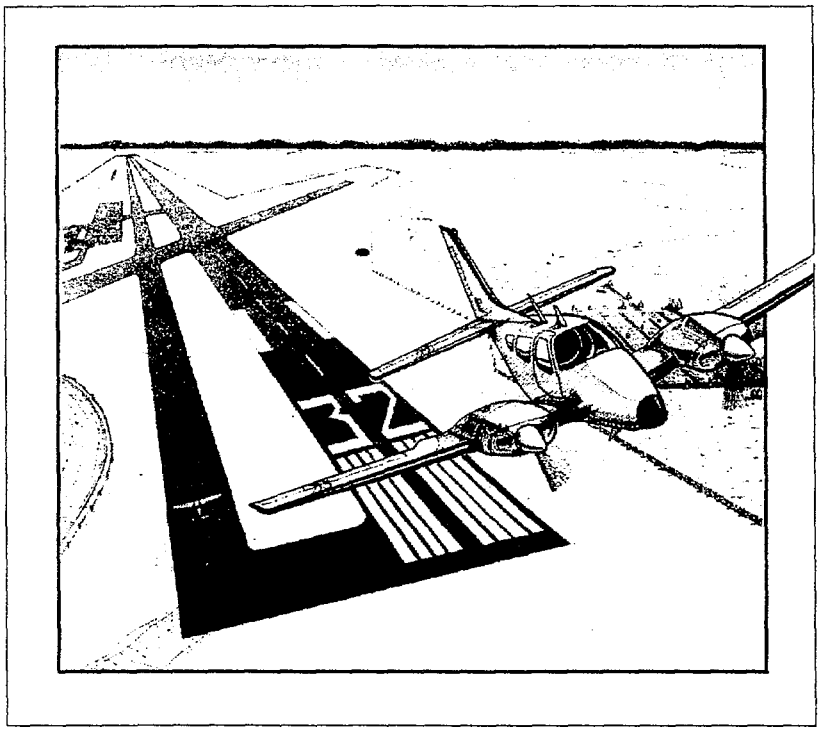
Chapter Seven
AIRPORT PLANS



Chapter Seven
AIRPORT PLANS

In Chapter Five an evaluation was made of options for future airfield and terminal area development for St. Johns Industrial Air Park. This effort resulted in the development of a plan for future airport improvements that could best accommodate the priorities of the City of St. Johns and the needs of the airport user for new and expanded airport facilities. The purpose of this chapter is to describe, in both narrative and graphic form, the recommended development over the course of the 20-year planning period.

A set of plans, referred to as 'Airport Layout Plans,' has been prepared to graphically depict the recommendations for airfield and terminal layout and development, disposition of obstructions and approach protection, and future use of land in the vicinity of St. Johns Industrial Air Park. The Airport Layout Plans set contains the following drawings:

- Airport Layout Plan
- Terminal Area Plan
- Part 77 Airspace Plan
- Approach Zones Plan
- Runway Protection Zones Plan
- Land Use/Noise Plan

DESIGN STANDARDS

St. Johns Industrial Air Park has been identified as a General Aviation Airport currently designed to accommodate small aircraft. Airports are planned and designed to accommodate aircraft within certain wingspans and approach speed ranges. Guidance for the future airport development at St. Johns Industrial Air Park was obtained from aircraft performance

characteristics, FAA design standards and Advisory Circulars, various technical reports, and state and federal regulations.

The selection of this wide range of guidance materials is intended to provide flexibility in application, and ensure the safety, economy and efficiency of the airport. It should be noted that the design standards outlined in this master plan should be followed in order to ensure compliance with Federal criteria.

The determination of appropriate design standards for the future development of the airport was based on the physical characteristics of the airport site, the demographics of the area, and the operational parameters of the aircraft forecast to utilize St. Johns Industrial Air Park. The planning for future aircraft use is particularly important in order to ensure minimum levels of safety can be met for the expected aircraft fleet and that adequate separation between facilities is provided.

'Airport Design,' FAA Advisory Circular 150/5300-13 divides aircraft into six different design groups according to the overall wingspan of the airplane. Aircraft are also divided into five approach categories based on their certificated final approach speed. These aircraft physical and operational characteristics are related to airport design standards and are illustrated in *Table 7.1*.

Table 7.1
Airport Design Criteria
St. Johns Industrial Air Park

Airplane Design Group (ADG)	Wingspan
ADG I:	Wingspan less than 49 feet.
ADG II:	Wingspan of 49 feet up to but not including 79 feet.
ADG III:	Wingspan of 79 feet up to but not including 118 feet.
ADG IV:	Wingspan of 118 feet up to but not including 171 feet.
ADG V:	Wingspan of 171 feet up to but not including 214 feet.
ADG VI:	Wingspan of 214 feet up to but not including 262 feet.

Aircraft Approach Category	Approach Speed
Category A:	Speed less than 91 knots.
Category B:	Speed 91 knots or more, but less than 121 knots.
Category C:	Speed 121 knots or more, but less than 141 knots.
Category D:	Speed 141 knots or more, but less than 166 knots.
Category E:	Speed 166 knots or more.

Based on the aircraft currently using St. Johns Industrial Air Park and the aircraft forecast to use the airport in the future, it was determined that the airport should be developed to Approach Category B, Airplane Design Group II (B-II) standards. The existing airport facilities were analyzed in this Master Plan and related to these design standards. Deficiencies in existing airport facilities were identified and, where feasible, various improvements have been recommended.

Runway length is the most notable deficiency in meeting recommended development standards. It was determined in the previous chapter that it was not feasible for the primary runway to be developed to meet the standards of B-II. Specifically, runway length and runway/taxiway separation standards for Runway 14-32 could not feasibly be achieved. Where B-II standards could not be achieved, the next lower standard B-I was applied. Runway 14-32 meets or exceeds the B-I standards in all respects.

The design standards for St. Johns Industrial Air Park are summarized in *Table 7.2*. These airport design standards are compared to existing facilities. The recommended standard and/or minimum development is also listed.

Table 7.2
Airfield Design Standards
St. Johns Industrial Air Park

	Existing	Standard	Recommended
Aircraft Design Group (ADG)	II	II	II
Aircraft Approach Category	B	B	B
Runway 14-32 (Primary)			
Length (ft) 95% of small aircraft	5,323	7,160	7,160
Length (ft) 75% of small aircraft	5,323	5,050	5,050
Width (ft	75	75	75
Strength (lbs)-SWG	12,500	12,500	12,500
Runway 03-21 (Crosswind)	90,000		
Length (ft) 95% of small aircraft	3,400	5,230	5,730
Length (ft) 75% of small aircraft	3,400	4,040	4,040
Width (ft	60	75	75
Strength (lbs)-SWG	12,500	12,500	12,500

AIRPORT LAYOUT PLAN

The Airport Layout Plan (ALP) graphically presents the existing and ultimate airport layout and illustrates the recommended airside and landside improvements which will better enable St. Johns Industrial Air Park to meet recommended safety standards and accommodate existing and forecast aviation demands. Detailed airport and runway data tables are provided on the Airport Layout Plan (Drawing No. 1) to facilitate the interpretation of the recommendations contained in the St. Johns Industrial Air Park Master Plan.

The Airport Layout Plan also illustrates the proposed airport improvements associated with the airport, the airfield and the terminal area. The recommended improvements are broken down into specific projects which are listed in Table 7.3. These projects will help St. Johns Industrial Air Park better meet the needs of the flying public maintain the safety and integrity of the airport.

Table 7.3
Recommended Development
St. Johns Industrial Air Park

Project Description
Reconstruct Aircraft Parking Apron
Widen Runway 3-21 to 75 feet
Extend Runway 3-21, by 640' X 75'
Relocate/Extend Perimeter Fence
Install MIRL Runway 3-21
Seal Coat Runway 14-32
Construct FBO/Maintenance Hangar
Construct Automobile Parking
Install MITL Taxiway B
Construct 10-Unit T-Hangar
Remove Existing Hangars
Construct 10-Unit T-Hangar
Install PAPI-2 Runway 3-21
Relocate City Maintenance Yard
Obtain Aviation Easements

Those improvements recommended for the terminal area are illustrated in greater detail and at a larger scale on the Terminal Area Plan (Drawing No. 2) which is discussed in the next section of this chapter. Various staging for the proposed development is also shown on the plan.

The main focus of the proposed airport improvements will be to maintain Runway 14-32 as the primary runway and Runway 3-21 as the crosswind runway. The development will entail those features thought to be most practical for the airport and the community. The full development of Runways 14-32 and 3-21 to Approach Category B with Aircraft Design Group-II or B-II standards is not practical due to topographic, engineering, land use and cost factors. These runways will be developed to the greatest extent possible without imposing significant hardships or inconvenience on the residents in the vicinity of the airport or excessive costs for the City of St. Johns.

The centerline of Taxiway A is only 150 feet from the centerline of Runway 14-32. This separation conforms to Aircraft Design Group-I standards for small airplanes but is less than the 240 foot separation required for Aircraft Design Group-II standards. The Aircraft Design Group-II runway to aircraft parking apron separation standard of 250 feet is currently met, however, if the parallel taxiway were to be relocated a portion of the apron would be lost. Due to the relatively low level of Aircraft Design Group-II aircraft activity and the costs to relocate the taxiway 90 feet, it is not considered practical to relocate the taxiway and the terminal facilities at this time.

Runway 14-32 will be maintained at its current 5,323-foot length and 75-foot width.

The existing length and width meet or exceed B-II standards for 75% of the small aircraft fleet. Runway 14-32 has an estimated weight bearing capacity of 90,000 pounds (according to a pavement report) which exceeds B-II standards. The runway also has all necessary and appropriate lighting, approach aids and markings to meet B-II standards. Therefore, no additional development is recommended except for required periodic maintenance.

Runway 3-21 will be planned to be extended to at least 4,040 feet in length (80 percent of Primary runway) and widened to 75 feet in width in order to better accommodate aircraft in ADG II and Approach Category B. Medium Intensity Runway Edge Lights (MIRL) will be installed to support nighttime use of this runway when wind conditions require its use. Precision Approach Path Indicators (PAPI) will also be installed to improve the safety of approaches to both ends of this runway.

The proposed airfield development will help alleviate the existing runway length deficiencies and produce an airport more capable of accommodating the forecast aviation demands. St. Johns Industrial Air Park will be better suited to accommodate a wider range of general aviation aircraft with a greater margin of safety and improve potential for increased economic development for the airport and the community.

TERMINAL AREA PLAN

The Terminal Area Plan developed for St. Johns Industrial Air Park illustrates the development and staging for the planned terminal area improvements. The terminal area plan is a larger scale detailed illustration showing the proposed terminal area development throughout the planning period. This drawing contains the same proposed landside development as shown on the Airport Layout Plan.

The Terminal Area Plan concentrates on prioritizing development of the recommended terminal area facilities to alleviate existing deficiencies and meet expected aviation demands. Aircraft parking apron, hangars, terminal building development, fuel facilities and airport access are all typically shown on this drawing.

The Terminal Area Plan identifies three stages of development that cover the 20-year planning period. Stage I covers the first 5-year period from 1998 through 2003, Stage II covers a second 5-year period from 2004 through 2008, and Stage III covers the final 10-year period from 2009 through 2018.

The Terminal Area Plan provides sufficient area for the development of a full-service FBO facility during the planning period as well as an expanded fuel storage area and local and transient aircraft tiedowns (if needed beyond the 20-year planning period). At least two (10 spaces each) additional aircraft T-hangars have also been programmed to meet the expected aircraft storage requirements. Other land in the terminal area will remain available to meet unanticipated needs. The main focus of the terminal area development will be to utilize the existing facilities in the west quadrant of the airport to the maximum extent possible. Those facilities in the south quadrant will be abandoned and removed and replaced in the west quadrant.

The most pressing landside need today is to provide adequate local aircraft storage

hangars. Additional T-hangars should be developed adjacent the north end of the aircraft parking apron. Space is available to provide at least two 10-unit T-hangars and associated automobile parking. This development can continue northward as additional aircraft storage needs arise.

Even after development of the proposed terminal improvements, a portion of the west quadrant land will remain available for aviation related activities or non-aviation commercial or industrial development. This area will be ideally situated at the entrance to the airport to attract a large warehouse or manufacturing enterprise to the St. Johns area. In fact, plans have been announced for development of a medical clinic on the airport adjacent to Runway 3-21 at the southwest end.

AIRSPACE PLAN

The Airspace Plan for St. Johns Industrial Air Park was prepared in accordance with Federal Aviation Regulations (FAR) Part 77, *Objects Affecting Navigable Airspace*. The Part 77 Airspace Plan identifies the airspace requirements surrounding the airport based on the ultimate approaches to each runway end. The Part 77 surfaces are intended to protect the airport from encroachment by obstructions that could adversely affect the safety of flight and airport operations.

The Airspace Plan is provided to assist the airport sponsor (and others) in complying with FAR Part 77 and protect airspace surfaces that are applicable to St. Johns Industrial Air Park. The surface lengths, widths, heights, angles, and radii are determined by the type of runway and instrumentation available on that runway.

The Federal Aviation Regulation Part 77 surfaces are intended to provide protection of the airspace around the airport from future incompatible development. Any construction that could affect the Part 77 surfaces is required to be reported to the FAA for an airspace evaluation. The FAA will evaluate the proposal and issue a determination of "No Hazard" for acceptable development or a "Potential Hazard" determination for unacceptable development.

The FAA determinations are not regulatory or binding, therefore, all development proposals should be reviewed by the City of St. Johns to determine their impact on the airport. Future development that would penetrate any of the airspace surfaces should be prohibited or modified so as not to create an obstruction to air navigation.

The presence of any manmade or natural obstructions at St. Johns Industrial Air Park could result in operational constraints and special air traffic procedures to avoid the obstruction. An obstruction disposition table is provided on the airspace plan drawing to facilitate the identification and disposition of all obstructions identified in the St. Johns Industrial Air Park airspace area.

The airspace plans consist of the Part 77 Airspace Plan, the Approach Zones Plan and the Runway Protection Zones Plan. These plans illustrate various perspectives of the airspace surfaces for a non-precision instrument approach to Runway 14 and Runway 32 with visibility minimums as low as one mile. Visual approaches and airspace surfaces are provided to both ends of Runway 3-21.

Each runway has an imaginary Primary Surface that protects the runway from obstructions and limits the location and types

of facilities that can be placed near the runway within the primary surface. The Primary Surface extends 200 feet beyond the end of the runway and its width can vary from 250 feet to 1,000 feet depending on the type of approach planned for that runway. The elevation of the primary surface is the same as the elevation of the runway centerline at its nearest point.

The Primary Surface of Runway 14-32 is 500 feet in width while the primary surface for Runway 3-21 is 250 feet wide. Applying the Primary Surface to Runway 14-32 reveals there are three existing obstructions associated with the runway. The perimeter fence along the cemetery at its nearest point to the runway, the fence along the race track nearest the runway, and the fence at the approach end of Runway 14 each penetrate the Primary Surface. Two of these fences are along the side of the runway and do not affect the approach to the runway, therefore, it is not believed that these obstructions would constitute a hazard. The third is remarked in the Airport Facility Directory and is one reason for the displaced threshold on Runway 14. There are no known obstructions that penetrate the Primary Surface of Runway 3-21.
A Horizontal Surface is also established for St. Johns Industrial Air Park that is 150 feet above the airport elevation. The Horizontal Surface extends from the airport for a radius of 5,000 feet from the end of a utility or visual runway and 10,000 feet from the end of all other runways. The arcs for each runway end are connected by tangent lines to enclose the horizontal surface. There is one obstruction to the Horizontal Surface located approximately 8,000 feet west of the approach end of Runway 3.

Transitional and Conical surfaces are provided to transition between the airport terminal airspace and the en route airspace beyond. The Transitional Surface extends outward and upward at a slope of 7 to 1 and connects the Primary and Approach surfaces with the Horizontal Surface. The Conical Surface extends outward from the Horizontal Surface for a distance of 4,000 feet and upward at a slope of 20 to 1. The Conical Surface transitions between the Horizontal Surface and the en route airspace. There are four obstruction to the Conical Surface located approximately 8,000 feet west of the approach end of Runway 3. Three poles and a tree penetrate this surface. No other obstructions to the Conical Surface have been identified. There are numerous obstructions to the Transitional Surfaces associated with Runway 3 and Runway 32. There are no obstructions to the Transitional surfaces associated with Runway 13 or Runway 21.

APPROACH ZONES PLAN

The Approach Zones Plan is a plan and profile illustration of the Part 77 Approach Surface that overlays the RPZ of each runway. The plan depicts the physical features in the vicinity of each runway end, including topographic changes, roadways, structures, and trees.

Approach Surfaces are intended to protect the safety of aircraft arriving or departing the airport and restrict the growth of natural objects or the construction of manmade objects that would create a hazard to air navigation. The dimensions and slopes of approach surfaces are functions of the runway classification and the approach category.

The Approach Surfaces for Runway 14-32 are non-precision approaches with slopes of 34 to 1. These surfaces extend outward for a

distance of 10,000 feet from the Primary Surface to provide approach protection during instrument meteorological weather conditions. These Approach Surfaces are planned to provide instrument approach capability with weather minimums as low as one mile.

The existing and ultimate Approach Surfaces to Runway 3-21 are for visual approaches with an approach slope of 20 to 1. These approach surfaces extend outward and upward from the ends of the Primary Surface for their respective runway. The visual approach surfaces extend 5,000 feet outward from the Primary Surface.

Applying the Part 77 Approach Surface criteria to the existing runway ends reveals that there are close-in obstructions to three of the four runway ends. These obstructions have been recognized in the past and the thresholds to two of the three runways where obstructions are present have been displaced. There are no obstructions to the approach end of Runway 21. The thresholds of Runway 3 and Runway 14 have been displaced in order to provide the necessary 15 foot clearances over the public roadways. The Approach Surface to Runway 32 is penetrated by a section of fence and a hangar. The hangar will be removed and the fence relocated to eliminate these obstructions.

RUNWAY PROTECTION ZONES PLAN

The Runway Protection Zones Plan consists of large scale plan and profile views of the Runway Protection Zones (RPZ's) and the inner portion of the FAR Part 77 Approach Surfaces which overlay the RPZ. These plans identify obstructions, roadways, and buildings that lie within the confines of the RPZ located at the end of each runway.

The RPZ's vary in size depending on the runway classification and the type of approach available to that runway. The existing RPZ's for Runway 3-21 are sized to provide for visual approaches by small aircraft. The RPZ's for Runway 14-32 are sized for non-precision approaches with visibility minimums as low one mile.

As illustrated on the Runway Protection Zones Plan, all portions of the existing RPZ's are not within the present airport boundaries. The land necessary for the existing RPZ's located outside the airport property have not been acquired, however, *an aviation easement to limit the height of manmade or natural growth objects has been obtained by the City for the RPZ for Runway 3. It is not clear whether or not easements as recommended in the previous master plan have been acquired for parcels of land within the RPZ's for Runway 14-32.

LAND USE/NOISE PLAN

The major objective of the Land Use/Noise Plan is to protect and secure a very valuable community asset - St. Johns Industrial Air Park. The investment of private, city, state, and federal dollars must be protected and preserved in order to meet the air transportation needs of the community.

There are two primary considerations for land use planning in the vicinity of airports. First, to secure those areas essential to the safe and efficient operation of the airport; and second, to determine compatible land uses for on-airport and adjacent off-airport property. Achieving these two goals will ensure that the airport and adjacent land will

be complimentary and advantageous to one another.

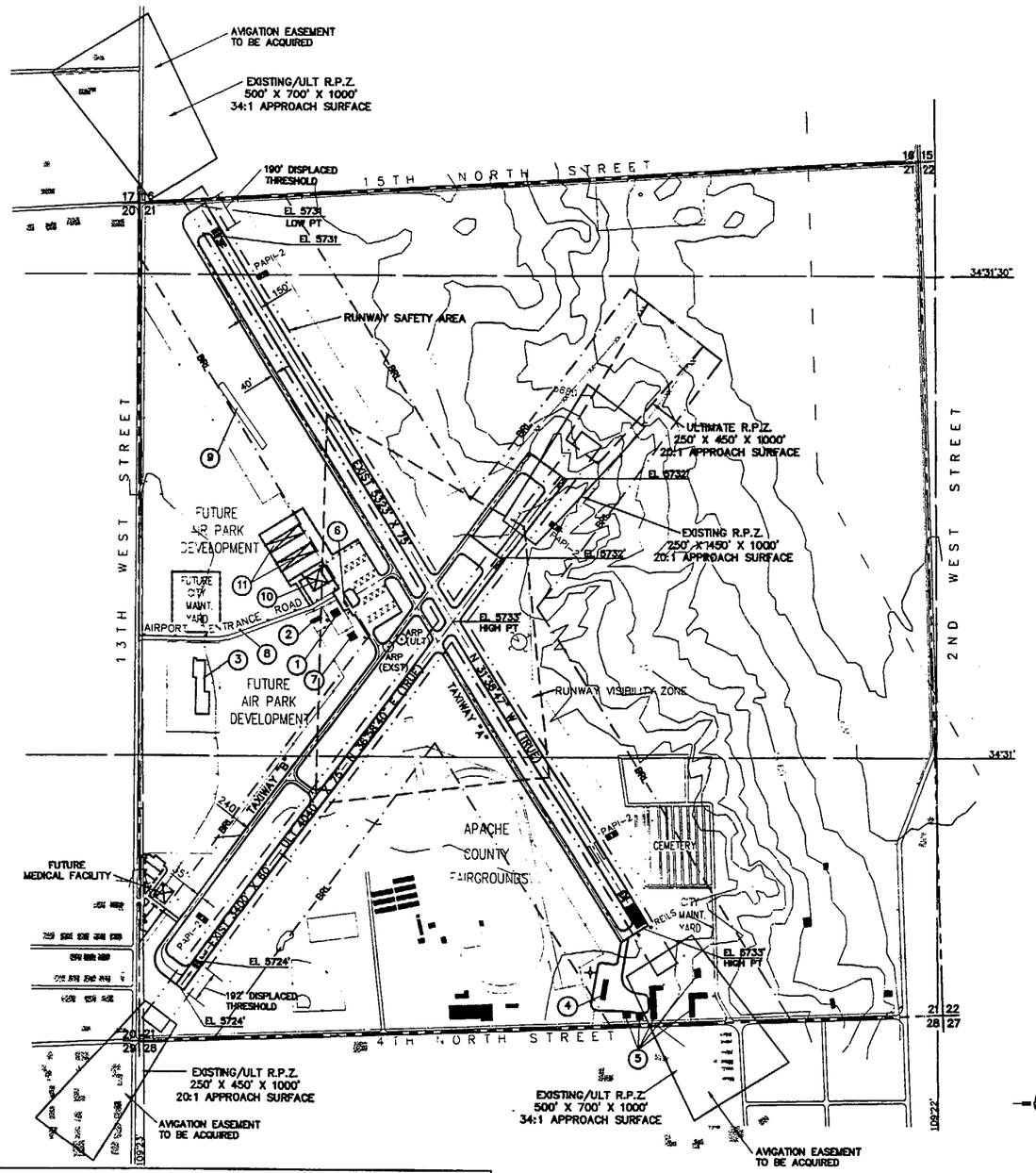
In 1997, the Arizona legislature passed a measure that authorizes and encourages airport sponsors that possess zoning authority to develop and implement an Airport Influence Area (AIA). These AIA's can consist of areas affected by noise contours, traffic patterns, safety areas, Runway Protection Zones and Part 77 Airspace Surfaces. It is left to the airport sponsor to determine the extent of influence that any of these criterion may impose on off-airport property. The zoning jurisdiction may also impose limits on land use to protect the airport and users of off airport property.

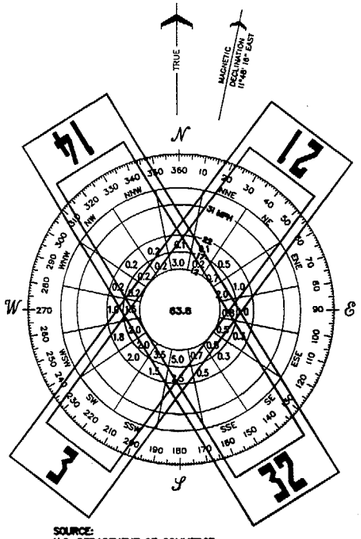
The Land Use/Noise Plan for St. Johns Industrial Air Park illustrates the areas affected by several of the criterion listed above. The FAR Part 77 surfaces are illustrated on that plan and will not be shown on the Land Use Plan. Due to the close proximity of residential development near and adjacent to the airport, it is recommended that the City of St. Johns develop an AIA and incorporate it into the City's zoning ordinance.

Several of the influences of the airport spill over into the County and a cooperative effort with County Planning and Zoning may be desired. Apache County also has a vested interest in the long-term viability of the airport and should be encouraged to help protect it from further incompatible development.

The on-airport land use has been divided into two major categories. The Airport Operations Area (AOA) is the area necessary for the movement of aircraft and the required runway and taxiway safety areas. This area also includes the area within the Building Restriction Line (BRL) and the Runway Visibility Zone. The AOA includes all runways, parallel taxiways and Runway Protection Zones. The AOA will be designated for the ultimate facilities and services to be provided by the City of St. Johns. The AOA must be kept clear of all obstructions to assure that the safety and visibility of the aircraft using St. Johns Industrial Air Park are not compromised. This area will contain the airport maintenance facilities, UNICOM, administrative offices, and navigational and communication facilities.

Terminal Area Development (TAD) consists of the area currently or planned to be used for terminal area facilities. The TAD area will not only provide for necessary future expansion but also will allow flexibility in design of the proposed facilities. Since this Master Plan only covers a 20 year period, surplus areas have been set aside for very long term or unexpected terminal development. These areas are adjacent to the AOA for convenience and efficiency.

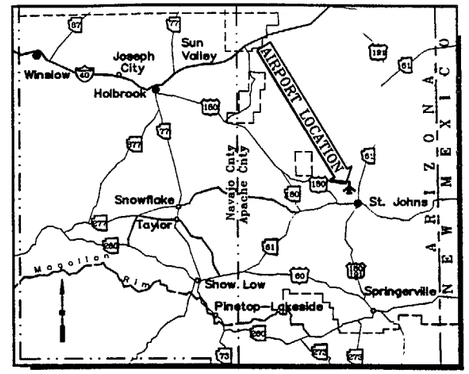




SOURCE:
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
ASHVILLE, NORTH CAROLINA
PERIOD: 1949–1978

WIND COVERAGE	12MPH (10.5KTS)	15MPH (13KTS)
RUNWAY 14–32	81.4%	89.8%
RUNWAY 3–21	91.1%	96.7%
COMBINED	96.4%	98.9%

ALL WEATHER WIND ROSE



VICINITY MAP

AIRPORT DATA

		EXISTING	ULTIMATE
AIRPORT ELEVATION (MSL)		5733 FT	SAME
AIRPORT REFERENCE POINT COORDINATES (NAD 83)	LAT	34°31'06.707" N	34°31'07.3429" N
	LONG	109°22'41.150" W	109°22'40.2832" W
TERMINAL NAVIGATION AIDS		BEACON	SAME
MEAN MAX. DAILY TEMP. (HOTTEST MONTH)		90.9° F (JULY)	SAME
AIRCRAFT APPROACH CATEGORY		B	SAME
AIRPLANE DESIGN GROUP		II	SAME
WIND COVERAGE (%)		96.4	SAME
DESIGN AIRCRAFT		KING AIR 200	SAME
GPS AT AIRPORT		NONE	SAME

RUNWAY DATA

	14–32 EXISTING	14–32 ULTIMATE	3–21 EXISTING	3–21 ULTIMATE
% EFFECTIVE GRADIENT	0.038%	SAME	0.235%	0.198%
% WIND COVERAGE 12 MPH	81.4%	SAME	91.0%	SAME
MAX ELEVATION ABOVE MSL	5733 FT	SAME	5733 FT	SAME
RUNWAY LENGTH	5323 FT	SAME	3400 FT	4040 FT
RUNWAY WIDTH	75 FT	SAME	60 FT	75 FT
RUNWAY SURFACE TYPE	ASPHALT	SAME	ASPHALT	SAME
TAXIWAY SURFACE TYPE	ASPHALT	SAME	ASPHALT	SAME
INSTRUMENT RUNWAY (TYPE)	NON-PRECISION/N.P.	SAME	VISUAL/VISUAL	SAME
APPROACH SLOPE	34:1/34:1	SAME	20:1/20:1	SAME
PAVEMENT STRENGTH (1000 LBS)	12.5 (SW)	SAME	12.5 (SW)	SAME
RUNWAY LIGHTING	MIRL	SAME	DELINEATORS	MIRL
RUNWAY MARKING	VISUAL/NP	SAME	VISUAL/VISUAL	SAME
NAVIGATIONAL AIDS	REILS (RWY 31)	SAME	NONE	NONE
VISUAL AIDS	PAPI–2	SAME	NONE	PAPI–2 (BOTH ENDS)
RUNWAY SAFETY AREA DIMENSIONS:	5733 FT X 150 FT	5733 FT X 150 FT	3808 FT X 150 FT	5100 FT X 150 FT
LENGTH BEYOND RUNWAY END	300 FT	SAME	300 FT	SAME
WIDTH	150 FT	SAME	150 FT	SAME
AIRPLANE DESIGN GROUP	II	SAME	II	SAME
AIRCRAFT APPROACH CATEGORY	B	SAME	B	SAME
FAR PART 77 CATEGORY	NP/NP	SAME	VISUAL/VISUAL	SAME
RUNWAY BEARING (TRUE)	N31°33'47"W	SAME	N36°58'40"E	SAME
DISPLACED THRESHOLD	190 FT (RWY 14)	SAME	192 FT (RWY 03)	SAME

AIRPORT BUILDINGS/FACILITIES

EXIST	ULT	DESCRIPTION
①		TERMINAL BUILDING
②		RESIDENCE
③		BEAM PLANT (DESTROYED)
④	*TBR	T–HANGARS (4)
⑤	*TBR	HANGARS/ MAINTENANCE BUILDINGS
⑥		FUEL ISLAND
⑦		FUEL STORAGE FACILITY
⑧		POLE LIGHTS (11 EA)
⑨		MODEL AIRPLANE LANDING STRIP
	⑩	FBO
	⑪	HANGARS

*TBR = TO BE REMOVED

RUNWAY END COORDINATES**

RUNWAY	LATITUDE	LONGITUDE	ELEVATION
14 (EXIST & ULT)	34°31'34.105"	109°22'55.430"	5731
32 (EXIST & ULT)	34°30'49.299"	109°22'22.062"	5733
3 (EXIST & ULT)	34°30'45.456"	109°22'57.128"	5724
21 (EXIST)	34°31'12.318"	109°22'32.700"	5732
21 (ULT)	34°31'17.190"	109°22'28.000"	5732
*3	34°30'48.972"	109°22'55.749"	5724
*14	34°31'32.502"	109°22'54.236"	5731

*DISPLACED THRESHOLD

**NAD 83 DATUM

LEGEND

	EXISTING	ULTIMATE
FACILITIES		
BUILDINGS	ON-SITE / OFF-SITE	
AIRPORT PROPERTY LINES		
OBSTACLE FREE AREA (OFA)		
RUNWAY SAFETY AREA (RSA)		
BUILDING RESTRICTION LINE (BRL)		
FENCE		
TOPOGRAPHIC CONTOUR		
AIRPORT REFERENCE POINT (ARP)	⊙	⊙
BEACON		
SEGMENTED CIRCLE/ LIGHTED WIND CONE		
DRAINAGE		
REIL		
PAPI		

GENERAL NOTES

1. RUNWAY 14–32 "RUNWAY / TAXIWAY SEPARATION" IS NON–STANDARD FOR ADG II, BUT MEETS MINIMUM ADG I SEPARATION STANDARDS.

MAGNETIC DECLINATION= 11°48'16"E (JULY 1997)
ANNUAL CHANGE OF RATE= 49" WESTERLY

400 200 0 400 800
SCALE 1"=400'

"THE PREPARATION OF THESE DOCUMENTS WAS FINANCED IN PART THROUGH A PLANNING GRANT FROM THE FEDERAL AVIATION ADMINISTRATION AS PROVIDED UNDER SECTION 505 OF THE AIRPORT AND AIRWAY IMPROVEMENT ACT OF 1982, AS AMENDED. THE CONTENTS DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FAA. ACCEPTANCE OF THESE DOCUMENTS BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREON NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAWS."

FAA APPROVED :

DATE

APPROVED BY:

MAYOR – CITY OF ST. JOHNS DATE

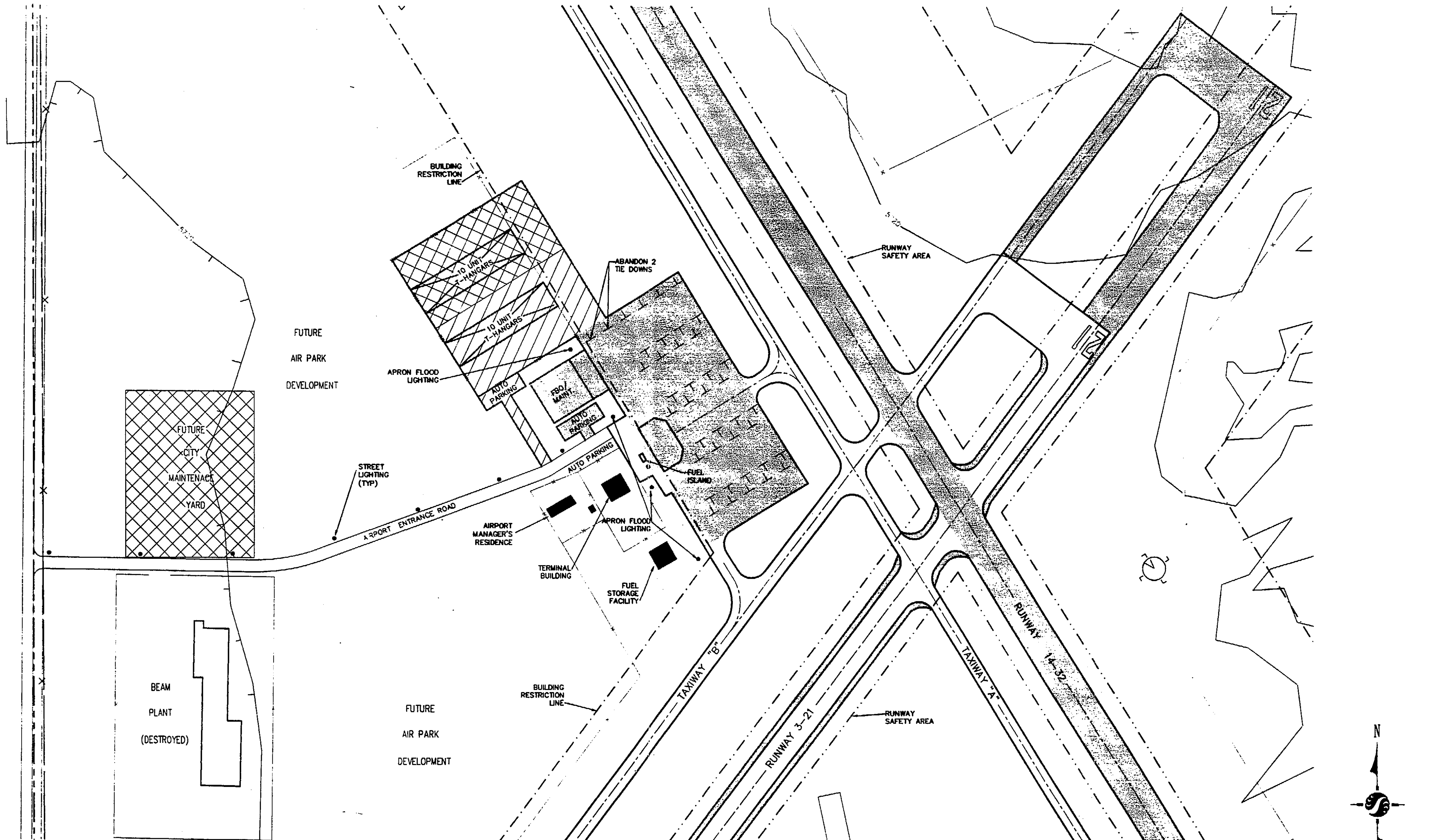
NO.	REVISIONS	DATE	BY	APP'D

ST. JOHNS INDUSTRIAL AIR PARK
AIRPORT LAYOUT PLAN
ST. JOHNS, ARIZONA

Stantech Consulting Inc.
7778 South Pantano R. Suite 290
Tucson, Arizona 85641 USA
Phone (602) 438-2200 Fax (602) 431-4042

PLANNED BY: PLANNING DEPT
DRAWN BY: J.L. FANGMEIER
DATE: JULY 30,1998

SHEET 1/



100 50 0 100 200
SCALE 1"=100'

LEGEND	EXISTING	ULTIMATE
FACILITIES		
BUILDINGS		
RUNWAY SAFETY AREA (RSA)		
BUILDING RESTRICTION LINE (BRL)		
FENCE		
TOPOGRAPHIC CONTOUR		
SEGMENTED CIRCLE/ LIGHTED WIND CONE		

DEVELOPMENT SCHEDULE		
	STAGE 1	1998–2002
	STAGE 2	2003–2007
	STAGE 3	2007–2017

ST. JOHNS INDUSTRIAL AIR PARK

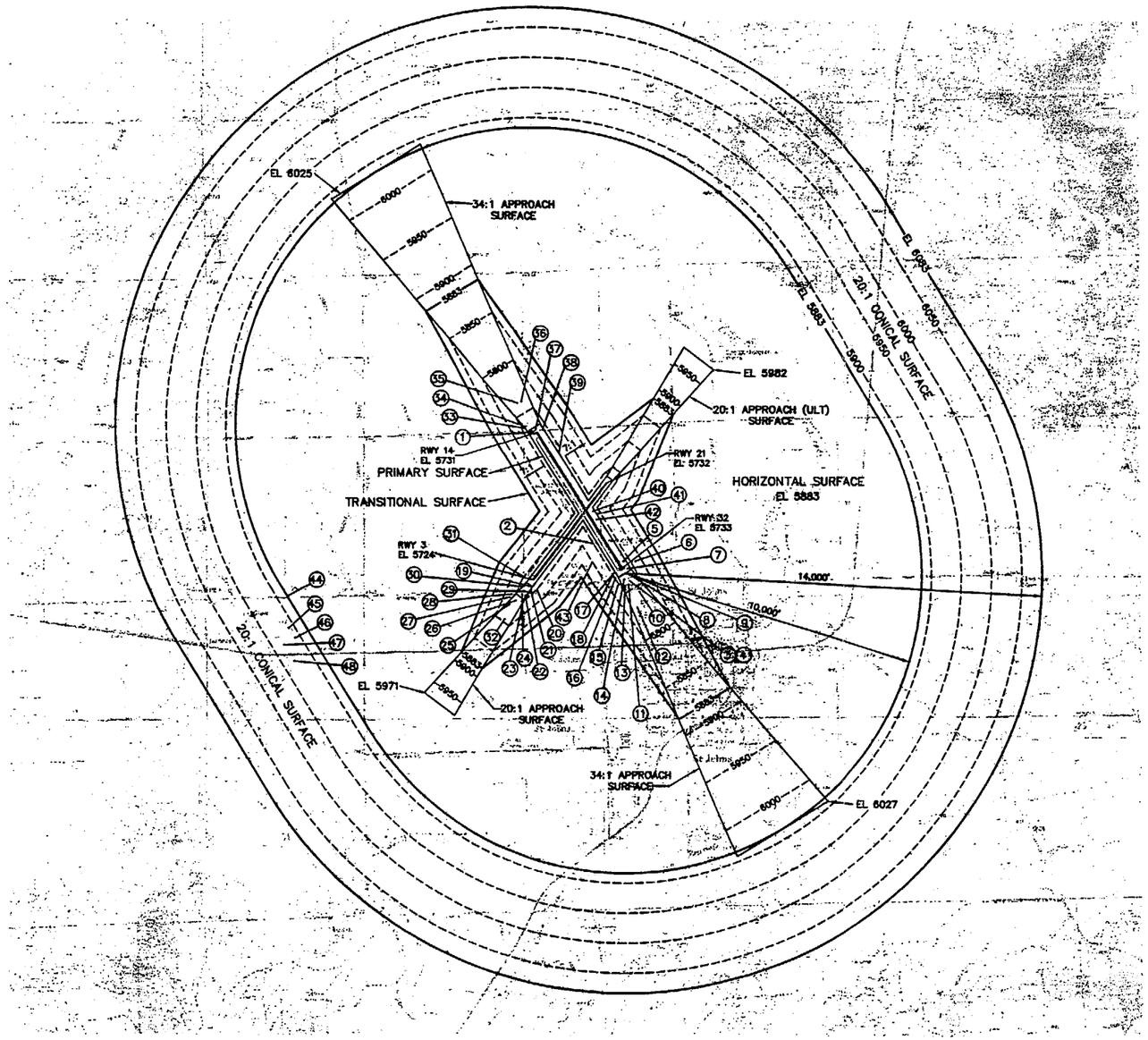
TERMINAL AREA PLAN

ST. JOHNS, ARIZONA

Stantech Consulting Inc.

PLANNED BY: PLANNING DEPT.
DRAWN BY: J. I. FAINKUJEN
DATE: JULY 30, 1998

SHEET 2 OF 6



LEGEND

TERRAIN OBSTRUCTION

① INDIVIDUAL OBSTRUCTION

NOTE

OBSTRUCTION DATA FROM NATIONAL OCEAN SERVICE (NOS) OBSTRUCTION CHART (OC8588) 1st EDITION, NOVEMBER 1988

N

2000 1000 0 2000 4000

SCALE 1"=2000'

OBSTRUCTION TABLE

NO.	DESCRIPTION	SURFACE	ELEV± (MSL)	PENETRATION± EXIST	PENETRATION± ULT	DISPOSITION
①	FENCE	PRIMARY	5737	6'	6'	REMAIN
②	FENCE	PRIMARY	5739	6'	6'	REMAIN
③	HANGAR	TRANSITION	5745	10'	0'	REMOVE
④	HANGAR	TRANSITION	5745	8'	0'	REMOVE
⑤	TREE	PRIMARY	5760	27'	0'	REMOVE
⑥	TREE	TRANSITIONAL	5780	5'	0'	REMOVE
⑦	FENCE POST	PRIMARY	5741	8'	8'	REMAIN
⑧	ANTENNA	APPROACH	5754	14'	0'	REMAIN
⑨	TREE	APPROACH	5748	18'	0'	REMOVE
⑩	POLE	APPROACH	5757	5'	5'	MARK/LIGHT
⑪	LIGHT POLE	APPROACH	5756	10'	10'	REMAIN
⑫	TREE	APPROACH	5767	1'	0'	REMOVE
⑬	POLE	APPROACH	5768	24'	24'	MARK/LIGHT
⑭	TREE	APPROACH	5752	15'	0'	REMOVE
⑮	LIGHT POLE	TRANSITION	5768	15'	15'	REMAIN
⑯	WINDSOCK	TRANSITION	5762	15'	15'	REMAIN
⑰	FENCE POST	TRANSITION	5737	2'	2'	REMAIN
⑱	BEACON	TRANSITION	5790	21'	21'	REMAIN
⑲	GROUND	PRIMARY	5727	3'	0'	REMAIN
⑳	TREE	TRANSITION	5764	11'	0'	REMOVE
㉑	ROAD	APPROACH	5743	14'	14'	REMAIN
㉒	TREE	APPROACH	5770	28'	0'	REMOVE
㉓	TREE	TRANSITION	5786	13'	0'	REMOVE
㉔	TREE	APPROACH	5784	26'	0'	REMOVE
㉕	TREE	APPROACH	5779	10'	0'	REMOVE
㉖	TREE	APPROACH	5780	36'	0'	REMOVE
㉗	TREE	TRANSITION	5777	2'	0'	REMOVE
㉘	TREE	TRANSITION	5796	23'	0'	REMOVE
㉙	TREE	APPROACH	5766	33'	0'	REMOVE
㉚	TREE	APPROACH	5745	25'	0'	REMOVE
㉛	TREE	TRANSITION	5769	15'	0'	REMOVE
㉜	TREE	APPROACH	5798	4'	0'	REMOVE
㉝	POST	APPROACH	5732	1'	1'	REMAIN
㉞	ROAD	APPROACH	5738	3'	3'	REMAIN
㉟	POLE	APPROACH	5756	0'	0'	REMAIN
㊱	ANTENNA	APPROACH	5750	0'	0'	REMAIN
㊲	ROAD	PRIMARY	5740	8'	8'	REMAIN
㊳	POST	PRIMARY	5734	2'	2'	REMAIN
㊴	POST	TRANSITION	5738	5'	5'	REMAIN
㊵	GROUND	PRIMARY	5734	2'	0'	REMOVE
㊶	WINDSOCK	TRANSITION	5757	21'	21'	REMAIN
㊷	GROUND	PRIMARY	5734	1'	0'	REMOVE
㊸	LIGHT	TRANSITION	5783	0'	0'	REMAIN
㊹	POLE	HORIZONTAL	5909	26'	26'	REMAIN
㊺	POLE	CONICAL	5941	33'	33'	REMAIN
㊻	TREE	CONICAL	5944	36'	0'	REMOVE
㊼	POLE	CONICAL	5957	34'	34'	REMAIN
㊽	POLE	CONICAL	5963	21'	21'	REMAIN

ST. JOHNS INDUSTRAIL AIR PARK

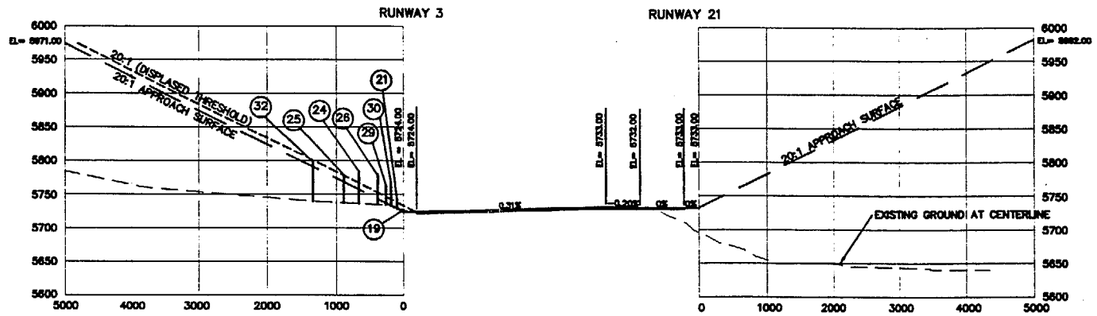
PART 77 AIRSPACE PLAN

ST. JOHNS, ARIZONA

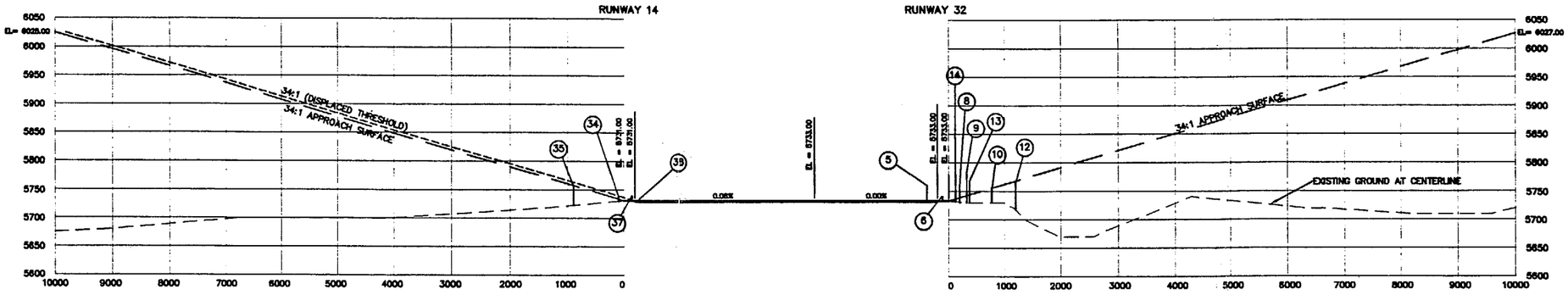
Stantech Consulting Inc.
7778 Pointe Parkway W. Suite 190
Phoenix, Arizona 85044 USA
Phone (602) 438-2200 Fax (602) 431-9562

PLANNED BY: PLANNING DEPT.
DRAWN BY: J.L. FAMBRUGH
DATE: JULY 30, 1996

SHEET 3/6 OF



RUNWAY 3-21 PROFILE



RUNWAY 14-32 PROFILE

GRAPHIC SCALE

1 inch = 1000 ft. (HORIZ)

1 inch = 100 ft. (VERT)

NOTE
SEE "PART 77 AIRSPACE PLAN" FOR HORIZONTAL LOCATION AND DESPOSITION (TYP)

STJ-APP.DWG

ST. JOHNS INDUSTRAIL AIR PARK

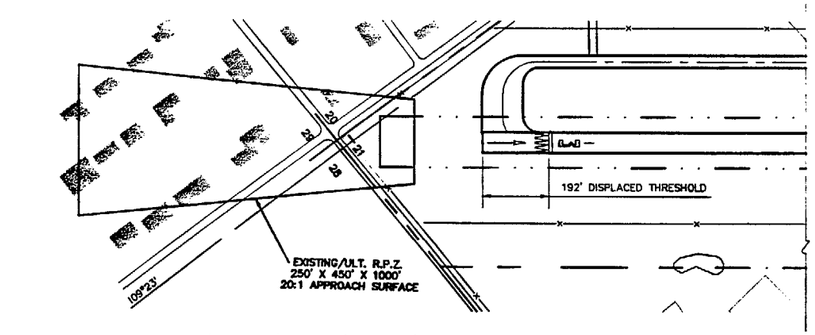
APPROACH ZONES PLAN

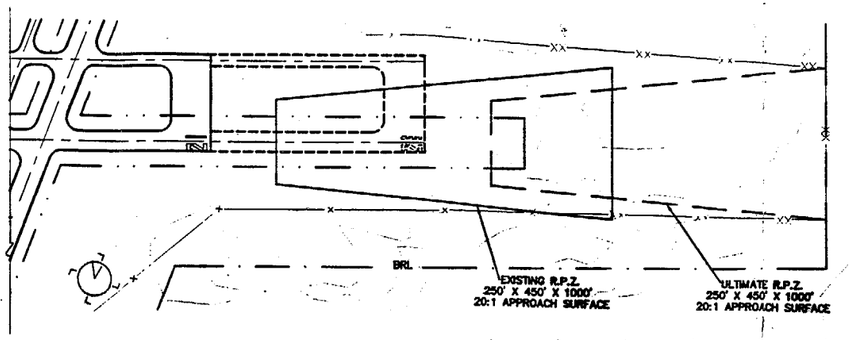
ST. JOHNS, ARIZONA

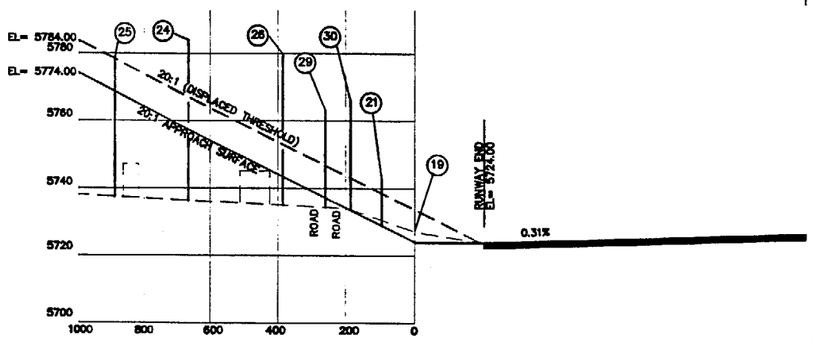
Stantech Consulting Inc.
7778 Pointe Parkway W, Suite 290
Phoenix, Arizona 85044-5741
Phone: (602) 438-2200 Fax: (602) 431-9562

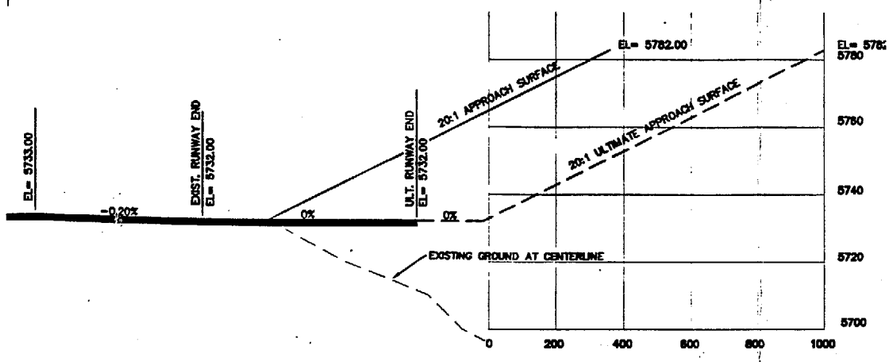
PLANNED BY: PLANNING DEPT.
DRAWN BY: J. FAINKUJEN
DATE: JULY 30,1998

SHEET 4/6 OF

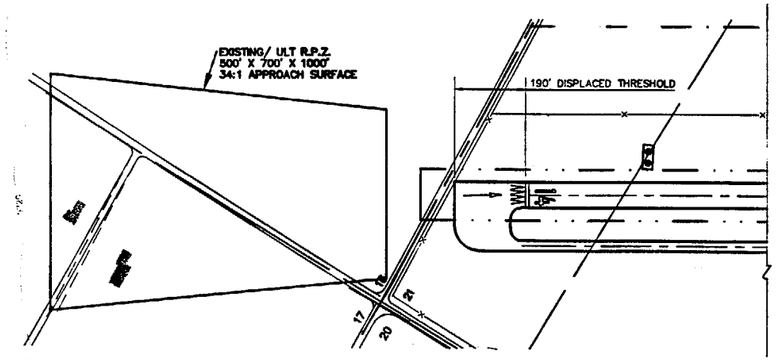


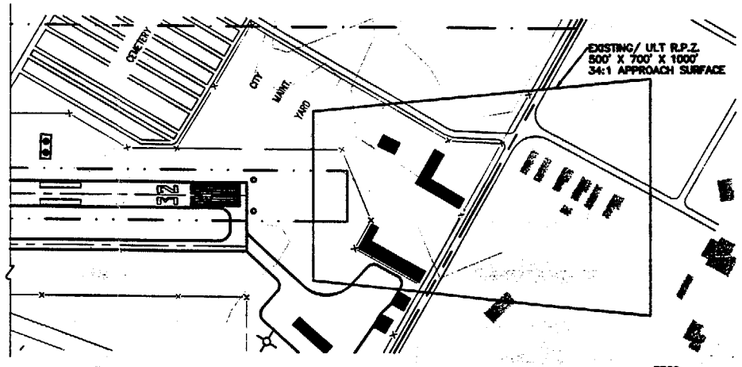


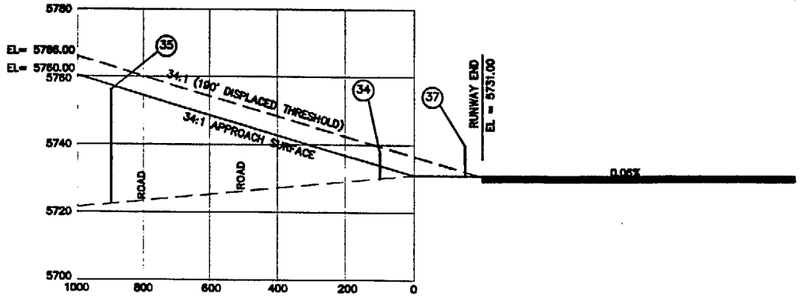


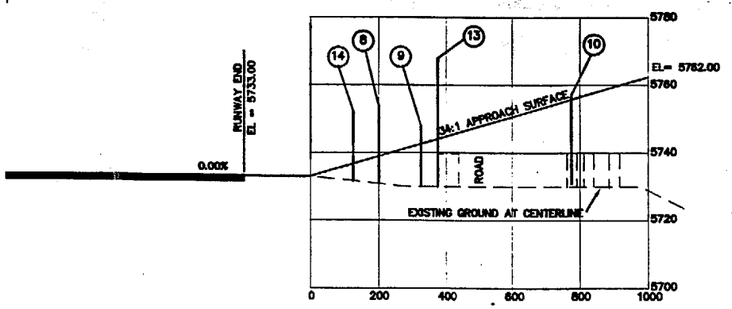


RUNWAY 3-21









RUNWAY 14-32

NOTE

REFER TO PART 77 AIRSPACE PLAN FOR OBSTRUCTIONS AND DISPOSITION

GRAPHIC SCALE

(IN FEET)
1 inch = 200 (HORIZ)

GRAPHIC SCALE

(IN FEET)
1 inch = 20 (VERT)

ST. JOHNS INDUSTRIAL AIR PARK

RUNWAY PROTECTION ZONES PLAN

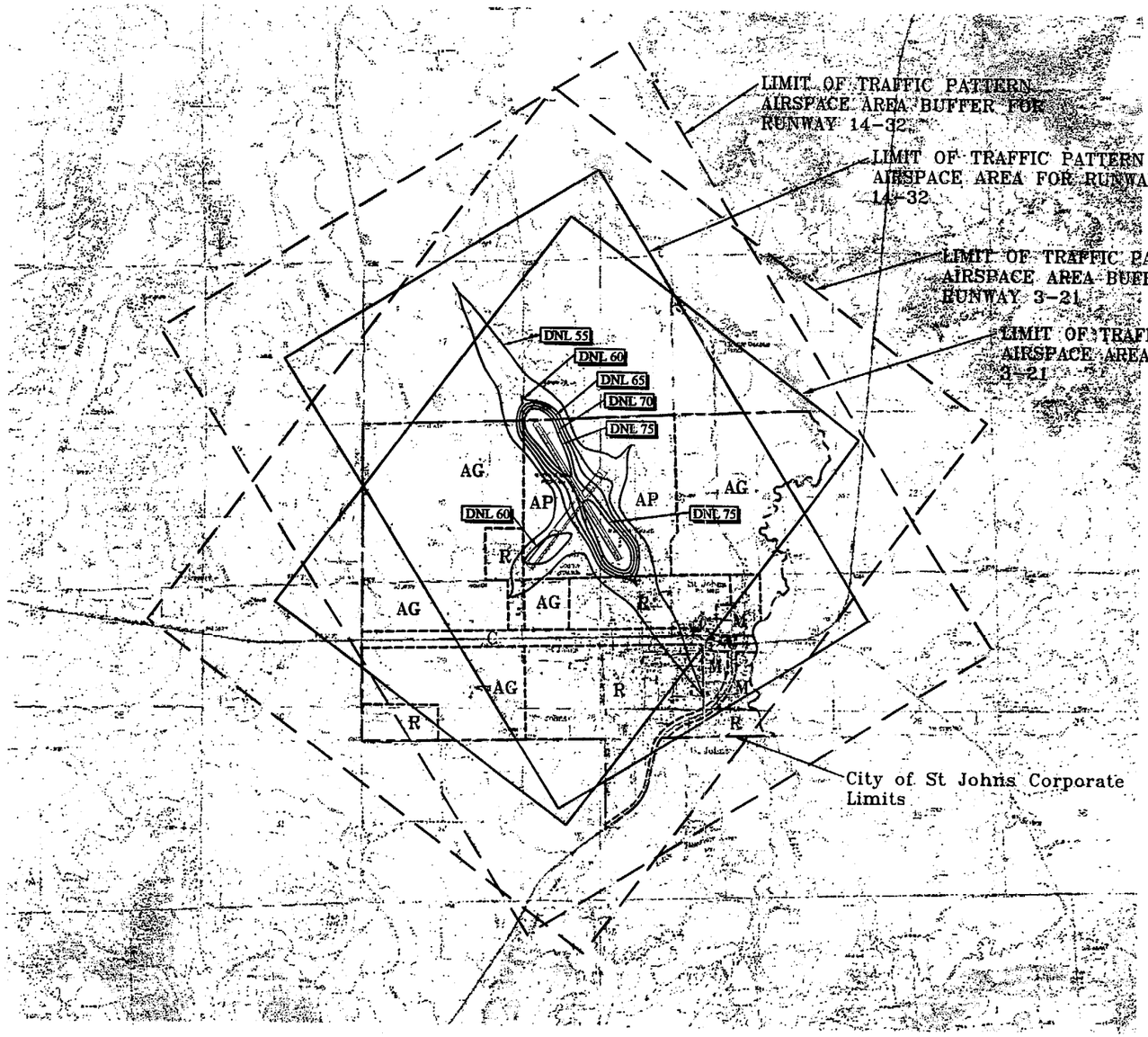
ST. JOHNS, ARIZONA

Stantech Consulting Inc.

PLANNED BY: PLANNING DEPT.
DRAWN BY: J.I. FARNGUEN
DATE: JULY 30, 1998

SHEET 5 OF 6

STJ-RPZ.DWG



LAND USE KEY

AP	AIRPORT (INCLUDING RECREATION AND INDUSTRIAL PARK)
AG	AGRICULTURAL
R	RESIDENTIAL
C	COMMERCIAL
M	MIXED USE (RESIDENTIAL/COMMERCIAL)
DNL 75	NOISE CONTOUR (2015)

N

GRAPHIC SCALE

(IN FEET)
1 inch = 1000 ft.

ST. JOHNS INDUSTRIAL AIR PARK

LAND USE / NOISE PLAN

ST. JOHNS, ARIZONA

Stantec Consulting Inc.

PLANNED BY: PLANNING DEPT.
DRAWN BY: J.L. / ARNOLDEN
DATE: JULY 30, 1998

SHEET 6 OF 6