation and snowfall in inches, wind movement in miles per hour, and relative humidity in percent.

Prevailing winds are from generally Easterly direction.

SECTION 12

MASTER PLAN

A master plan has been prepared to show present and future development of the Park, showing areas of varying densities, landscaping, roads, etc. This plan will be periodically updated to reflect actual growth and revisions to the plan.

SECTION 13

SITE PLAN SURVEY

The Architect shall be responsible for obtaining the description and survey of the property.

SECTION 14

SOIL TESTING

Because of the various geological formations in the area of the Research Park, each Architect will be responsible for having test borings made in the location of the building and such findings made a part of the construction documents.

SECTION 15

UTILITIES

All incoming utilities shall be underground and shall rise within the buildings. Wires, conduits, transformers, valves, meters, etc., shall be in either separate permanent structures designed as an integral part of the visual project development or enclosed within the principal building. Contact should be made with gas and electric companies before any presentations are made to the Board to confirm the location and suitability of screening for transformers and meters. A written approval of screening techniques and location by the engineering department of the respective utilities is strongly recommended.

SECTION 16

ROADS AND TRAFFIC

1. All roads and parking areas are to be of concrete or asphaltic concrete and shall conform to performance standards set by the city.

2. All curbs, gutters, and walks to be of concrete.

3. Location of all property roads to or from a public road and regulated and approved by the Salt Lake City, Traffic Engineering Department.

4. No parking shall be permitted in the front setback.

SECTION 17

FENCES AND SCREENS

1. All fences and screens are to be of a permanent nature and constructed of masonry or other approved material.

2. All fencing shall be maintained in good condition at all times.

3. Total property line fencing is discouraged.

SECTION 18

TRUCK LOADING FACILITIES AND STORAGE

1. Provisions shall be made for off-street truck loading facilities which shall be in screened yards not exposed to obvious view.

2. No loading platforms or structures are permitted in the front setback area.

3. All loading movements including turn around, shall be made off the public right of way and on the tenant's property. Truck loading shall not project into any public right of way.

4. Sufficient off-street loading space for trucks shall be provided.

5. No materials, supplies, equipment, finished products or semi-finished products, raw materials, or articles of any nature shall be stored or permitted to remain on any building site outside of the building or screening structures constructed thereon.

SECTION 19

SIGNS

1. The purpose of this section is to establish a uniformity or graphic design for all signs contained within the Park. The Architect will be expected to consult with the Director for guidelines before commencing with design of the signs.

2. At the design development phase, the Architect shall present to the Board for approval all proposed signs denoting tenant's name, trademarks, address, etc. This presentation shall also include details of design, materials, font, size, color, lighting and location.

3. All other signs shall also be subject to approval of the Board to insure the integrity of the visual concept of the Park.

4. Flashing, moving, or internally lighted signs shall not be permitted.

SECTION 20

ILLUMINATION OF BUILDING AND GROUNDS

1. Exterior lighting of building, landscape lighting and parking lighting must be approved by the Board. All parking areas must have adequate lighting.

2. Exterior illumination shall be of low intensity to avoid objectionable glare, and designed to create a restrained pleasing effect.

3. Glare, such as from special lighting requirements or from high temperature processes, shall not be visible from any point within the Research Park beyond the tenant's property.

SECTION 21

BUILDINGS

1. The aesthetic appearance of the exterior of the buildings and site is of paramount concern to the Board; therefore, building design will weigh heavily in the Board's decision to either accept or reject the proposed design.

2. Screens or other suitable enclosures must be provided to screen from view all objectionable projections outside of the building, including but not limited to, such items as: Mechanical and electrical equipment, cooling towers, transformers, ducts, vents, towers, etc. All drawings are to show the external projections and screens must be approved by the Advisory Board of Review.

SECTION 22

HAZARDS

Any research operation shall be carried on with reasonable precautions against fire and explosion hazards. Buildings shall be constructed in accordance with all applicable codes regarding such hazards. Any building which might reasonably be expected to become a source of air pollution shall conform to all Utah State Division of Health regulations contained under the Utah Air Conservation Act; Title 26 Chapter 24. Current adopted codes are as follows: Code of Open Burning Regulations; Code Establishing a Total Suspended Particulate Standard for Ambient Air; Code of Air Quality Regulations Governing Submission of Reports, Plans and Specifications.

SECTION 23

NOISE

Offensive and objectionable noise will not be permitted. Noise shall be measured on any boundary of the lot on which the use generating the noise is located. Noise shall be muffled so as not to become objectionable due to intermittance, beat frequency, shrillness or intensity. At the property line of the tenant's leased site, the sound pressure level of noise radiated continuously from a facility shall not exceed the values given in Tables 1 and 2 as follow, in any octave band frequency. The sound pressure level shall be measured with a Sound Level Meter and an Octave Band Analyzer that conform to specifications published by the American Standards Association. (American Standard Sound Level Meters for Measurement of Noise and other Sounds, Z24.3-1944, and American Standards Specifications for an Octave-Band Filter Set for the analysis of Noise and other Sounds, Z24.10-1953, American Standards Association, Inc., New York, N. Y., shall be used).

Table 1.

Maximum permissible sound-pressure levels at specified points of measurement for noise radiated continuously from a facility.

Maximum Noise Levels for N.C. 40

Frequency Bank Cycles per Second	Decibel Level	Preferred Octave Bands Center Frequency	DB Level
		31.5	74
20 - 75	68	63	64
75 - 150	58	125	56
150 - 300	52	250	50
300 - 600	46	500	45
600 - 1200	43	1000	42
1200 - 2400	40	2000	39
2400 - 4800	38	4000	38
4800 - 9600	37	8000	37
- 50,000	37	50,000	37

No sounds above 8000 cycles shall exceed the N.C. level at 8000 cycles.

If the noise is not smooth and continuous, one or more of the corrections in Table 2 below shall be added to or subtracted from each of the decibel levels given above in Table 1.

Table 2.

Type of Operation or Character Of Noise	Correction in Decibels	
Noise source operates less than 20% of any one hour period	Plus	5*
Type of Operation or Character of Noise	Correction in Decibels	
Noise source operates less than 5% of any one hour period	Plus	10
Noise source operates less than 1% of any one hour period	Plus	15*
Noise of impulsive character (Hammering, etc.)	Minus	5

Table 2. cont.

Noise of periodic character (hum, screech, etc.)	Minus	5

*Apply one of these corrections only.

SECTION 24

VIBRATION

Vibration shall not exceed a peak of .008 G (G = 980.6 CM Sec^{-2}) at the property line. To meet this requirement the loading and deflection of the soil by inertia bases shall be checked against the driving frequencies for vibration transmission and possible resonances.

SECTION 25

DUST

Solid or liquid particles shall not be emitted at any point in concentrations exceeding 0.3 grains per cubic foot of the conveying gas or air. For measurement of the amount of particles in gases resulting from combustion, standard corrections shall be applied to a stack temperature of 500 degrees Fahrenheit and 50% excess air. The provisions of Sections 22 and 30 shall apply to dust.

SECTION 26

SMOKE

Measurement shall be of the point of emission. The Ringelman Smoke Chart, published by the United States Department of the Interior Bureau of Mines, Information Circular 8333, shall be used for the measurement of smoke. Smoke not darker or more opaque than No. 1 on said chart may be emitted except that smoke not darker or more opaque than No. 2 on said chart may be emitted for periods not longer than four (4) minutes in any thirty (30) minutes. These provisions, applicable to visible grey smoke, shall also apply to visible smoke of a different color but with an equivalent apparent opacity. The provisions of Sections 22 and 30 shall apply to smoke.

SECTION 27

ODORS

Odors from any use hereafter begun shall not be discernible at the property line to a greater degree than odors from plants for the manufacture or fabrication of books, textile weaves, electronic equipment, or other plants in which operations do not result in greater degree of odors. The values given in Table III (Oder Thresholds), Chapter 5, "Physiological Effects", in the "Air Pollution Abatement Manual", by the Manufacturing Chemists' Association, Inc., Washington, D.C., copyright 1951, shall be used as standard in case of doubt concerning the character of odors emitted. In such case the smallest value given in Table III shall be the maximum odor permitted. Detailed plans for the prevention of odors crossing property lines may be required before approval of construction is granted.

SECTION 28

GASES

Fumes or gases shall not be emitted at any point on concentrations or amounts that are noxious, toxic or corrosive. The values given in Table I (Industrial Hygience Standards - Maximum Allowable Concentration for eight hour day, five days per week), Table III (Odor Thresholds), Table IV (Concentrations of Substances Causing Pain in the Eyes), and Table V (Exposures of Substances Causing Injury to Vegetation), in the latest revision of Chapter 5, "Physiological Effects", that contains such tables, in the "Air Poluution Abatement Manual", by the Manufacturing Chemists' Association, Inc., Washington, D.C., are hereby established as guides for the determination of permissible concentration or amounts. Detailed plans for the elimination of fumes or gases may be required before approval of construction is granted. The provisions of Section 30 below shall apply to gases.

SECTION 29

WASTE

1. All sewage and industrial wastes shall be treated and disposed of as required by local ordinances.

2. Each owner and tenant shall remove at its own expense any rubbish or trash of any character which may accumulate on its property or within the buildings. Rubbish and trash shall not be disposed of on the premises by burning in open fires or incinerators.

3. Waste and rubbish storage facilities shall be properly screened from view.

4. The provisions of Section 31 shall apply to wastes.

SECTION 30

IONIZING RADIATION

Research operation shall cause no dangerous radiation at any property line in accordance with United States Atomic Energy Commission, Title 10, Chapter 1, Part 20, "Standards For Protection, Against Radiation" dated August 9, 1966, or any subsequent revisions or amendments thereof; the Radiation Protection Standards issued by the Federal Radiation Council; and the National Committee Radiation Protection Handbooks.

SECTION 31

NONIONIZING RADIATION

Any nonionizing radiation (lasers, microwaves, ultraviolet radiation, etc.) shall not adversely affect at any point any operations or any equipment other than those of the originator of the radiation. Avoidance of adverse effects from nonionizing radiation by appropriate single or mutual scheduling of operations is permitted. Standards for this section shall be Public Health Service Publications No. 999-RH-35 "Regulations, Standards, and Guide for Microwaves, Ultraviolet Radiation, and Radiation for Lasers, and Television Receivers". Also American Conference of Governmental Industrial Hygienists "Threshold Limit Values of Physical Agents Adopted by AGGIH for 1969."

SECTION 32

PARKING STANDARDS

The size of each parking space is a minimum of 9' x 20' with proper and adequate circulation area. The Architect must provide sufficient area to provide for one parking space for each 200 gross square feet of

building. If this provides for more spaces than can be utilized by the client's staff, he may reduce the number of spaces to the needs of the client. However, the unused portion of parking area is to be landscaped and left free of buildings so that expansion of the parking can be implemented if necessary. Variation of this requirement can be given by the Board on evidence of good reason.

SECTION 33

SITE REGULATIONS

Salt Lake City Zoning Ordinance "R-D" District Chapter 19A shall be the minimum acceptable site regulations permitted. Where Research Park regulations are more restrictive than the City Zoning Ordinance, exceptions may be granted by the Board up to the City Zoning Ordinance Restrictions.

SECTION 34

SCHEMATIC DESIGN PHASE

This phase determines the design for the project. Therefore, the best efforts of the Architect are required to fulfill his obligation to produce the best solution within the confines of the client's program and budget. The counsel and advice of the client, owner, and University Architect should be sought during the early stages of the schematics to insure sound solutions. Early schemes should be submitted to the client, owner, and University Architect for their appraisal before final schematic drawings are presented. Should more than one solution prove appropriate, the Architect will present all solutions to the Board for further study. The approval of the scheme by the Board allows the Architect to proceed with Design Development drawings.

The presentation drawing requirements are as follows and are offered as a suggestion to help insure a successful presentation.

Schematic Presentation

1. Mounted Presentation

   One set of drawings may be mounted on illustration board for ease of presentation.

2. Title Blocks

   Title blocks for the project should occur on all presentation

drawings, indicating the name of the project, client, architect, engineers, consultants, landscape architect, original and revised date of drawings and number of sheets.

3. Site Location

Obtain a master plan from the Research Park Director and locate the building(s) on the plan for presentation.

4. Site Utilization Plan

a. Scale: 1" = 50'0" recommended.
All schematic site plans shall be drawn at this scale to facilitate comparison of its relationship with other projects.

b. Show overall dimensions of proposed building or buildings.

c. As nearly as possible, show location and outline of all existing and future proposed structures within a distance of 300 feet of the proposed building(s).

d. Provide easy identity of all existing, proposed and future buildings.

e. Include section(s) through site if necessary to explain changes in level in the proposed building as related to the site and relationship to other adjacent existing and future structures and developments.

f. Indicate all outdoor facilities, parking, and auto and pedestrian circulation, service drives, street and paved areas, approaches, covered walks, stairs, retaining walls, transformers and meters, etc., with building floor elevations, contour elevations and major outdoor features noted.

g. Show existing and proposed grading and drainage including identifications of all existing site conditions.

h. Indicate suggested overall landscaping (see Section 38, Landscape).

i. There is a 26.88 foot difference between the Salt Lake City Elevation Datum and the United States Geological Survey Datum. Each engineer or architect doing work in the Research Park shall state on their plans either:

Elevations are Salt Lake City Datum
Subtract 26.88 feet to get U.S.G.S. Datum

or

Elevations are U.S.G.S. Datum
Add 26.88 feet to get Salt Lake City Datum

which ever statement is appropriate.

j. The site plan shall contain the following chart:

Site Development					
	Existing (if any)	This Proposal	Total Existing and Proposed	Projected Future Development (if any)	Total Existing, Proposed and Future
Area of Site In Square Feet					
Building Site Coverage . Square Feet .% Site Area					
Total Gross Building Area (indicate no. of floors, each building, on site plan)					
Parking Spaces Required At Ratio of 1/200 square feet					
Parking Spaces Provided					
Date of Presentation					

5. Floor Plans

a. Scale: 1/16" = 1'0" minimum (larger size preferred)

b. Identify each room and area by name and size.

c. Show overall dimensions and other applicable dimensions.

d. Indicate laboratory equipment, mechanical equipment, specialty items, etc. which should be considered by the Advisory Board as possible producing an objectionable condition.

6. Elevations and Sections

a. Scale: 1/16" - 1'0" minimum. Both the elevations and the sections should be at the same scale and should also be at the same scale as the floor plans. Larger or smaller scale sections can also be drawn if desired.

b. Show all principal elevations of the building(s), indicate grades and other distinguishing features.

c. Show surrounding building profiles in their true relationship to the proposed building(s).

d. Include sections which may be necessary to explain the structural system and any other unusual features of design. Show floor to floor dimensions and elevations.

7. Exterior Materials Samples

A board with samples of the actual exterior materials proposed will be required to show true exterior colors and textures.

8. Drawing Submittal

In addition to the mounted presentation drawings, a minimum of two (2) sets of all schematic drawings, will be required by the Board.

SECTION 35

DESIGN DEVELOPMENT PHASE

1. General

This phase is the elaboration and clarification of the criteria

initiated during the Schematic Design Phase and is to encompass most of the requirements outlined above.

2. Rendered Perspectives

Prepare a rendered true projected perspective of a size large enough to convey the overall design of the structure to the Board. Whenever possible, a normal (eye-level) view of the structure is preferred but in some cases a "birds-eye" view will be needed to convey the full scope of the project. Landscape features of the site development should be shown in a realistic manner but should not obscure the structure. The perspective should be suitably mounted.

3. Models

In addition to the perspective the architect may provide a model of the project if he feels this additional presentation will aid in acceptance and clarification of the project by the Board.

4. Architectural Plot Plan

a. Scale: 1" = 20'0" minimum recommended.

b. Show overall dimensions of proposed building or buildings.

c. Show location and extent of existing or future neighboring structures and relationship to proposed building.

d. Show existing and proposed contours.

e. Indicate all outdoor facilities, parking, auto and pedestrain circulation, service drives, streets, paved areas, approaches, covered walks, stairs, ramps, retaining walls, etc.

f. Show various floor and grade elevations.

g. Include section(s) through site if necessary to explain changes in level in the proposed building as related to the site and relationship to other existing and future structures and developments.

h. Show sources and proposed routings of all exterior utilities. These shall relate to existing and/or proposed utilities with reference to layout, invert elevations, etc.

i. Indicate overall landscaping plan existing and proposed (see Section 40, Landscaping), including adjacent property.

5. Architectural Floor Plans of Each Floor, Including Basement and Penthouse

   a. Scale: 1/8" = 1'0" minimum recommended.

   b. Identify each room and area by name and square foot area or dimension.

   c. Show overall dimensions and other applicable dimensions.

   d. Show location of all plumbing fixtures such as lavatories, floor drains, water closets, urinals, service sinks, etc.

   e. Indicate all principal built-in features such as kitchen equipment, display cases, counters, shelves, lockers, etc.

   f. Indicate direction of future expansion of the building in subsequent steps, if applicable.

6. Elevations and Sections

   a. Scale: 1/8" = 1'0" minimum recommended.

   b. Show windows, doors, stairs, platforms, retaining walls, etc., on all elevations of the building, also proposed materials. Show all window vents, indicate grades, paved areas, etc.

   c. Indicate floor to floor heights and ceiling heights.

   d. Include longitudinal and transverse sections for each wing, indicating floor elevations, finish exterior grades, ceiling heights, pipe tunnels, unexcavated areas, basement and areaways, roof lines and parapets.

   e. Include large scale details of special design features. Include notes related to materials and design.

   f. Show existing and proposed landscaping adjacent to the building(s) in true relationship

7. Outline Specifications

   a. Include a general description of the project including features of the design solution.

   b. Include information describing type of construction, details, equipment and materials.

   c. Any unusual features of design should be briefly described.

d. A description of the plumbing and air conditioning, heating ventilating and electrical systems in sufficient detail to be meaningful.

d. A description is required of proposed operations in sufficient detail to permit judgment of whether or not they are permitted, including the extent of any noise, odor, glare, vibration, smoke, dust, gases, hazard of fire and explosion, radiation, radioactivity, electrical radiation, liquid wastes, or other performance characteristics.

f. Engineering and architectural computations and/or analysis for the solution of any problem indicated above are to be available for review if deemed necessary by the Advisory Board of Review.

8. Drawing Submittal

A minimum of two (2) sets of all design development drawings and outline specifications will be required by the Board.

SECTION 36

CONSTRUCTION DOCUMENTS PHASE

Plans and specifications shall be submitted in sufficient detail and complete in all aspects to form a document suitable for bidding and construction purposes.

Plans and specifications shall be reviewed by the Advisory Board of Review for final approval; therefore, it is essential the documents be completed before review.

SECTION 37

AS-BUILT DRAWINGS

At the close of the project, the architect shall be required to update his tracings showing all corrections, supplementary drawings, etc., and to include all change orders. He shall furnish one complete set to the Director of the Park with a letter of certification as to their "as-built" accuracy.

SECTION 38

LANDSCAPE

A. Major Planting Concept

In order to provide for a unifying element throughout the Park, a major planting concept has been established that will apply to all individual projects. The desired effect is a forest of high canopy trees and grass with enough dominance of one tree specie to provide a unity in the Park.

Lower trees for specimen and accent plantings, shrubs for screening and space enclosure, and ground covers should be selected for unity and harmony.

A single grass will be used to avoid color variation from project to project.

Before any actual landscape design is accomplished, a predesign conference should be held. Attending this conference should be the project architect, landscape architect, Research Park Director, and the design-oriented members of the Board of Review.

The purpose of this conference is to discuss the philosophy of the major planting concept and give some direction to the landscape architect and minimize the modifications of the designed project to gain Review Board approval.

B. Policy

1. All planting and sprinkling plans will be prepared by a duly licensed landscape architect in accordance with the regulations of the State of Utah.

2. All areas not hard surfaced must be planted unless otherwise agreed by the Board.

3. All planted areas should be irrigated by underground sprinkling system. Automatic controls are recommended.

4. Landscape construction is to be completed with the initial building construction contract.

5. No surplus soil is to be removed from the site without permission.

6. The landscape development, having once been installed, shall be maintained in a neat and acceptable manner.

7. Approval of all landscape plans by the Advisory Board is required at the schematic design phase, design development phase, and construction documents phase. Changes to the approved landscape plans shall be subject to Board approval.

   a. Schematic Design Phase

      (1) Site Plan

         (a) Show all existing and proposed plant and tree masses, including adjacent properties.

         (b) Show location of all fences, screens, walks, drives, pools, etc.

         (c) Show all bermed areas, mounds, etc., including existing and proposed grade lines.

         (d) Show all existing natural features, such as: trees, shrubs, rock outcroppings, ponds, etc., indicating portions to be removed and preserved, including adjacent properties.

         (e) All landscaping shall be appropriately rendered.

      (2) Floor Plans

         (a) All ground level floor plans shall indicate proposed landscaping to correspond to site plan.

      (3) Elevations

         (a) All landscape proposals shall be shown in cross section and elevation corresponding to site and floor plans.

   b. Design Development Phase

All landscaping plans, sheet size, should correspond in size to architectural plans.

(1) Site and Planting Plan:

(a) Show all plants in proper location accompanied by plant list showing botanical name, common name, and size and number.

(2) Floor Plans and Elevations:

(a) Shall be in accordance with schematic design phase.

(3) Sprinkling Plan:

(a) Shall show location, spread, type of heads and controls, with pipe sizes. The sprinkling plan shall also show tree locations.

(4) Outlined Specifications:

(a) The landscape architect shall provide an outlined specification of proposed planting and sprinkling systems.

c. Construction Document Phase:

(1) Landscape architect shall complete required plans and specifications suitable for bidding and construction.

8. Standards

a. Trees

(1) Approximately 50 trees to the acre of landscaped and parking areas should be used as a guide in planting plans.

(2) A minimum of 70 - 80% of all trees planted will be Honeylocust, Normay Maple, and Scotch Pine with the male Thornless Honeylocust (Gleditsia triacanthos inermis) comprising at least one half of these plantings.

(3) The remaining 20 - 30% of tree plantings may be either additional high canopy trees of compatible type or lower understory trees for accent purposes.

(4) Deciduous shade trees should be a minimum of two inches caliper, measured 4 ft. above ground.

(5) Deciduous ornamental trees should be a minimum of 1 1/2 inches caliper, measured 4 ft. above ground.

(6) All evergreen trees should be a minimum of two inches caliper measured 2 ft. above ground.

(7) Understory trees well suited to the area:

Native Oak	Quercus gambelli	(20-25 ft.)
Hawthorn	Crataegus var.	(20-25 ft.)
Native Maple	Acer bignonoides	(15-20 ft.)
Staghorn Sumac	Rhus typhina	(15-20 ft.)
Mt. Ash	Sorbus ancuparia	(20-30 ft.)
Flowering Plum	Prunus var.	(25-30 ft.)
Russian Olife	Eleagnus anfustifolia	(to 30 ft.)

b. Shrubs and Ground Cover

(1) Shrubs recommended for this area:

Juniper	Juniperus var.
Lilac	Syringa var.
Sumac	Rhus typhina
Honeysuckle	Loniara var.
Oregon grape	Mahonia
Cotoneaster acutifolia	

(2) Ground cover well suited to the area:

Juniper	Juniperus horizontalis
Yews	Taxus var.
Barberry	Mahonia uni-ursi
Purple leaf winter	Euonymus coloratus

c. Lawn

(1) Common Kentucky Blue with 10 - 15% creeping red fescue in shade areas.