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AC 150/5310-1

Federal Aviation Agency

ADVISORY CIRCULAR

PREPARATION OF AIRPORT LAYOUT PLANS

SEPTEMBER 1965

Federal Aviation Agency

ADVISORY CIRCULAR

AC NO: 150/5310-1
AIRPORTS
EFFECTIVE:
9/9/65

SUBJECT: PREPARATION OF AIRPORT LAYOUT PLANS

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1. PURPOSE. This circular presents guidance material on the preparation of airport layout plans. The guidance material described is acceptable for developing airport layout plans meeting the eligibility requirements of the Federal-aid Airport Program.

2. CANCELLATIONS. This Advisory Circular cancels pages 5, 6 and 7 of Airport Engineering Data Sheet 33.

3. CHANGE IN EXISTING PUBLICATIONS. Airport layout plan replaces the term "master plan layout" used in Agency publications.

4. REFERENCES. Appendix I presents a listing of guidance material on airport design and planning which is useful in developing the airport layout plan. See also Federal Aviation Regulations Part 151 - Federal-aid to Airports (available for $0.40 from Superintendent of Documents, Washington, D. C. 20402).

5. HOW TO GET THIS CIRCULAR. Additional copies of this circular may be obtained from the Federal Aviation Agency, Distribution Section, HQ-438, Washington, D. C. 20553.

Chester T. Bowers

Cole Morrow, Director
Airports Service

TABLE OF CONTENTS

1. INTRODUCTION.

a. Background. The development of an airport is an important undertaking for a community, requiring the commitment of a significant amount of resources. An airport can cost a few thousand to several million dollars and land requirements may vary from about 20 acres to as much as several thousand acres, depending on the purpose of the airport, the type of aircraft that use it, and the number and type of aircraft operations. To determine whether an airport should be small or large, what facilities are required, and the stages of airport development, involves a considerable amount of study and planning. The culmination of this study is expressed in terms of an airport layout plan which shows in graphic form the existing and planned facilities and airport land uses. The layout plan contains certain minimum basic information so that the adequacy of the plan in terms of meeting airport planning, engineering, and operational requirements can be readily assessed.

b. Availability of Airport Planning Criteria. The Federal Aviation Agency develops criteria and guidance on airport planning and design applicable to the safe and efficient use of airports. These criteria make possible the advance planning of an airport with a reasonable assurance that such a plan will be compatible with safety, efficiency, and good operational practice. Publications which present planning and design criteria useful in developing the airport layout plan are presented in Appendix 1.

c. Definition of the Airport Layout Plan in the Federal Airport Act. In 1964, the 88th Congress amended the Federal Airport Act in connection with the "Advance Planning and Engineering" provision of the Act. Included in this amendment is the following definition of the "Airport Layout Plan":

> ". . . a plan for an airport showing boundaries and proposed additions to all areas owned or controlled by the sponsor for airport purposes, the location and nature of existing and proposed airport facilities and structures, and the location on the airport of existing and proposed nonaviation areas and improvements thereon."

In the past the Federal Aviation Agency has referred to this type of plan as the "Master Plan Layout." However, following the language of the Federal Airport Act the term"Airport Layout Plan" is now being used.

2. AIRPORT LAYOUT PLANS AND FAA APPROVAL.

a. FAAP Developed Airports. A current airport layout plan approved by the FAA is a prerequisite to FAA approval of a Federal-aid Airport Program (FAAP) development project. The layout plan is a graphic representation of the owner's agreement with the FAA as to the usage and development of all areas and facilities shown. As part of the project application for Federal aid a sponsor assures the FAA he will keep the airport layout plan up to date and that he will not make any changes in the airport or any of its facilities other than in conformity with the airport layout plan, if such changes might adversely affect the safety, utility, or efficiency of the airport. An airport owner may submit a tentative or preliminary plan to the Federal Aviation Agency for review and comment before developing a final airport layout plan. However, a detailed review by the FAA of the preliminary plan is not a commitment of final approval.

b. NonFAAP Federally Developed Airports. Although a requirement for a current airport layout plan at these airports is not mandatory, such a plan is desirable. Moreover, a current airport layout plan meets the requirement of an exhibit to support a request to change an agreement with the U. S. involving compliance obligations at a public airport on which Federal funds have been expended.

c. Airports Not Subject to Federal Agreements. There are no Federal requirements for airport layout plans at these airports. However, any airport will benefit from a carefully developed layout plan reflecting FAA standards and recommendations on airport design and planning. The preparation of a layout plan is especially encouraged for airports included in the National Airport Plan. Furthermore, when an airport owner submits a notice of construction or alteration to the FAA for the purpose of obtaining airspace approval, the FAA recommends an airport layout plan be attached to the notice if one is available. As part of its advisory services, the FAA will review and comment on any airport layout plan voluntarily submitted.

3. GENERAL.

a. Existing and Proposed Development, Environmental Features, and Land Uses. Airport layout plans are essential for the efficient and orderly development of an airport. The layout plan is the controlling document depicting existing and proposed airport facilities and land uses, their location, and the pertinent clearance and dimensional information required to show conformance with the applicable standards,

It should show the airport location, clear zones and other environmental features that may influence airport usage and expansion capabilities. At airports where there are existing or proposed instrument operations it should also show the approach areas.

b. Facilities No Longer Needed. The airport layout plan should identify facilities which are no longer needed and describe the plan for their removal or phaseout. Some areas may be leased, sold, or otherwise used for commercial and industrial purposes; other areas such as one or more taxiways or runways are used so infrequently that the maintenance cost to keep them operational is difficult to justify. If the airport or any part of it was previously developed with Federal assistance (either through a transfer as surplus property or with the aid of a Federal grant of funds) their removal or phaseout must be approved by the FAA.

4. COMPONENTS.

The airport layout plan consists of several components, depending on airport size and usage, as follows:

a. Airport Layout Plan Drawing.

b. Supplementary Drawings consisting of the following:

(1) Location map.

(2) Vicinity map.

(3) Approach and clear zone layout.

(4) Terminal area layout.

c. Airport Layout Plan Report.

The details of these components are described in subsequent paragraphs. The airport layout plan as a minimum should have a drawing depicting the airport layout, a location map, and a vicinity map. These may be on one sheet if space permits. The approach and clear zone layout is a desirable drawing for showing the aeronautical features and expansion capabilities of an airport used for instrument operations. For small airports used for visual operations only, an approach plan is generally not required, and clear zones can normally be shown on the airport layout plan drawing. At small airports used for instrument operations, all the appropriate information concerning approaches and clear zones can sometimes be included on the airport layout plan drawing or can be shown on the vicinity map. The primary requirement of the airport layout plan is that it is clearly drawn and easily understood.

A separate terminal area layout plan may be desirable at large airports if the scale of the airport layout plan drawing is such as to make the details of the terminal area too small to be easily read. Pertinent data relative to the airport layout plan that cannot be given on the drawings should be given in an attached report.

The airport layout plan drawing will meet the requirement of a Federal-aid airport project. It is recommended that the supplementary drawings and a layout plan report, as appropriate, also be developed.

5. ELEMENTS AND FORMAT OF THE AIRPORT LAYOUT PLAN DRAWING.

The airport layout plan drawing basically consists of the following elements:

a. Airport Layout. This is the main portion of the drawing. It depicts the existing and ultimate airport development and land uses drawn to scale, and where appropriate should contain (but not be limited to) the following information:

(1) Prominent airport facilities - runways, taxiways, aprons, blast pads, stabilized overruns and shoulders, buildings, navaids, parking areas, roads, lighting, runway marking, fences, and water distribution facilities.

(2) Prominent topographic features such as trees, streams, ponds, rock outcrops, ditches, railroads, powerlines, pipelines, and towers.

(3) Revenue producing nonaviation-related property (surplus or otherwise) should be outlined with the current status and use specified. The details of this property may be shown on a separate drawing if these would clutter the airport layout plan (show usable railroads, roads, etc.).

(4) Areas reserved for existing and future aviation development and services such as for general aviation fixed base operations, heliports, cargo facilities, etc.

(5) Areas reserved for nonaviation development, such as industrial areas, motels, etc.

(6) Existing ground contours (to an interval that does not clutter the drawing and drawn in very lightly, yet legibly).

(7) Fueling facilities and tie-down areas.

(8) Facilities that are to be phased out.

(9) Airport boundaries and areas owned or controlled by the sponsor; also give section and township corners, survey control points and bench marks.

(10) Approach and clear zone outlines (AC 150/5310- 1/) whether within or outside of existing airport property. Indicate height and location of controlling objects (i.e., the tallest object within a confined area) exceeding obstruction criteria if this information is not given on other drawings. This can be done by a note if the objects are located outside the limits of the drawing.

(11) Airport reference point by coordinates.

(12) Elevation of runway ends, high and low points, and runway intersections.

(13) Bearings of runways and/or landing strips (preferably true but in any event designated whether true or magnetic).

(14) North point - true and magnetic, with the variation specified.

(15) Pertinent dimensional data - runway and taxiway widths and runway lengths, taxiway-runway-apron clearances, building clearance lines, and clear zones.

(16) Desired size of a layout sheet is 24 inches by 36 inches but this size may be increased to folding multiple thereof if necessary to adequately present the layout plan.

(17) The scale should be shown in graphic form and should be about 200 to 800 feet to the inch, depending on the size of the airport.

(18) Legend in graphic and descriptive form.

(19) Title, revision, and approval block.

b. Basic Data Table. This table contains the following information on existing and ultimate conditions where applicable:

(1) Airport elevation (highest point of the landing area).

(2) Runway identification.

(3) Percent effective runway gradient (existing and proposed).

1/ See item 4, Appendix 1.

(4) Percent of wind coverage by principal runway, secondary runway, and combined coverage.

(5) Instrument runway when designated, dominant runway otherwise.

(6) Normal maximum temperature of the hottest month.

(7) Pavement strength in gross weight and type of main gear (i.e., single, dual and dual tandem, as appropriate).

(8) Pertinent remarks (VFR airport, plan for obstruction removal or phasing out and/or future relocation of facilities, etc.).

c. Wind Information. A wind rose should be given with the runway orientations superimposed. Also given should be crosswind coverage and the source and period of data. These data may be on a separate sheet or sheets, especially if low visibility wind data are given. The requirement for wind rose information may not be necessary at those airports where there are existing runways and the future development is not pertinent to the wind rose. At other locations no satisfactory wind data exists. In these instances the bases for the wind analysis and runway alignment should be given in the airport layout plan report unless an appropriate note could be put on the plan.

d. Detail Required. The foregoing requirements indicate considerable detail should be included on the airport layout plan. However, not all items have to be drawn if a note can adequately cover the development or facility under consideration. For example, standard taxiway lighting, runway and taxiway marking, and the taxiway sign system can be covered by a note in the basic data table. In some cases detailed planning has not been performed in some areas that are reserved for future aviation or nonaviation development. In such instances an outline of these areas is generally adequate.

6. CONTENT AND FORMAT OF SUPPLEMENTARY DRAWINGS.

a. Location Map. This is a key map drawn to a scale sufficient to depict the airports, cities, railroads, and major highways and roads within 25 to 50 miles of the airport.

b. Vicinity Map. This is a key map showing the relationship of an airport to the city or cities, nearby airports, roads, railroads, built up areas, and so forth. It should be drawn to a scale of about 1 inch equals 2 miles. If an approach and clear zone plan is provided which shows environmental features up to 10 miles from the

airport, it may not be necessary to prepare a separate vicinity map for airports that do not have or are not expected to have an instrument landing system.

c. Approach and Clear Zone Layout. This plan should depict the following information if it is prepared as a separate layout (see paragraph 4c for requirements of different type and size airports):

(1) Areas under the imaginary surfaces defined in AC 150/5310-.[1/]

(2) Existing and ultimate approach slopes and any height or slope protection established by local zoning ordinance.

(3) A plan and profile of the clear zones showing the controlling structures and trees therein (i.e., the tallest object within a cluster) and their elevations.

(4) Location and elevation of obstructions exceeding AC 150/5310-. (obstructions off the plan may be indicated by a note). If there is a cluster of tall objects within close proximity of each other, only the elevation of the tallest object need be shown. Any plans concerning the alteration or removal of obstructions should be noted.

(5) For airports serving jet aircraft and within the boundaries defined by the imaginary surfaces given in AC 150/5310-, an outline of all built-up areas or areas with potential concentrations of people. Indicate the primary type of development in these areas such as industrial, residential, ballparks, schools, hospitals. For other airports this information should be shown under the approach surfaces and at least 1000 feet to either side of each runway or 500 feet from the nearest aircraft operational area. In dense built-up areas it is not necessary to pinpoint each hospital, school, etc. in close proximity to one another.

(6) In the approach areas, factories with large smokestacks, TV and radio transmission towers, garbage dumps or any other areas attracting a large number of birds, and any other potential source of hazard to aircraft flight.

d. Terminal Area Layout. The terminal area layout should contain the appropriate information in regard to prominent facilities, terrain and land uses, as shown on the airport layout plan, but drawn to a scale about two to four times greater.

[1/] See item 4, Appendix 1.

7. AIRPORT LAYOUT PLAN REPORT.

The airport layout plan report is a brief narrative which includes pertinent information relative to the interpretation of the plan. The report may also include a brief description of the stages of airport development accompanied by an 8" x 11" sketch showing the first, second, and third stage development where appropriate. The description of these stages should be broad in nature; the first stage should represent the development having very firm indications that it will be undertaken or completed within about five years after submission of the plan; the second stage is the development having reasonably firm indications it will be undertaken subsequent to the first stage but within about 10 years after submission of the plan; the third or ultimate stage represents development planned after the second stage and within the foreseeable future. The foreseeable future should generally not exceed a 15 to 20 year period. It should be emphasized that each stage may include several phases of development under different construction contracts. The stage development terminology, however, is descriptive of broad planning goals and should not be tied down to individual construction contracts. At some airports there may be no stage development required or only an initial and ultimate phase. In these instances the layout plan drawing does not have to be supplemented by the stage development sketch since the layout plan drawing would be self-explanatory. If the stages of development can be clearly shown on the layout plan drawing, the report does not have to repeat the information. Other items that should be included in the report are:

a. Reasoning behind unusual design features.

b. Basis and/or computation for the runway length design.

c. Basis for runway orientation if not aligned for maximum wind coverage.

d. Low visibility wind data where available and if necessary for evaluating contemplated airport development.

A layout plan report is not appropriate in those cases where the drawings are self-explanatory or if the required information was included in reports or correspondence previously submitted to the FAA. A layout plan report generally will not exceed one or two pages of narrative material.

8. CONSIDERATIONS. Considerations involved in airport planning and design are the subject of other guidance material developed or sponsored by the FAA. A selected list of available guidance information is given in Table 1.

TABLE 1

GUIDANCE USEFUL IN DEVELOPING AN AIRPORT LAYOUT PLAN

SUBJECT	ITEMS	REFERENCE 1/
Runway	Length	1, 8, 8a
	Width, clearances	2, 8, 8a
	Clear zones, approach slopes	4, 8, 8a
	Orientation, crosswind runway	3, 8, 8a
	Grades	5, 8, 8a
	Capacity, stage construction, delay and cost benefit	26, 27, 27a,28
Taxiways	Width, clearances	2, 8, 8a
	Exit design and location, grades	6
	Effect on runway capacity, stage construction, cost benefit	26, 27,27a,28
Terminal Area	Clearances	2, 8, 8a
	Grades	7
	Terminal Building, Administration Building layout	10, 11, 29
	Gate positions	28
	Aircraft parking clearances	7
	Space requirement in terminal and administration building for various activities	10, 11
	Terminal equipment and facilities	10, 11, 29
Service and Hangar Areas	Service equipment buildings	12
	Cargo facilities	13
	Fire and rescue equipment buildings	14

1/ Reference numbers refer to the publications listed in Appendix 1

(Table 1 continued on following page.)

TABLE 1 (Continued)

GUIDANCE USEFUL IN DEVELOPING AN AIRPORT LAYOUT PLAN

SUBJECT	ITEMS	REFERENCE 1/
Heliports	Planning and design	9
	Rooftop or elevated heliports	9
Obstructions	Standards of approach, horizontal and other control surfaces	4
	Clear zones	4, 8, 8a
Airport Capacity	Runway, taxiway, and delay to operations	26, 27,27a,29
	Terminal or administration building capacities	10, 11
	Terminal apron	27, 27a
Drainage	Structures, layout	15
	Grades	5, 8, 8a
Paving	Fillets	6
	Blast protection	17
	Pavement types and details	16
Roads and Vehicular Parking	Parking positions	10, 11
	Layout around terminal area	10, 29
Lighting and Marking	Runway lighting	21, 22
	Taxiway lighting	22, 23
	Runway and taxiway marking	24
	Helicopter landing area	9, 25
Navaids	Location, grading requirements	18
Noise	Noise levels, contours, community response	30
	Jet noise control in terminal buildings	10

1/ Reference numbers refer to the publications listed in Appendix 1

It is desirable that the documents referred to in Table 1 be carefully considered in developing the airport layout plan to assure that all the technical factors have been fully explored. The most up-to-date reference material should be used. This advisory circular will be periodically updated to reflect any significant changes to Table 1 and the bibliography.

9. TYPICAL AIRPORT LAYOUT PLANS. Sample airport layout plans are shown in Appendix 3. These plans show the various components and elements making up an airport layout plan and should not be interpreted as representing recommended or ideal airport configurations. The layout plans shown are for descriptive purposes only and thus no attempt was made to provide all the supplementary drawings recommended for each of the airports (e.g. the large airport should normally have a terminal area layout plan drawn).

APPENDIX 1

BIBLIOGRAPHY

1. Runway Length Requirements for Airport Design	AC 150/5325-4	1/
2. Runway/Taxiway Widths and Clearances	AC 150/5330-2	1/
3. Runway Orientation to be published shortly -	AC 150/5300-	1/
4. Relationship between Airport Design and Obstruction Criteria 2/ to be published shortly -	AC 150/5310-	1/
5. Airport Surface Gradient Standards	AC 150/5325-2 11/9/64	1/
6. Airport Taxiways	AC 150/5335-1 1/28/65	1/
7. Airport Aprons	AC 150/5335-2 1/27/64	1/
8. VFR Airports	AC 150/5300-1 3/15/63	
Including Change 1 and Change 2	2/13/64 7/15/64	
8a. Information on Federal-aid Airport Program (FAAP)	AC 150/5100-1 4/15/65	
Including Change 1	6/30/65	
9. Heliport Design Guide	AC 150/5390-1 11/3/64	
10. Airport Terminal Buildings	Sept. 1960 Cost - $0.55	
11. Administration Buildings for General Aviation Airports	Cost - $0.25	

1/ See page 3, this Appendix.

2/ This circular will describe obstruction criteria given in Federal Air Regulation Part 77, "Objects Affecting Navigable Airspace" under Sub-Part C - Obstruction Standards. FAR, Part 77, can be obtained through the Superintendent of Documents, Washington, D.C. 20402, for $0.35.

APPENDIX 1

BIBLIOGRAPHY (Continued)

12.	Airport Service Equipment Buildings	AC 150/5360-1 April 1964	
13.	Airport Cargo Facilities	AC 150/5360-2 April 1964	
14.	Airport Fire and Rescue Equipment Buildings	Engineering Data Sheet No. 32 July 1961	
15.	Airport Drainage	1960	2/
16.	Airport Paving	AC 150/5320-6 June 1962	
17.	Effects of Jet Blast	AC 150/5325-6	1/
18.	Airport Design Requirements for Terminal Navigational Aids	AC 150/5300-2	
19.	Segmented Circle Airport Marker System	AC 150/5340-5 8/1/63	
20.	Day Markers for Useable Landing Areas	Engineering Data Sheet No. 37 March 1962	
21.	Runway and Landing Strip Lighting	TSO-N1c May 1957	
22.	Configuration Details of In-Runway Lighting: Touchdown Zone, Runway Centerline and Taxiway Turnoff Lighting Systems	AC 150/5340-3 11/18/63	
23.	Taxiway Lighting	TSO-N3b April 1961	

1/ See page 3, this Appendix.

2/ This publication is out of print and is in the process of being revised.

APPENDIX 1

BIBLIOGRAPHY (Continued)

24.	Marking of Serviceable Runways and Taxiways	AC 150/5340-1 11/6/63
25.	Day Marker for Helicopter Landing Area	TSO-N22a May 1960
26.	*Airport Capacity - FAA/BRD 136 - June 1963	PB 181553 Est. cost $4.00
27.	*Capacity of Airport Systems in Metropolitan Areas - Summary Volume - FAA/BRD 403 - Jan. 1964	PB 167383 Est. Price $2.00
27a.	*Capacity of Airport Systems in Metropolitan Areas Methodology of Analysis - FAA/BRD 403 - Jan.1964	PB 167382 Est. Price $4.00
28.	*Airport Facilities for General Aviation - - FAA/BRD-403 - Nov. 1962	AD 414409 Est. cost $12.50
29.	*Airport Terminal Plan Study - - FAA/RDS-136 - Feb. 1962	AD 299279 Est. cost $13.00
30.	*Land Use Planning Relating to Aircraft Noise -	Technical Report of Bolt, Beranek & Newman, Inc. October 1964

*Items 26 through 30 are contractor reports and do not represent officially promulgated standards, policies, or criteria of the FAA.

1/ These Advisory Circulars contain information previously given in the Airport Design Manual - Including Supplement #1, 1962, which is now out of print. (Reference 1, however, has some additional aircraft performance information not given in the Airport Design Manual). On items stating "to be published shortly" a number following the hyphen will be assigned prior to publication.

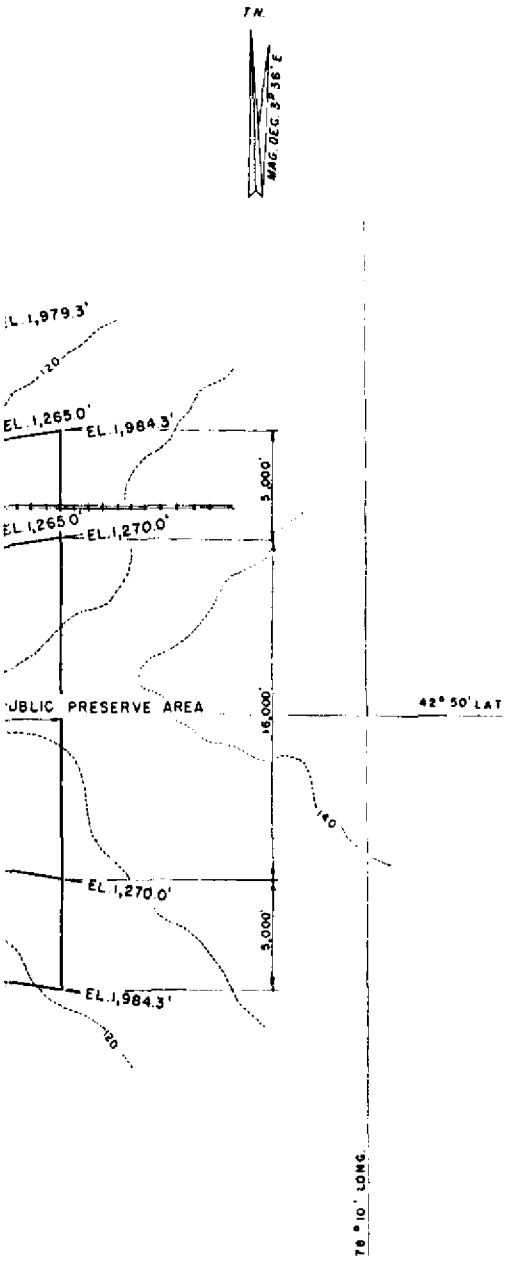
How to Obtain Copies of the Foregoing Documents.

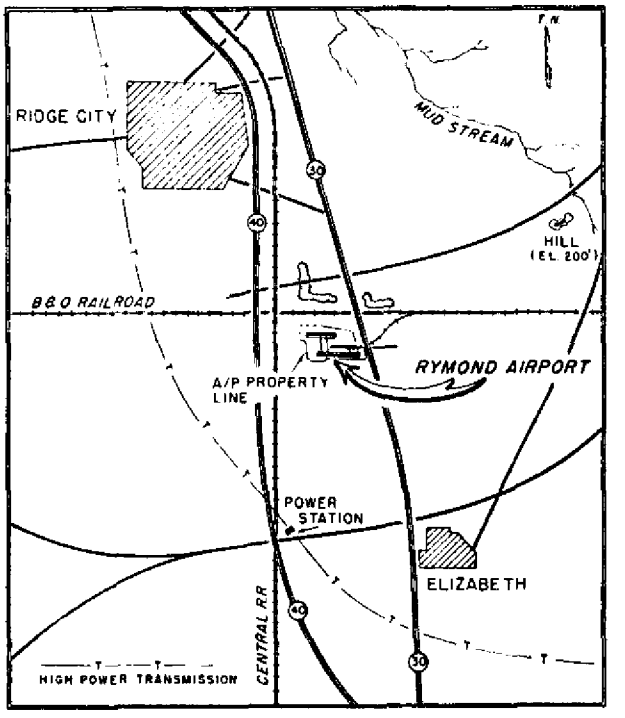
Copies of the above documents without an indicated price may be obtained from the Federal Aviation Agency, Distribution Section, HQ-438, Washington, D. C. 20553. Those with an indicated price may be obtained from the Superintendent of Documents, Washington, D.C. 20402. Those with an estimated price should be ordered through the Clearinghouse, U.S. Department of Commerce, Springfield, Virginia 22151.

ACRONYMS

The following acronyms have been used in this Advisory Circular:

A/C - Aircraft
AC - Advisory Circular
ALS - Approach light system
ARP - Airport Reference point
ASR - Airport surveillance radar
BM - Bench mark
BP - Blast pad
BRL - Building restriction line
FAA - Federal Aviation Agency
FAAP - Federal-aid Airport Program
FBO - Fixed base operator
HIRL - High intensity runway lights
IFR - Instrument flight rules
ILS - Instrument landing system
MPH - Miles per hour
REIL - Runway end identifier lights
R/W - Runway
VASI - Visual approach slope indicator
VFR - Visual flight rules
VOR - A VHF (very high frequency) omnidirectional radio range





VICINITY MAP

ESTABLISHED AIRPORT ELEVATION : 70' 00"

AIRPORT REFERENCE POINT (ARP) COORDINATES : LAT. 42° 50' 24"
LONG 78° 24' 45"

NOTE:
THESE PLANS SHOULD NOT BE USED AS STANDARDS FOR PLANNING OR DESIGN.

ELEVATION
50'
00'
50'

NO	REVISIONS	BY	APP	DATE

RIDGE CITY AIRPORT COMMISSION

SUBMITTED BY DATE
E. B. PETROLE INC.
CONSULTING ENGINEERS

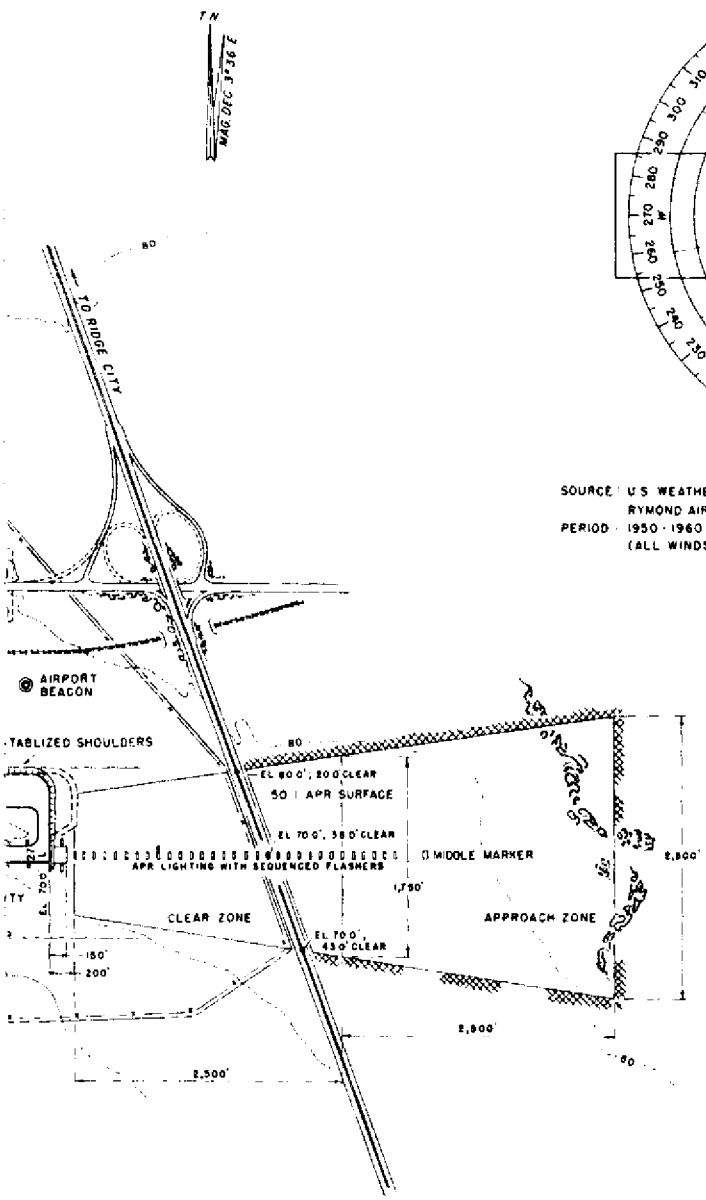
APPROVAL BLOCK

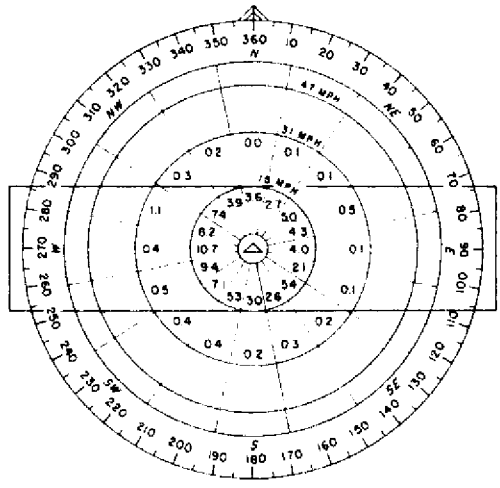
RYMOND AIRPORT
ANYWHERE USA

APPROACH & CLEAR ZONE PLAN

E.B. PETROLE INC.
CONSULTING ENGINEERS

DESIGNED BY. ____ DATE ____	TRACED BY: ____ DATE ____
DRAWN BY ____ DATE ____	CHECKED BY ____ DATE ____
DRAWING NO 4322 - AB 3	SCALE AS SHOWN
	SHEET 2 OF 2





SOURCE: U.S. WEATHER BUREAU STATION, RYMOND AIRPORT
PERIOD: 1950-1960 (ALL WINDS VFR & IFR)

15 M.P.H. CROSSWIND COVERAGE 98.2%
△ = 10.4 % CALMS, 0-3 M.P.H.
% OF VFR WEATHER = 90.0
% OF IFR WEATHER = 10.0

WIND ROSE

NO	REVISIONS	BY	APP	DATE

RIDGE CITY AIRPORT COMMISSION

SUBMITTED BY: E. B. PETROLE INC. CONSULTING ENGINEERS — DATE: 3-20-65

APPROVAL BLOCK

RYMOND AIRPORT
ANYWHERE, U.S.A.

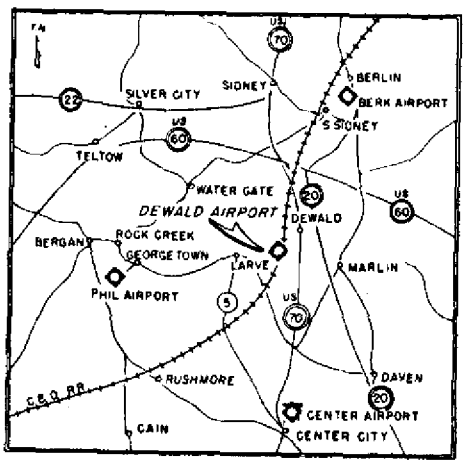
AIRPORT LAYOUT PLAN

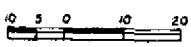
E. B. PETROLE INC.
CONSULTING ENGINEERS

DESIGNED BY: _____ DATE: _____ TRACED BY: _____ DATE: _____
DRAWN BY: _____ DATE: _____ CHECKED BY: _____ DATE: _____

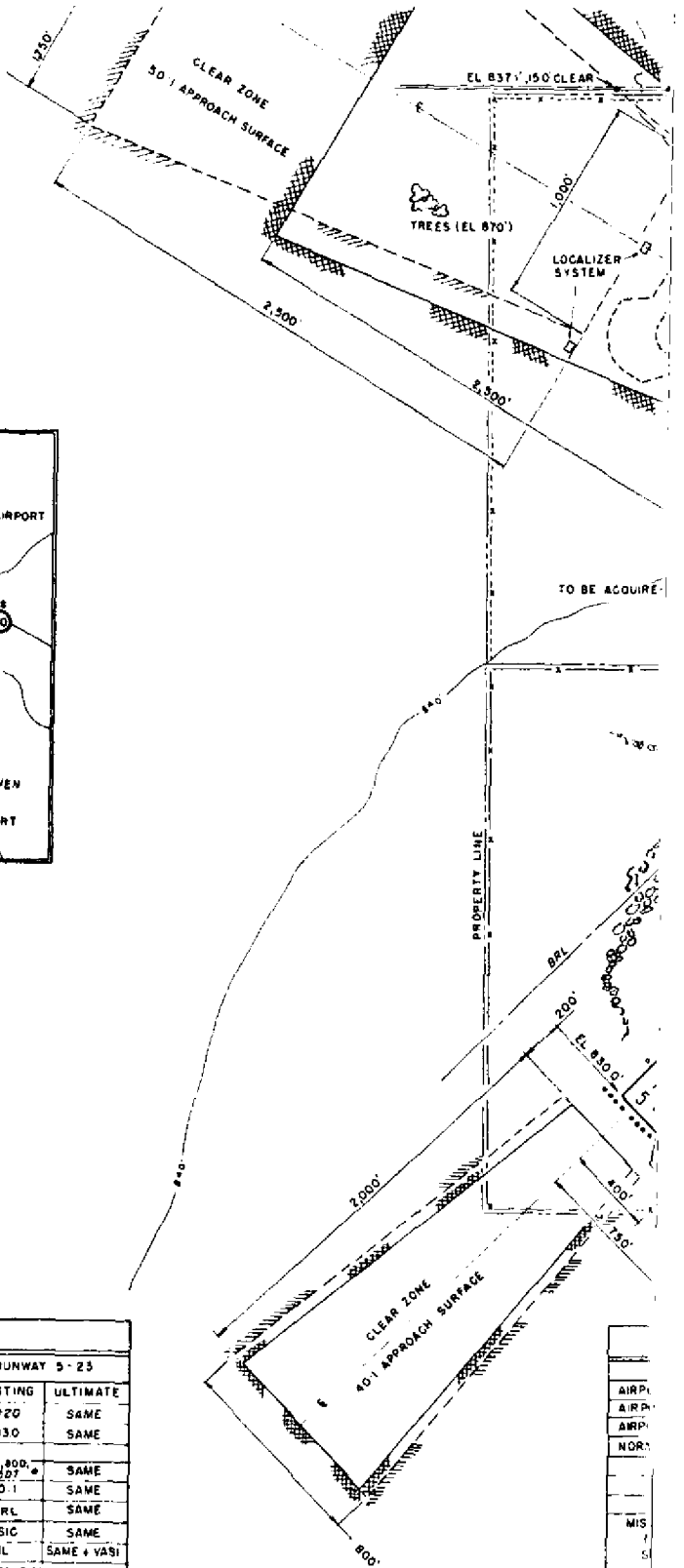
DRAWING NO: 4322 - AB3

SCALE AS SHOWN
SHEET 1 OF 2





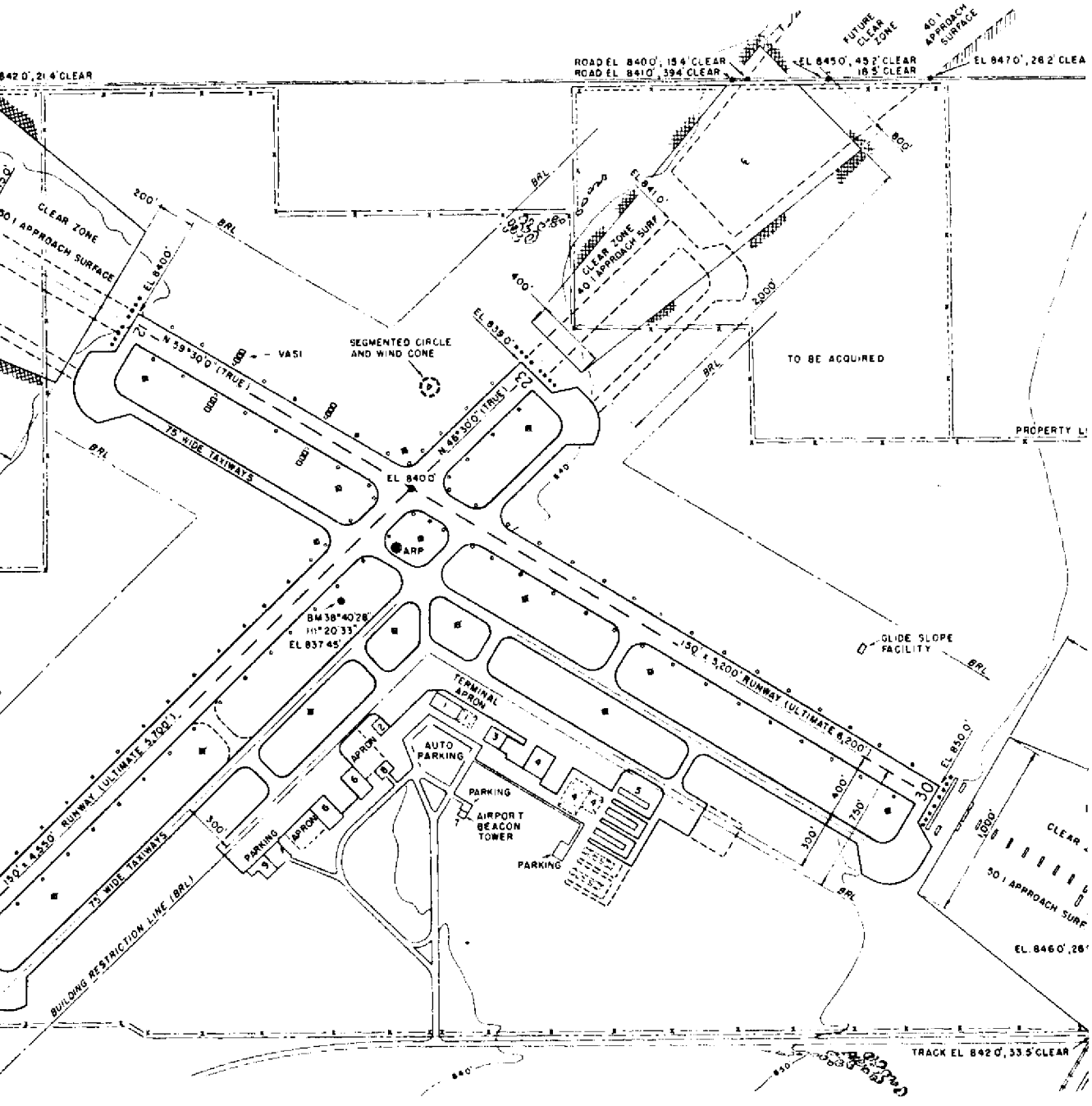
LOCATION MAP



RUNWAY DATA

	RUNWAY 12 - 30		RUNWAY 5 - 23	
	EXISTING	ULTIMATE	EXISTING	ULTIMATE
EFFECTIVE RUNWAY GRADIENT (IN %)	0.19	SAME	0.20	SAME
% WIND COVERAGE	91.4	SAME	83.0	SAME
INSTRUMENT RUNWAY	✓	✓		
PAVEMENT STRENGTH	60S,80D, 145DT *	SAME	60S,80D, 145DT *	SAME
APPROACH SLOPES & CLEAR ZONES	50:1	SAME	40:1	SAME
LIGHTING	HIRL	SAME	MIRL	SAME
MARKING	ALL WEATHER	SAME	BASIC	SAME
NAVIGATIONAL AIDS	ILS, ALS, VASI	SAME	REIL	SAME + VASI

* VALUES GIVEN ARE GROSS AIRCRAFT WEIGHT IN 1,000= FOR SINGLE (S) DUAL (D) & DUAL TANDEM (DT) GEAR AIRCRAFT



AIRPORT DATA

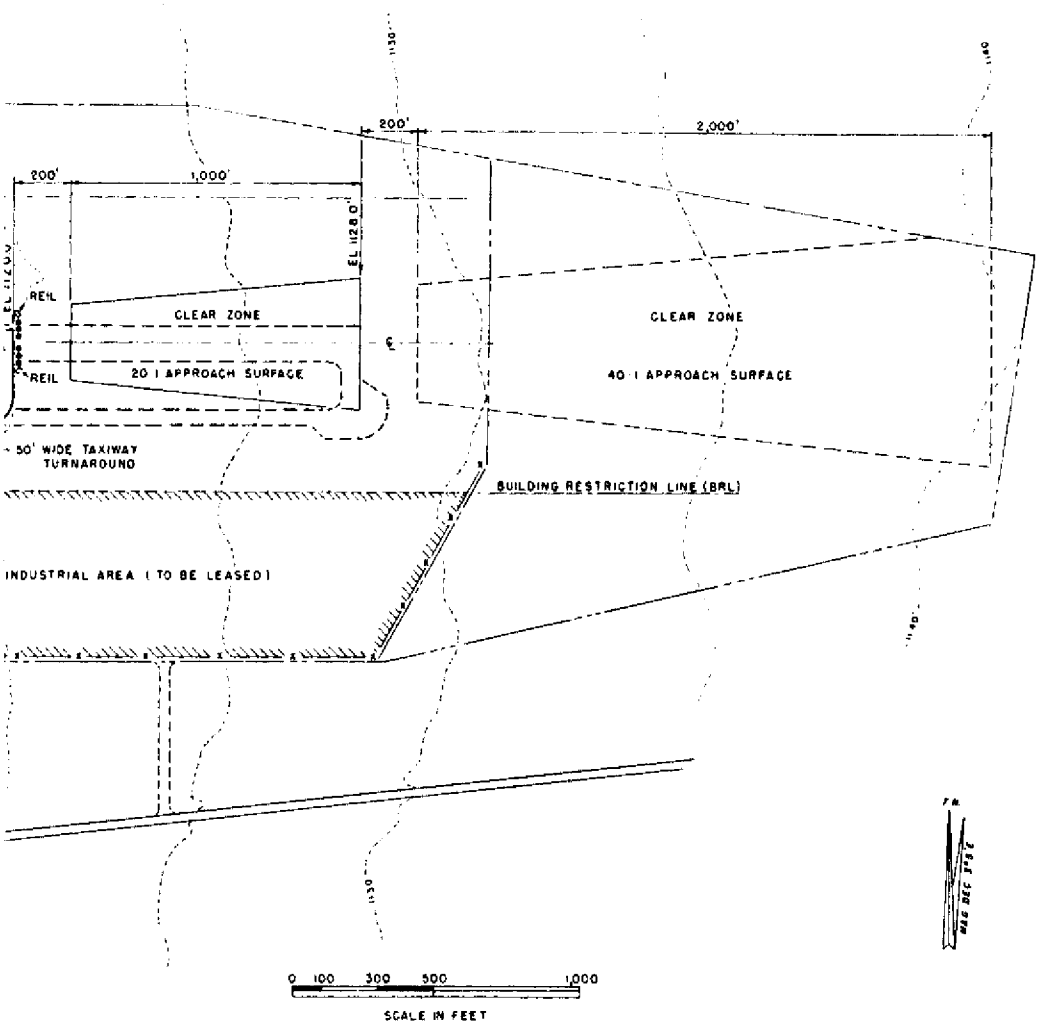
	EXISTING	ULTIMATE
ELEVATION	8500'	SAME
REFERENCE POINT (ARP) COORDINATES	38° 40' 31" 111° 20' 30"	SAME
AND TERMINAL NAV AIDS		VOR
MAX. TEMP. OF HOTTEST MONTH	80°F	SAME
ANOUS FACILITIES		
AY EDGE LIGHTING, CENTERLINE AND SYSTEM.	✓	✓
S: TREES TO NORTHWEST OF R/W 12 TO BE REMOVED WHEN R/W 15 EXTENDED		

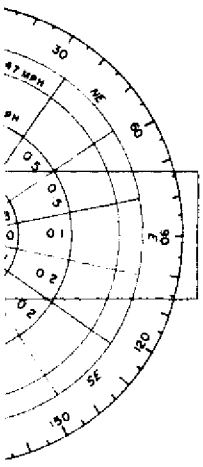
LEGEND

EXISTING	ULTIMATE	
		FENCE
8500		GROUND CONTOURS
		AIRPORT PROPERTY LINE
		STORM INLET
		RUNWAY THRESHOLD LIGHTS
		RUNWAY LIGHTS
		FACILITIES
		AIRPORT REFERENCE POINT
		EASEMENT
		BUILDING RESTRICTION LINE (BRL)
		RAILROAD
8500		BUILDING CONSTRUCTION

BUILDINGS

NO	STRUCTURE
1	TERMINAL BUILDING
2	FIRE AND CRASH BUILDING
3	ADMINISTRATION BUILDING
4	F.B.O. HANGERS
5	T- HANGERS
6	ANG HANGERS
7	CONTROL TOWER
8	MAINTENANCE BUILDING
9	AIR FREIGHT





PH CROSS WIND COVERAGE 98.7%
= 10.8% CALMS, 0-3 MPH

NOTE:
THESE PLANS SHOULD NOT BE USED AS STANDARDS FOR PLANNING OR DESIGN

NO	REVISIONS	BY	APP	DATE

DOVER CITY AIRPORT COMMISSION

SUBMITTED BY DATE:
W G TRESCKOW INC
CONSULTING ENGINEERS

APPROVAL BLOCK

GREEN ACRES AIRPORT
ANYWHERE, U S A.

AIRPORT LAYOUT PLAN

W.G. TRESCKOW INC.
CONSULTING ENGINEERS

DESIGNED BY	DATE	TRACED BY	DATE
DRAWN BY	DATE	CHECKED BY	DATE
DRAWING NO AB-639-C		SCALE AS SHOWN SHEET 1 OF 1	