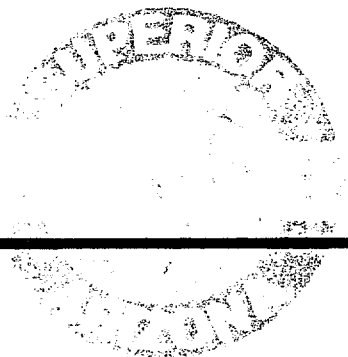


**SECTION 5**  
**ENVIRONMENTAL FACTORS**

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**SUPERIOR AIRPORT MASTER PLAN - 2001**



## SECTION 5: ENVIRONMENTAL FACTORS

### SUPERIOR AIRPORT MASTER PLAN - 2001

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#### INTRODUCTION

The National Environmental Policy Act (NEPA) requires that all new airport construction be evaluated in terms of possible environmental impacts. Thus, it is important in the Master Planning process to identify the environmental issues which may need to be addressed prior to airport development.

Federal actions fall into one of three categories:

- Categorical Exclusions;
- Actions normally requiring an Environmental Assessment (EA); and
- Actions normally requiring an Environmental Impact Statement (EIS).

In general terms, actions categorically excluded are those actions which are found to have no potential for significant environmental impact. The following items would normally be categorically excluded unless extraordinary circumstances are identified by the FAA which would create a requirement for an Environmental Assessment. ("Extraordinary circumstances" include opposition by federal, state or local government agencies, or by a significant number of persons who would be affected by the action, as well as any obvious circumstance which may indicate the potential for environmental impact.)

- Runway reconstruction or repair work where the runway's alignment, length, capacity and classification are not affected;
- Construction or repair of taxiways, aprons or loading ramps;
- Installation or upgrade of airfield lighting systems, including runway and taxiway edge lighting systems, runway end identifier lights (REIL), visual approach aids (VASI, PAPI), rotating beacons, and electrical distribution systems;
- Installation of miscellaneous items including segmented circles, wind or landing direction indicators, weather stations, and fencing;
- Construction or expansion of buildings and passenger handling facilities, including general aviation arrival/departure building and hangars;
- Construction, relocation or repair of entrance and service roads;
- Obstruction removal on airport property;

- Erosion control actions with no off-airport impacts;
- Landscaping or construction of airport jet blast and/or noise mitigation barriers, as well as projects to carry out noise compatibility programs;
- Land acquisitions and/or relocations associated with any of the above listed items.

Federal release of airport land, removal of a displaced threshold, airspace determinations, airport planning projects, noise compatibility programs, acquisition of security equipment required under 14 CFR Part 107 or safety equipment required under 14 CFR Part 139, acquisition of snow removal equipment, airport certifications, and preliminary or tentative engineering or design actions are also categorically excluded.

Actions normally requiring an Environmental Assessment are those which have been found by experience to sometimes have significant environmental impacts. Included actions are:

- Airport location or relocation (construction of a new airport);
- Construction of a new runway;
- Major runway extension;
- Runway strengthening which would result in a 1.5 Ldn or greater increase in noise over any noise sensitive area located within the 65 Ldn noise exposure contour;
- Entrance or service road development which would adversely affect the capacity of other public roads.
- Land acquisition associated with any of the above-listed items, or land acquisitions which result in relocation of residential units when there is evidence of insufficient replacement dwellings or major disruption of business activities;
- Land acquisition which involves land covered under Section 4(f) of the DOT Act (public owned land from a public park, recreation area or wildlife or waterfowl refuge, or a historical site of local state or national significance);
- Establishment or relocation of an instrument landing system, or an approach lighting system;
- Any action which would effect property included (or eligible for inclusion) on the National Register of Historic Places, property of state, local, or national historical, architectural, archeological, or cultural significance;
- Land acquisitions which involve significant conversion of farmland

Actions determined to have significant impacts during preparation of the Environmental Assessment will be required to be addressed by an Environmental Impact Statement (EIS).

The preparation of the Environmental Assessment is the responsibility of the airport sponsor. Based upon the results of the Environmental Assessment, the FAA would either prepare an Environmental Impact Statement (EIS) or would issue a "Finding Of No Significant Impact" (FONSI).

Federal regulations require that a sponsor seeking a grant for airport improvements must prepare and submit an Airport Layout Plan, showing detailed information regarding the existing and proposed facility, along with an Environmental Assessment prepared in accordance with FAA Order 5050.4, if an assessment is required.

### **PROBABLE ENVIRONMENTAL IMPACTS**

The areas of potential impact which must be addressed in an Environmental Assessment, per FAA Order 5050.4, are as follows:

- A. Noise
- B. Compatible Land Use
- C. Social Impacts
- D. Induced Socioeconomic Impacts
- E. Air Quality
- F. Water Quality
- G. Impacts upon Public Recreation Areas and Historical/Cultural Resources
- H. Biotic Communities - Flora and Fauna
- I. Endangered and Threatened Species of Flora and Fauna
- J. Wetlands
- K. Floodplains
- L. Coastal Zone Management Programs and Coastal Barriers
- M. Wild and Scenic Rivers
- N. Conversion of Farmland
- O. Energy Supply and Natural Resources
- P. Light Emissions
- Q. Solid Waste Impacts
- R. Construction Impacts
- S. Environmental Justice

Each of these areas of potential impact are discussed in the following narrative.

In February of 2001, in order to identify possible areas of environmental impact associated with the proposed program, a number of public agencies were contacted,

provided with review materials, and asked to provide input regarding their areas of jurisdiction. The contacted agencies included Federal, State, and County, and Tribal offices, as follows:

### Federal Agencies Contacted:

- Department of the Army - L.A. District Corps of Engineers \*
- U.S. Department of Agriculture, Natural Resources Conservation Service \*
- U.S. Bureau of Land Management
- U.S. Fish and Wildlife Service \*

### Arizona State Agencies Contacted:

- Arizona Game and Fish Department \*
- Arizona Department of Agriculture, Environmental Services Division \*
- Arizona Ecological Services Field Office
- Arizona State Land Department \*
- Arizona State Parks Department, Historical, Cultural, and Archeological Resources
- Arizona Commission of Agriculture and Horticulture
- Arizona Department of Environmental Quality, Office of Air Quality \*
- Arizona Department of Environmental Quality, Wastewater Construction and Federal Permits Unit
- Arizona Department of Environmental Quality, Office of Water Quality
- Arizona Department of Water Resources
- Division of Emergency Management \*

### Pinal County Agencies Contacted:

- Pinal County Floodplain Administrator
- Pinal County Air Quality Control Director
- Pinal County Flood Control
- Pinal County Parks & Recreation & Fairgrounds
- Pinal County Planning and Development
- Pinal County Solid Waste Director

*\* Indicates that a response was received.*

## **AIRCRAFT NOISE**

The "DNL" noise metric ("Day-Night Average Sound Level" - sometimes called "Ldn") is defined as the 24 hour average of an energy summation of A-weighted decibel levels (dbA), with night operations weighted by a 10 decibel penalty.

The Federal Aviation Administration defines 65 DNL as the threshold of significance for noise exposure impacts, and requires that the Integrated Noise Model (INM) version 6.0b computer program be used to define noise exposure levels.

The Department of Housing and Urban Development (HUD), has published noise abatement and control standards in its Circular 1390.2 in an effort to separate uncontrollable noise sources from residential and other noise sensitive areas, and to prohibit HUD support for construction within sites determined to have unfavorable noise exposure conditions. A rating of less than DNL 65 is considered acceptable for residential development. DNL 65 to 75 is defined as discretionary and a rating of more than DNL 75 is considered unacceptable for residential development.

A noise analysis is not required by the Federal Aviation Administration for airport proposals which involve utility or transport airports whose forecast annual operations within the period covered by an Environmental Assessment do not exceed 90,000 annual propeller operations or 700 jet operations. According to the forecasts developed in Section 2, propeller activity will remain below this threshold level during the period under study.

The INM noise modeling undertaken for this study was limited to modeling of the ultimate forecast conditions for the planning horizon year of 2025. For the purposes of this analysis, the following assumptions were made:

- ▶ **Model Configurations:**

For the year 2025 model, the proposed layout for the "Site 11" Runway 4/22 configuration was used. It was assumed that Runway 4/22 has been constructed to its ultimate length of 5,100 feet.

- ▶ **Aircraft Activity:**

Aircraft activity for 2025 is based on the projections from Model 2: New Airport Site Near Florence Junction (Section 2, page 2-17).

The average peak daily operations for this ultimate scenario model is 110 operations, as determined in Section 2 (page 2-27).

- ▶ **Runway Use:**  
Runway use distribution was assumed to be equally distributed between Runways 4 and 22.
- ▶ **Departure and Arrival Tracks (Traffic Patterns):**  
Landing tracks were based on approximate standard traffic patterns for uncontrolled airfields, with standard 45° entries to the downwind leg at midfield position.

Departure tracks were modeled to consider departures from the airport traffic area in all directions, with initial climb to a safe altitude occurring prior to any turns, in conformance with standard acceptable procedures.

Both runways were assumed to have left traffic patterns.

- ▶ **Aircraft Fleet Mix:**  
Standard INM aircraft models were selected to represent each of the fixed wing categories that may use the new airport. The fleet mix percentages were selected to roughly conform to the FAA's 1994 records of total hours flown by the U.S. general aviation fleet, as follows:

Aircraft Type	Hours flown	%	Comments	Adjusted Mix
Fixed-Wing Piston	18,700,000	81.3%	---	83.0%
Jet and Turboprop	2,400,000	10.5%	---	17.0%
Piston Rotorcraft	400,000	1.7%	(included as Fixed-Wing Piston)	---
Turbine Rotorcraft	1,500,000	6.5%	(included as Jet and Turboprop)	---

The INM does not provide for rotorcraft operations or types. Therefore, fixed wing types were assumed to represent the rotorcraft and it was assumed that they will use the fixed-wing traffic patterns (this provides a more conservative result).

The Fixed-Wing Piston and Jet and Turboprop categories were subdivided into four different INM aircraft models, as follows:

Aircraft Type	INM Model	Represents	%
Fixed-Wing Piston	COMSEP	Composite (typical) single-engine piston aircraft.	63%
	BEC58P	Beechcraft Baron 58P twin-engine piston aircraft.	20%
Jet and Turboprop	COMJET	Composite (typical) business jet aircraft.	9%
	DHC-6	DeHavilland DHC-6 turboprop	8%

It was assumed that daylight activity will account for 80% of total operations, evening activity will account for 15%, and operations at night will account for the remaining 5%.

It was assumed that arrivals are always equal to departures.

The table on the following page summarizes the input data used for the INM model, as presented above.

The resulting 65 DNL noise contour for the year 2025 is illustrated in Figure 5-1 at the end of this report.

Adequate land use zoning should be implemented within the 65 DNL noise contour in order to prevent future residential or other noise sensitive development.

**Comments by Jurisdictional Agencies:**

No comments regarding Aircraft Noise were received by the agencies contacted.



**SUMMARY OF INM v6.0b INPUT PARAMETERS**  
**Superior Airport Noise Exposure Analysis**

Aircraft Activity		2025	
Aircraft Activity (Annual)		35615	
Peak Daily Operations		110	
Runway Use Distribution - 2025	RWY 4	RWY 22	
Approaches - Total Landing Operations	50%	50%	
Departures - Total takeoff Operations	50%	50%	
Fleet Mix Distribution		2016	
Single Engine Piston (COMSEP)		63%	
Multi Engine Piston (BEC58P)		20%	
Large Business Jet (COMJET)		9%	
Small Turboprop (DHC6)		8%	
Day/Evening/Night Mix	Day	Evening	Night
Year 2025	80%	15%	5%

### COMPATIBLE LAND USE

Land-use compatibility conflicts are a common problem around many airports and smaller General Aviation facilities. In urban areas, as well as some rural settings, airport owners find that essential expansion to meet the demands of airport traffic is difficult to achieve due to the nearby development of incompatible land uses.

The issue of aircraft noise is generally the most apparent perceived environmental impact upon the surrounding community.

Conflicts may also exist in the protection of runway approach and transition zones to assure the safety of both the flying public and the adjacent property owners. Adequate land for this use should be either withdrawn specifically for airport use or controlled in easements, as is recommended in this Master Plan.

The Airport Environmental Handbook states that an Environmental Assessment shall document *"the required sponsors assurance under section 511(a)(5) of the 1982 Airport Act that appropriate action, including the adoption of zoning laws, has been or will be taken, to the extent reasonable to restrict the use of land adjacent to or in the immediate vicinity of the airport to activities and purposes compatible with normal airport operations, including landing and takeoff of aircraft. The assurance must be related to existing and planned land uses"*. (Page 31, paragraph 2b). Ideally, Pinal County should undertake a land use study with an ultimate objective to create additional land use controls to reduce the potential for impact to future residential areas.

There are several sources of information available for the planning and implementation of land use controls. These are:

1. The Arizona Airports Land Use Compatibility Study, Volume V of the Arizona Aviation System Plan (December 1992), prepared by the Arizona Department of Transportation, Aeronautics Division.
2. Appendix A, Federal Aviation Regulations (FAR), Part 150.
3. FAA Advisory Circular 150/5050-6, Airport-Land Use Compatibility Planning.
4. FAA Advisory Circular 150/5020-1, Noise Control and Compatibility Planning for Airports.
5. FAA Advisory Circular 150/5190-4A, A Model Zoning Ordinance to Limit Height of Objects Around Airports.

As a minimum, the airport-related ordinances that should be considered for land use control are:

- Height hazard ordinances
- Noise ordinances
- Land use ordinances

**Comments by Jurisdictional Agencies:**

No comments regarding Compatible Land Use were received by the agencies contacted.

### SOCIAL IMPACTS

These are impacts which arise from the disruption of communities, relocation of persons, changes in employment patterns and changes in transportation patterns.

The selected development alternate (Site #11) consists of construction of a new airport in an area that is currently undeveloped. No disruption of existing communities, relocation of persons, changes in employment pattern, or changes in transportation patterns are anticipated by the proposed development.

No significant Social Impacts are indicated. However, because the proposed airport will be located in an area that may experience rapid development in the near future, it is recommended that Pinal County begin area land use planning that will allow for orderly development around and near the new airport.

**Comments by Jurisdictional Agencies:**

No comments by jurisdictional agencies were received regarding Social Impacts.

### INDUCED SOCIOECONOMIC IMPACTS

These secondary or indirect impacts involve shifts in population, changes in economic climate, or shifts in levels of public service demand. The effects are directly proportional to the scope of the project under consideration.

As noted above, the new airport will be located in an area that is currently undeveloped. While the airport will not itself cause any shifts in population, changes in economic climate, or shifts in levels of public service demand, it will play a part in defining the character of the area as the metropolitan area continues to expand into the currently undeveloped area.

### Comments by Jurisdictional Agencies:

No comments by jurisdictional agencies were received regarding Socioeconomic Impacts.

### AIR QUALITY

The Federal Aviation Administration, through FAA Order 5050.4A, Airport Environmental Handbook, includes an established procedure which is followed in order to determine whether an air quality analysis is necessary for a proposed airport development action.

The initial step in this process is to determine whether the anticipated project involves airport location, runway development or other physical airside and/or landside improvements which increase airport capacity.

Assuming that the increase in activity shown in the forecasts might indicate a potential for increased impacts to air quality, the next step in the process is the determination of whether or not the airport is within a state within direct source review (ISR)

The state of Arizona is not an ISR state. This being the case, the threshold criteria contained in the FAA Airport Environmental Handbook must be examined in order to determine if an assessment of air quality is required. According to the Handbook, no air quality analysis is required if the levels of activity forecast in the time frame of the proposed action are below either of the following.

- For commercial service airports: Less than 1.3 million annual passenger and less than 180,000 annual general aviation operations.
- For general aviation airports: Less than 180,000 forecast annual operations.

For the planning year 2025, the total annual operations forecast for the airport is approximately 35,600 operations. It is evident from this that neither of these criteria will be exceeded. An air quality assessment should not be required.

The 1982 Airport Act requires that Airport Improvement Program applications for projects involving airport location, runway location, or a major runway extension shall not be approved unless the governor of the state in which the project is located certifies that there is "reasonable assurance" that the project will be located, designed, constructed and operated in compliance with applicable air quality standards. The proposed airport development will require preparation of an Environmental Assessment (EA). The EA process will include review by appropriate state agencies, concluding with

an air quality certification from the governor's office.

**Comments by Jurisdictional Agencies:**

The Arizona Department of Environmental Quality (ADEQ) has indicated that the proposed project is not located within an Arizona nonattainment area, pursuant to Section 107 of the Clean Air Act. Therefore, there are no State Implementation Plan requirements for specific control measures with respect to air quality. The ADEQ has also provided general guidance regarding the control of particulates (dust) during construction (see also the section entitled Construction Impacts, below). ADEQ's comments regarding Air Quality are contained in Exhibit D, at the end of this section.

**WATER QUALITY**

The 1982 Airport Act also requires that Federal Airport Improvement Program (AIP) applications for projects involving airport location, runway location, or a major runway extension shall not be approved unless the governor of the state in which the project is located certifies that there is "reasonable assurance" that the project will be located, designed, constructed, and operated in compliance with all applicable water quality standards. As with the air quality assurance for the proposed runway extension, this certification should be applied for as part of an EA process, through the Arizona Department of Environmental Quality (ADEQ).

The Airport Environmental Handbook states that any Environmental Assessment required for an airport activity shall include descriptions of design, mitigation measures and construction controls to indicate that any water quality standards and permit requirements are met on a Federal, State, and/or local level. This stipulation can apply to storm and sanitary sewers, water supply and waste treatment, erosion controls, fuel spill containing, and drainage design. This Master Plan does include the installation of a water and sanitary sewer system to serve the airport.

A storm water permit must be applied for through ADEQ prior to commencement of construction activities if clearing, grubbing and excavation activities disturb more than five acres of land. Grading of less than five acres will also be required to be permitted if it is part of a larger development plan.

If construction activities involve channelization or earthmoving within a "Water of the United States", a 404 permit will need to be obtained from the U.S. Army Corps of Engineers prior to commencement of construction.

Potential short-term impacts to water quality caused by construction activity (erosion

and sediment transport) must be addressed for each construction project in specifications (see also the section entitled Construction Impacts, below).

### Comments by Jurisdictional Agencies:

The Department of the Army, Los Angeles District Corps of Engineers has commented that a Section 404 Permit may be required for some of the proposed airport improvements recommended in this Master Plan (see Exhibit A at the end of this section).

### IMPACTS UPON PUBLIC RECREATION AREAS AND HISTORICAL/CULTURAL RESOURCES

Section 4(f) of the DOT Act states that the "*Secretary shall not approve any program or project which requires the use of any publicly owned land from a public park, recreation area, or wildlife and waterfowl refuge of national, state or local significance as determined by officials having jurisdiction thereof unless there is no feasible and prudent alternative to the use of such land and such program or project includes all possible planning to minimize harm resulting from the use.*"

The proposed improvements will have no significant impacts upon existing parks, established waterfowl/wildlife refuges or recreation areas.

An Archaeological Survey should be included as part of the Environmental Assessment for the project.

### Comments by Jurisdictional Agencies:

No comments by jurisdictional agencies were received regarding Impacts Upon Recreation Areas and Historical/Cultural Resources.

### BIOTIC COMMUNITIES - FLORA AND FAUNA

This section considers the impacts of proposed projects on biotic communities and has overlapping requirements with the next two sections (Threatened and Endangered Species and Wetlands). The requirements of this section are as follows:

1. If a proposed project takes or impacts a publicly-owned wildlife refuge, a special study needs to be prepared.

This requirement does not apply to this proposal.

2. For any proposed project it is necessary to consider the impacts on endangered and threatened species, if any (refer to the section entitled Threatened and Endangered Species, below).
3. If the proposed project would affect water resources (i.e., wetlands, groundwater, impoundment, diversion, deepening, controlling, modifying, polluting, dredging, or filling of any stream or body of water), the Fish and Wildlife Coordination Act applies. Consultation should be initiated with both the U.S. Fish and Wildlife Service and with the Arizona Game and Fish Department. Letters should be sought and obtained from both agencies to determine if any proposed actions will damage wildlife resources and to determine mitigating measures, if necessary. (Refer to the section entitled Wetlands, below).

The Airport Environmental Handbook states (Page 42 - Section 9d1): "If the proposal would impact only man-dominated areas such as previously disturbed airport property, populated areas, or farmland, it may be assumed that there would be no significant impact on biotic communities." Section 9d2 states that if the project "would impact other than man-dominated areas but the impacts would be transient rather than permanent, such as dislocation or other impacts due to construction activities, it may be assumed that there would be no significant impact on biotic communities. The environmental assessment shall document the transient nature of the impacts and any mitigation measure."

It is recommended that the subject of potential impacts to biotic communities be addressed in the Environmental Assessment, which should include a Biological Assessment Study. The proposed construction activities (specifically grading) may also have some level of transient impact.

**Comments by Jurisdictional Agencies:**

(Refer to the section entitled Threatened and Endangered Species, below, for comments on protected species impacts).

(Refer to the section entitled Wetlands, below, for comments on potential impacts to wetlands).

**THREATENED AND ENDANGERED SPECIES**

It is necessary for any proposed project to consider the impacts on Threatened and Endangered Species. An "Endangered Species" is defined as any member of the animal or plant kingdom determined to be in danger of extinction throughout all or a significant portion of its range.

A "Threatened Species" is defined as any member of the plant or animal kingdom which are likely to become endangered in the foreseeable future.

It is not known whether any protected species occur at the proposed project site. Therefore, it is recommended that the subject of potential impacts to biotic communities be addressed in the Environmental Assessment, which should include a Biological Assessment Study (as recommended above), as well as an Arizona Native Plants Site Examination Survey.

The proposed construction activities (specifically grading) may also have some level of transient impact.

### Comments by Jurisdictional Agencies:

The Arizona Department of Agriculture, Environmental Services Division has provided general recommendations regarding protection of Arizona Native Plants that may exist on the project site, and have also requested that a Site Examination Survey be conducted (see Exhibit B at the end of this section).

The U.S. Fish and Wildlife Service has provided guidance on statutory requirements relating to required permits and protected species. The Service has also provided a list of endangered, threatened, proposed, and candidate species potentially occurring anywhere in Pinal County. A copy of Guidance for Private Landowners Concerning the Cactus Ferruginous Pygmy Owl was provided along with the protected species list. Site specific biological surveys were suggested (see Exhibit H at the end of this section for detailed information and comments by the U.S. Fish and Wildlife Service).

The Arizona Game and Fish Department has commented that construction on the selected site would result in some loss of existing wildlife habitat due to the construction of the recommended improvements, and that wildlife accessibility to the remainder of the site would be limited when the property is fenced. The Department has recommended that the perimeter fence be constructed to allow continued wildlife access to the Mormon Tank. In response to this recommendation, the proposed airport property acquisition line was adjusted such that the Mormon Tank will remain outside the proposed airport perimeter fence. The Department has also identified two specific special status species that may be impacted by the proposed development. These are the Sonoran desert tortoise, a Wildlife Species of Special Concern in Arizona, and the cactus ferruginous pygmy owl, an Endangered Species. The Department has recommended implementing their Guidelines for Handling Sonoran Desert Tortoises Encountered on Development Projects to minimize construction related impacts, and the U.S. Fish and Wildlife Service's Guidance for Private Landowners Concerning the Cactus Ferruginous Pygmy Owl (see attachment to Exhibit H) to minimize impacts to the pygmy owl (see



Exhibit F at the end of this section for detailed information and comments by the Arizona Game and Fish Department).

### WETLANDS

Wetlands are defined in Executive Order 11990, "Protection of Wetlands", as "those areas that are inundated by surface or ground water with a frequency sufficient to support, and under normal circumstances does or would support, a prevalence of vegetation or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands generally include swamps, marshes, bogs, and similar areas such as sloughs, potholes, wet meadows, river overflows, and natural ponds."

Visual observation of the project area indicated that there are no apparent wetlands that would be disturbed by the proposed development. The National Wetlands Inventory (NWI) Internet mapping database was also consulted. The NWI maps indicate that no data is available for the project area.

#### Comments by Jurisdictional Agencies:

The U.S. Department of Agriculture, Natural Resources Conservation Service has indicated that the proposed development would not directly affect wetland areas associated with agriculture (see Exhibit C at the end of this section).

### FLOODPLAINS

Floodplains are defined by Executive Order 11988, Floodplain Management, as the lowland and relatively flat areas adjoining coastal water "...including a minimum, that area subject to a one percent or greater chance of flooding in any given year...", that is, an area which would be inundated by a 100-year flood. If a proposed development involves a 100 year floodplain, mitigating measures must be investigated in order to avoid significant changes to the drainage system.

The National Flood Insurance Program's Flood Insurance Rate Maps (FIRM) for the site area indicate that the proposed development is not located within a floodplain. Therefore, no significant impacts are anticipated.

#### Comments by Jurisdictional Agencies:

The State of Arizona Division of Emergency Management has indicated that there are numerous washes running through the project area, and that a floodplain delineation will be required prior to development (see Exhibit I at the end of this section).

## COASTAL ZONE MANAGEMENT PROGRAMS AND COASTAL BARRIERS

The Airport Environmental Handbook states (page 53, Section 14a), "*The Coastal Barriers Resources Act of 1982...prohibits...Federal financial assistance for development within the Coastal Barrier Resources System which consists of undeveloped coastal barriers along the Atlantic and Gulf Coasts*".

The project area is not located within the Coastal Barrier Resource System.

## WILD AND SCENIC RIVERS

The Wild and Scenic Rivers Act describes those river areas eligible for protection from development. As a general rule these rivers possess outstanding scenic, recreational, geological, fish and wildlife, historical, cultural, or other similar value. There are no Wild and Scenic Rivers located in the vicinity of the proposed airport.

### Comments by Jurisdictional Agencies:

No comments by jurisdictional agencies were received regarding Wild and Scenic Rivers.

## CONVERSION OF FARMLAND

The Farmland Protection Policy Act (FPPA) authorizes the U.S. Department of Agriculture to develop criteria for identifying the effects of Federal programs upon the conversion of farmland to uses other than agriculture.

The project site is located in an area of undeveloped State Trust Land. The proposed actions included in this Master Plan will not affect any existing farmland.

### Comments by Jurisdictional Agencies:

The United States Department of Agriculture, Natural Resources Conservation Service has indicated that the proposed airport improvements are exempt from the requirements of the FPPA (See Exhibit C at the end of this section).

## ENERGY SUPPLY AND NATURAL RESOURCES

For most general aviation and non-hub air carrier airport actions, changes in energy

demands or other natural resource consumption will not result in significant impacts. This is the case for the proposed airport development.

As noted above, the new airport will be located in an area that is currently undeveloped, but is an area that will probably experience rapid development as the metropolitan area continues to expand into the currently undeveloped area. While the airport will not itself cause any significant changes in existing demands upon energy supply and natural resources, it will be a contributor to increased demand as the area develops.

### Comments by Jurisdictional Agencies:

No comments by jurisdictional agencies were received regarding Energy Supply and Natural Resources.

## LIGHT EMISSIONS

Aviation lighting required for the purpose of obstruction marking, security of parked aircraft and vehicles, and visual aids to navigation are the main source of light emissions emanating from airports. An analysis is necessary only if a proposal would introduce new airport lighting facilities which might affect nearby residential or other sensitive land uses.

The Airport Environmental Handbook states that establishment of an Instrument Landing System (ILS) or Approach Lighting System (ALS) is an action normally requiring environmental assessment. The Master Plan for the new facility has not programmed an ILS or ALS.

The proposed airport will be constructed in a presently undeveloped area. However, as has been stressed in the foregoing narrative, the area will most probably experience rapid development as the metropolitan area continues to expand.

### Comments by Jurisdictional Agencies:

No comments by jurisdictional agencies were received regarding Light Emissions.

## SOLID WASTE IMPACTS

Airport development actions which relate only to construction or expansion of runways, taxiways, and related facilities do not normally include any direct relationship to solid waste collection, control, or disposal. All of the "airside" improvements proposed for the proposed airport fit into this category. Therefore, no significant impacts to solid waste generation are anticipated.

Any solid waste disposal facility (i.e., sanitary landfill, transfer station, etc.) which is located within 5,000 feet of all runways planned to be used by piston-powered aircraft, or within 10,000 feet of all runways planned to be used by turbine-powered aircraft is considered by the FAA to be an incompatible land use because of the potential for conflicts between bird habitat and low-flying aircraft. Any waste disposal facility which is located within a 5 mile radius of any runway end "*that attracts or sustains hazardous bird movements from feeding, water or roosting areas into, or across the runways and/or approach and departure patterns of aircraft*" is also considered to be incompatible. This determination is contained in paragraph 5 of FAA Order 5200.5A, FAA Guidance Concerning Sanitary Landfills On or Near Airports.

Reference to this potential hazard is also made in 40 CFR Part 257, Criteria for Classification of Solid Waste Disposal Facilities, section 257.3-8.

There are no existing or planned solid waste disposal sites within 10,000 feet of the proposed runway. Future areawide land use planning should address this issue in order to ensure that new disposal sites will not be developed within the airport influence area.

### Comments by Jurisdictional Agencies:

No comments by jurisdictional agencies were received regarding Solid Waste Impacts.

## CONSTRUCTION IMPACTS

Any construction project will generate short-term (transient) environmental impacts. These may include noise and air pollution (dust and exhaust emissions) from construction equipment on the site and traversing nearby neighborhoods, air pollution from burning of refuse, and water pollution from erosion and increased siltation of downstream bodies of water.

These potential impacts can be controlled by requirements and restrictions placed in the Contract Documents and Specifications for each project.

Potential erosion and siltation should be mitigated by incorporation of applicable federal and state standards into the construction contract specifications. Typically, this involves creation and implementation of a Storm Water Pollution Prevention Plan (SWPPP).

As a method of minimizing noise and air pollution caused by construction equipment, the contractor's equipment access be routed to avoid the most sensitive adjacent areas and to contain the adverse impacts as much as possible to the airport property.

The access routes and limitations should be defined on the construction plans and in the specifications, as appropriate.

Dust pollution should be specifically mitigated by requiring appropriate dust control measures as part of the construction specifications.

Coordination with the Arizona Department of Environmental Quality may be necessary during the development of construction plans and during the construction activities.

Improvements involving excavation could uncover archaeological, cultural or human skeletal remains. It is recommended that any set of contract documents and specifications include a provision for the contractor to stop work and to contact the State Historic Preservation Office in the event of a potential archeological, cultural or skeletal discovery.

If construction activities involve channelization or earthmoving within a "Water of the United States", a 404 permit will need to be obtained from the U.S. Army Corps of Engineers prior to commencement of construction.

### Comments by Jurisdictional Agencies:

The Arizona Department of Environmental Quality (ADEQ) has provided general guidance regarding the control of particulates (dust) during construction (see Exhibit D, at the end of this section).

The Department of the Army, Los Angeles District Corps of Engineers has commented that a Section 404 Permit may be required for some of the proposed airport improvements recommended in this Master Plan (see Exhibit A, at the end of this section).

The U.S. Fish and Wildlife Service and the Arizona Game and Fish Department have provided guidance regarding handling of protected species that may be encountered during development (see Exhibit G and H at the end of this section).

## SUMMARY OF FINDINGS

The proposed development of a new regional airport facility will require preparation of an Environmental Assessment (EA) and issuance of a FONSI. The EA for this project should address all applicable items listed in FAA Order 5050.4. Areas that may present the potential for significant impacts are as follows:

- Aircraft Noise and Compatible Land Use. Pinal County should enact airport-related

ordinances to control the use of land surrounding the airport, as part of areawide land use planning in anticipation of rapid development of the project area. Adequate land use zoning should be implemented to ensure that noise sensitive development may not occur within the 65 LDN noise contour area.

- Impacts Upon Public Recreation Areas and Historical/Cultural Resources. An archaeological survey should be conducted as a part of the EA.
- Biotic Communities - Flora and Fauna and Threatened and Endangered Species. A biological assessment and Arizona Native Plant Survey should be conducted as a part of the EA.
- Wetlands, Water Quality, and Construction Impacts. A permit issued under Section 404 of the Clean Water Act may be necessary for any discharge of dredged or fill materials into the "waters of the United States", including adjacent wetlands. Activities that require a Section 404 permit include placing bank protection, temporary or permanent stockpiling of excavated material, grading roads, grading (including vegetative clearing operations) that involves the filling of low areas or leveling of land, constructing weirs or diversion dikes, constructing approach fills, and discharging dredged or fill material as a part of any other activity.
- Air Quality and Construction Impacts. The ADEQ has provided recommendations regarding mitigation practices to be implemented during construction activities. These should be included as part of the construction contract documents.

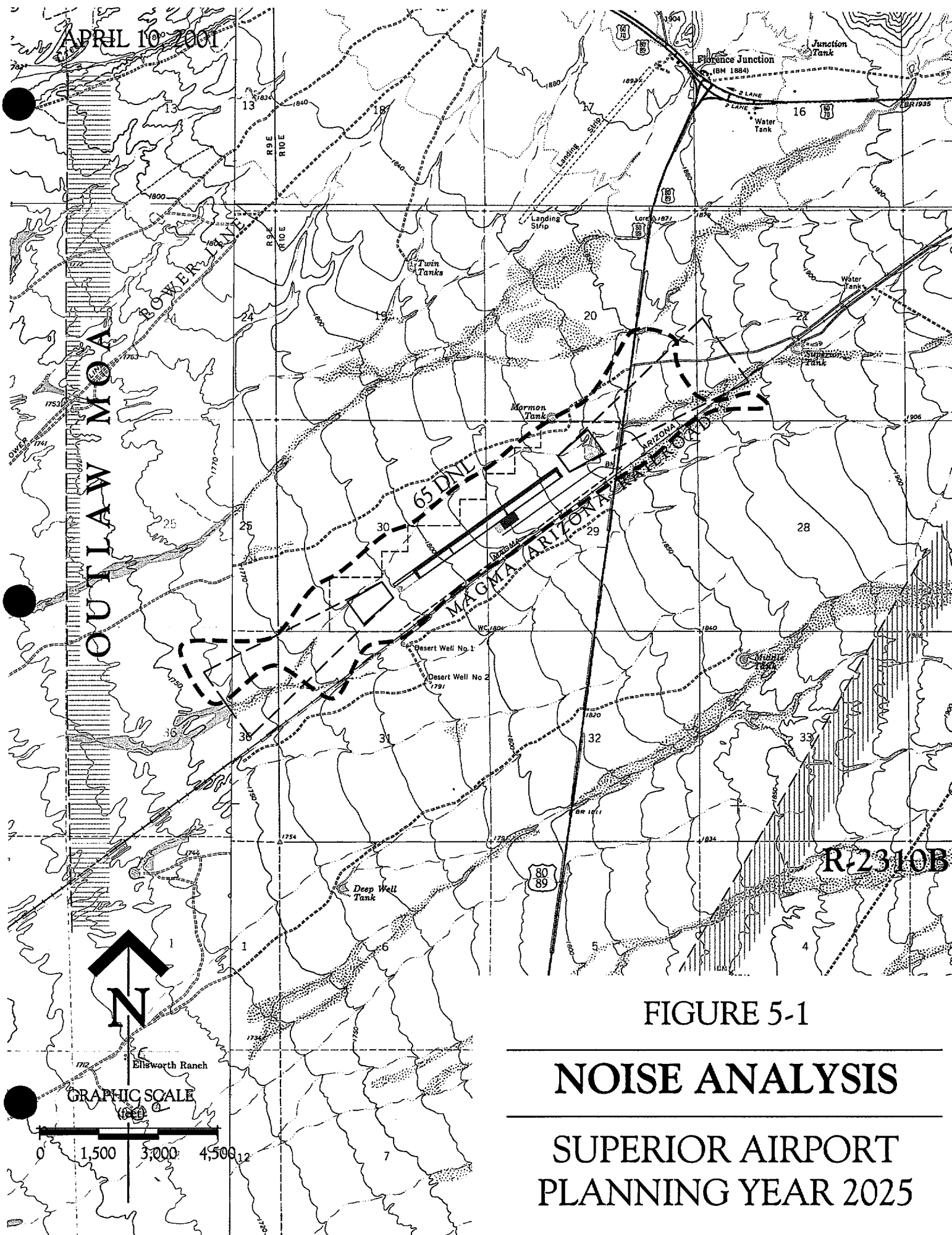


FIGURE 5-1

# NOISE ANALYSIS

## SUPERIOR AIRPORT PLANNING YEAR 2025



DEPARTMENT OF THE ARMY  
LOS ANGELES DISTRICT, CORPS OF ENGINEERS  
ARIZONA-NEVADA AREA OFFICE  
3636 NORTH CENTRAL AVENUE, SUITE 760  
PHOENIX, ARIZONA 85012-1936

EXHIBIT A

February 28, 2001

REPLY TO

Office of the Chief  
Regulatory Branch

Mr. Nicholas J. Pela  
Senior Airport Planner  
Gannett Fleming, Inc.  
3001 E. Camelback Road, Suite 130  
Phoenix, Arizona 85016-4498

File Number: 2001-00645-EHB

Dear Mr. Pela:

It has come to our attention that you are preparing an Airport Master Plan for the future development of projects proposed for the Town of Superior at Sections 29 and 30, T2S, R10E, Pinal County, Arizona.

This activity may require a Department of the Army permit issued under Section 404 of the Clean Water Act. A Section 404 permit is required for the discharge of dredged or fill material into the "waters of the United States," including adjacent wetlands. Examples of activities requiring a permit are placing bank protection, temporary or permanent stock-piling of excavated material, grading roads, grading (including vegetative clearing operations) that involves the filling of low areas or leveling the land, constructing weirs or diversion dikes, constructing approach fills, and discharging dredged or fill material as part of any other activity.

Enclosed you will find a permit application form and a pamphlet that describes our regulatory program. If you have questions, please contact Elizabeth H. Brooks at (602) 640-5385 x 223. Please refer to file number 2001-00645-EHB in your reply.

Sincerely,

Cindy Lester  
Chief, Arizona Section  
Regulatory Branch

Enclosure(s)



SHELDON R. JONES  
Director



JACK PETERSON  
Associate Director

# Arizona Department of Agriculture

1688 West Adams, Phoenix, Arizona 85007  
(602) 542-3578 FAX (602) 542-0466

ENVIRONMENTAL SERVICES DIVISION

**EXHIBIT B**

March 7, 2001

Mr. Nicholas J. Pela  
Gannett Fleming  
3001 E. Camelback Road, Suite 130

Re: Superior Municipal Airport

Dear Mr. Pela:

The Arizona Department of Agriculture has reviewed the referenced project.

The Department recommends avoiding or transplanting protected native plants that may be adversely impacted by the project. If this is not possible, then we recommend the landowner allow the plants to be commercially salvaged. If the plants are allowed to be salvaged, the Department will notify professional salvagers with site information and issue plant removal permits.

In addition, the following general recommendations are suggested:

- Minimize the removal of existing vegetation within the project areas to the greatest extent possible.
- Salvage or transplant (as stated above) protected plants including mature trees and cacti.

If it is not known if protected plants occur within the project sites, the Department, upon written request, will conduct a site examination survey to determine the type and number of protected plants present. The applicant will be billed for the service. The Department will also accept survey data from other competent sources.

We appreciate the opportunity to review the proposed action. If you need additional information, please contact me at 602/364-0907, or e-mail at [jim.mcginnis.agric.state.az.us](mailto:jim.mcginnis.agric.state.az.us).

Sincerely,

A handwritten signature in dark ink, appearing to read "J. McGinnis", is written over a horizontal line.

James McGinnis, ASPS, CPO  
Native Plant Protection



EXHIBIT C

United States  
Department of  
Agriculture

Natural  
Resources  
Conservation  
Service

3003 N. Central Ave.  
Suite 800  
Phoenix, AZ  
85012-2495

Mr. Nicholas J. Pela  
Senior Airport Planner  
Gannett Fleming, Inc.  
3001 East Camelback Road, Suite 130  
Phoenix, Arizona 85016-4498

March 9, 2001

Dear Mr. Pela:

This response is in regard to letters dated February 5 and 23, 2001 concerning the proposed Ganado Airport Master Plan (Job # 37883) and Superior Airport Master Plan (Job # 37776) in Ganado and Superior, Arizona, respectively.

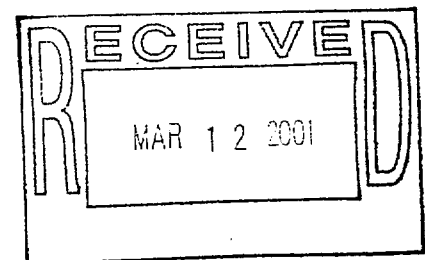
The Natural Resources Conservation Service (NRCS) has general responsibility, nationwide, for implementing the Farmland Protection Policy Act (FPPA) and to review projects that may affect prime, unique, statewide or locally important farmland and/or wetlands associated with agriculture. After reviewing the information provided, the following is noted:

- 1- The proposed new projects if implemented as planned, are exempt from the requirements of the FPPA - as revised in 1994, that excludes land which is already in or is committed to urban development, currently used as water storage, or land that is not prime or unique farmland.
- 2- We do not see any immediate concerns or impacts that would directly affect wetland areas associated with agriculture.

Should you have questions, please feel free contact Jeff Schmidt, Community Assistance Coordinator at 602.280.8818. Thank you again for the chance to review the proposed projects.

Sincerely,

MICHAEL SOMERVILLE  
State Conservationist



cc:

Jim Briggs, Assistant State Conservationist, NRCS, Phoenix, Arizona  
Dan Bloedel, District Conservationist, NRCS, Window Rock, Arizona  
Phil Jacquez, District Conservationist, NRCS, Higley, Arizona  
Jeff Schmidt, Community Assistance Coordinator, NRCS, Phoenix, Arizona



Jane Dee Hull  
Governor

# ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

3033 North Central Avenue • Phoenix, Arizona 85012-2809  
(602) 207-2300 • www.adeq.state.az.us



Jacqueline E. Schafer  
Director

March 21, 2001

AQDPLN.01.046

## EXHIBIT D

Mr. Nicholas J. Pela  
Gannett Fleming, Inc.  
3001 East Camelback Road, Suite 130  
Phoenix, Arizona 85016-4498

SUBJECT: Comments on the Superior Airport Master Plan Project

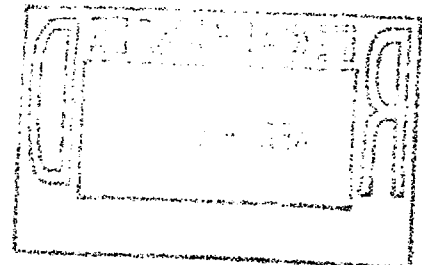
Dear Mr. Pela:

Thank you for your letter of February 23, 2001, requesting comments on the Superior Airport Master Plan project.

The proposed project is not located in an Arizona nonattainment area, as designated by EPA pursuant to Section 107 of the Clean Air Act. Consequently, there are no State Implementation Plan requirements for specific control measures with respect to the ambient air quality of Superior at this time.

Although the project is not expected to result in any air quality violations, nevertheless, the proposed project may increase ambient particulate matter (dust) levels. Particulate matter is one of the criteria pollutants identified in the Clean Air Act. The following steps may minimize the amount of particulate matter generated, including incidental emissions caused by strong winds, as well as tracking dirt off the construction site by machinery and trucks.

- I. Site Preparation
  - A. Minimize land disturbance;
  - B. Use watering trucks to minimize dust;
  - C. Cover trucks when hauling dirt;
  - D. Stabilize the surface of dirt piles if not removed immediately;
  - E. Use windbreaks to prevent any accidental dust pollution; and
  - F. Limit vehicular paths and stabilize temporary roads.



Northern Regional Office  
1515 East Cedar Avenue • Suite F • Flagstaff, AZ 86004  
(520) 779-0313

Southern Regional Office  
400 West Congress Street • Suite 433 • Tucson, AZ 85701  
(520) 628-6733

Page 2  
Mr. Pela  
AQDPLN.01.000

II. Site Construction

- A. Cover trucks when transferring materials;
- B. Use dust suppressants on traveled paths which are not paved;
- C. Minimize unnecessary vehicular and machinery activities; and
- D. Minimize dirt track-out by washing or cleaning trucks before leaving the construction

site.

III. Site Restoration

- A. Revegetate any disturbed land not used;
- B. Remove unused material;
- C. Remove dirt piles; and
- D. Revegetate all vehicular paths created during construction to avoid future off-road vehicular activities.

Enclosed please find a copy of the applicable State rules contained in the Arizona Administrative Code, Article 6. R18-2-604 through 606 specifically relate to construction and earth moving activities. In addition, please be aware that portable sources such as rock, sand, gravel, and asphalt concrete plants are required to receive permits from the Arizona Department of Environmental Quality. For further information regarding permitting requirements, please contact Prabhat Bhargava, Manager, Permits Section, at (602) 207-2329.

Should you have any further questions, please contact me at (602) 207-2375, or Andra Juniel of my staff at (602) 207-4417.

Sincerely,



Theresa Pella, Manager  
Air Quality Planning Section

Enclosure



ARIZONA ADMINISTRATIVE CODE

- F. The Director of the Department of Environmental Quality or the air pollution control officer, if any, of the county, district, or region may delegate the authority for the issuance of allowable open burning permits to responsible local officers. Such permits shall contain conditions limiting the manner and the time of the setting of such fires as specified in the Arizona Guidelines for Open Burning and shall contain a provision that all burning be extinguished at the discretion of the Director or his authorized representative during periods of inadequate atmospheric smoke dispersion, periods of excessive visibility impairment which could adversely affect public safety, or periods when smoke is blown into populated areas so as to create a public nuisance. Any local officer delegated the authority for issuance of open burning permits shall maintain a copy of all currently effective permits issued including a means of contacting the person authorized by the permit to set an open fire in the event that an order for extinguishing of open burning is issued.
- G. Nothing in this rule is intended to permit any practice which is a violation of any statute, ordinance, rule or regulation.

#### Historical Note

Adopted effective May 14, 1979 (Supp. 79-1). Amended effective October 2, 1979 (Supp. 79-5). Correction, subsection (C) repealed effective October 2, 1979, not shown (Supp. 80-1). Former Section R9-3-602 renumbered without change as Section R18-2-602 (Supp. 87-3). Amended effective September 26, 1990 (Supp. 90-3). Former Section R18-2-602 renumbered to R18-2-802, new Section R18-2-602 renumbered from R18-2-401 effective November 15, 1993 (Supp. 93-4).

#### R18-2-603. Repealed

#### Historical Note

Adopted effective May 14, 1979 (Supp. 79-1). Former Section R9-3-603 renumbered without change as Section R18-2-603 (Supp. 87-3). Amended effective September 26, 1990 (Supp. 90-3). Former Section R18-2-603 renumbered to R18-2-803, new Section R18-2-603 renumbered from R18-2-403 effective November 15, 1993 (Supp. 93-4). Repealed effective October 8, 1996 (Supp. 96-4).

#### R18-2-604. Open Areas, Dry Washes or Riverbeds

- A. No person shall cause, suffer, allow, or permit a building or its appurtenances, or a building or subdivision site, or a driveway, or a parking area, or a vacant lot or sales lot, or an urban or suburban open area to be constructed, used, altered, repaired, demolished, cleared, or leveled, or the earth to be moved or excavated, without taking reasonable precautions to limit excessive amounts of particulate matter from becoming airborne. Dust and other types of air contaminants shall be kept to a minimum by good modern practices such as using an approved dust suppressant or adhesive soil stabilizer, paving, covering, landscaping, continuous wetting, detouring, barring access, or other acceptable means.
- B. No person shall cause, suffer, allow, or permit a vacant lot, or an urban or suburban open area, to be driven over or used by motor vehicles, trucks, cars, cycles, bikes, or buggies, or by animals such as horses, without taking reasonable precautions to limit excessive amounts of particulates from becoming airborne. Dust shall be kept to a minimum by using an approved dust suppressant, or adhesive soil stabilizer, or by paving, or by barring access to the property, or by other acceptable means.
- C. No person shall operate a motor vehicle for recreational purposes in a dry wash, riverbed or open area in such a way as to

cause or contribute to visible dust emissions which then cross property lines into a residential, recreational, institutional, educational, retail sales, hotel or business premises. For purposes of this subsection "motor vehicles" shall include, but not be limited to trucks, cars, cycles, bikes, buggies and 3-wheelers. Any person who violates the provisions of this subsection shall be subject to prosecution under A.R.S. § 49-463.

#### Historical Note

Adopted effective May 14, 1979 (Supp. 79-1). Former Section R9-3-604 renumbered without change as Section R18-2-604 (Supp. 87-3). Amended effective September 26, 1990 (Supp. 90-3). Former Section R18-2-604 renumbered to R18-2-804, new Section R18-2-604 renumbered from R18-2-404 and amended effective November 15, 1993 (Supp. 93-4).

#### R18-2-605. Roadways and Streets

- A. No person shall cause, suffer, allow or permit the use, repair, construction or reconstruction of a roadway or alley without taking reasonable precautions to prevent excessive amounts of particulate matter from becoming airborne. Dust and other particulates shall be kept to a minimum by employing temporary paving, dust suppressants, wetting down, detouring or by other reasonable means.
- B. No person shall cause, suffer, allow or permit transportation of materials likely to give rise to airborne dust without taking reasonable precautions, such as wetting, applying dust suppressants, or covering the load, to prevent particulate matter from becoming airborne. Earth or other material that is deposited by trucking or earth moving equipment shall be removed from paved streets by the person responsible for such deposits.

#### Historical Note

Adopted effective May 14, 1979 (Supp. 79-1). Former Section R9-3-605 renumbered without change as Section R18-2-605 (Supp. 87-3). Amended effective September 26, 1990 (Supp. 90-3). Former Section R18-2-605 renumbered to R18-2-805, new Section R18-2-605 renumbered from R18-2-405 effective November 15, 1993 (Supp. 93-4).

#### R18-2-606. Material Handling

No person shall cause, suffer, allow or permit crushing, screening, handling, transporting or conveying of materials or other operations likely to result in significant amounts of airborne dust without taking reasonable precautions, such as the use of spray bars, wetting agents, dust suppressants, covering the load, and hoods to prevent excessive amounts of particulate matter from becoming airborne.

#### Historical Note

Section R18-2-606 renumbered from R18-2-406 effective November 15, 1993 (Supp. 93-4).

#### R18-2-607. Storage Piles

- A. No person shall cause, suffer, allow, or permit organic or inorganic dust producing material to be stacked, piled, or otherwise stored without taking reasonable precautions such as chemical stabilization, wetting, or covering to prevent excessive amounts of particulate matter from becoming airborne.
- B. Stacking and reclaiming machinery utilized at storage piles shall be operated at all times with a minimum fall of material and in such manner, or with the use of spray bars and wetting agents, as to prevent excessive amounts of particulate matter from becoming airborne.

#### Historical Note

Section R18-2-607 renumbered from R18-2-407 effective November 15, 1993 (Supp. 93-4).

**R18-2-608. Mineral Tailings**

No person shall cause, suffer, allow, or permit construction of mineral tailing piles without taking reasonable precautions to prevent excessive amounts of particulate matter from becoming airborne. Reasonable precautions shall mean wetting, chemical stabilization, revegetation or such other measures as are approved by the Director.

**Historical Note**

Section R18-2-608 renumbered from R18-2-408, new  
Section R18-2-408 adopted effective November 15, 1993  
(Supp. 93-4).

**R18-2-609. Agricultural Practices**

A person shall not cause, suffer, allow, or permit the performance of agricultural practices outside the Phoenix planning area, as defined in 40 CFR 81.303, which is incorporated by reference in R18-2-210, including tilling of land and application of fertilizers without taking reasonable precautions to prevent excessive amounts of particulate matter from becoming airborne.

**Historical Note**

Section R18-2-609 renumbered from R18-2-409 effective  
November 15, 1993 (Supp. 93-4). Amended by final rule-  
making at 6 A.A.R. 2009, effective May 12, 2000 (Supp.  
00-2).

**R18-2-610. Definitions for R18-2-611**

The definitions in Article 1 of this Chapter and the following definitions apply to R18-2-611:

1. "Access restriction" means restricting or eliminating public access to noncropland with signs or physical obstruction.
2. "Aggregate cover" means gravel, concrete, recycled road base, caliche, or other similar material applied to noncropland.
3. "Artificial wind barrier" means a physical barrier to the wind.
4. "Best management practice" means a technique verified by scientific research, that on a case-by-case basis is practical, economically feasible, and effective in reducing PM10 emissions from a regulated agricultural activity.
5. "Chemical irrigation" means applying a fertilizer, pesticide, or other agricultural chemical to cropland through an irrigation system.
6. "Combining tractor operations" means performing 2 or more tillage, cultivation, planting, or harvesting operations with a single tractor or harvester pass.
7. "Commercial farm" means 10 or more contiguous acres of land used for agricultural purposes within the boundary of the Maricopa PM10 nonattainment area.
8. "Commercial farmer" means an individual, entity, or joint operation in general control of a commercial farm.
9. "Committee" means the Governor's Agricultural Best Management Practices Committee.
10. "Cover crop" means plants or a green manure crop grown for seasonal soil protection or soil improvement.
11. "Critical area planting" means using trees, shrubs, vines, grasses, or other vegetative cover on noncropland.
12. "Cropland" means land on a commercial farm that:
  - a. Is within the time-frame of final harvest to plant emergence;
  - b. Has been tilled in a prior year and is suitable for crop production, but is currently fallow; or
  - c. Is a turn-row.
13. "Cross-wind ridges" means soil ridges formed by a tillage operation.
14. "Cross-wind strip-cropping" means planting strips of alternating crops within the same field.
15. "Cross-wind vegetative strips" means herbaceous cover established in 1 or more strips within the same field.
16. "Equipment modification" means modifying agricultural equipment to prevent or reduce particulate matter generation from cropland.
17. "Limited activity during a high-wind event" means performing no tillage or soil preparation activity when the measured wind speed at 6 feet in height is more than 25 mph at the commercial farm site.
18. "Manure application" means applying animal waste or biosolids to a soil surface.
19. "Maricopa PM10 nonattainment area" means the Phoenix planning area as defined in 40 CFR 81.303, which is incorporated by reference in R18-2-210.
20. "Mulching" means applying plant residue or other material that is not produced onsite to a soil surface.
21. "Multi-year crop" means a crop, pasture, or orchard that is grown, or will be grown, on a continuous basis for more than 1 year.
22. "Noncropland" means any commercial farm land that:
  - a. Is no longer used for agricultural production;
  - b. Is no longer suitable for production of crops;
  - c. Is subject to a restrictive easement or contract that prohibits use for the production of crops; or
  - d. Includes a private farm road, ditch, ditch bank, equipment yard, storage yard, or well head.
23. "Permanent cover" means a perennial vegetative cover on cropland.
24. "Planting based on soil moisture" means applying water to soil before performing planting operations.
25. "Reduce vehicle speed" means operating farm vehicles or farm equipment on unpaved private farm roads at speeds not to exceed 20 mph.
26. "Reduced harvest activity" means reducing the number of harvest passes using a mechanized method to cut and remove crops from a field.
27. "Reduced tillage system" means reducing the number of tillage operations used to produce a crop.
28. "Regulated agricultural activity" means a commercial farming practice that may produce PM10 within the Maricopa PM10 nonattainment area.
29. "Residue management" means managing the amount and distribution of crop and other plant residues on a soil surface.
30. "Sequential cropping" means growing crops in a sequence that minimizes the amount of time bare soil is exposed on a field.
31. "Surface roughening" means manipulating a soil surface to produce or maintain clods.
32. "Synthetic particulate suppressant" means a manufactured product such as lignosulfate, calcium chloride, magnesium chloride, an emulsion of a petroleum product, an enzyme product, and polyacrylamide that is used to control particulate matter.
33. "Tillage and harvest" means any mechanical practice that physically disturbs cropland or crops on a commercial farm.
34. "Tillage based on soil moisture" means applying water to soil before or during tillage, or delaying tillage to coincide with precipitation.
35. "Timing of a tillage operation" means performing tillage operations at a time that will minimize the soil's susceptibility to generate PM10.
36. "Track-out control system" means a device to remove mud or soil from a vehicle before the vehicle enters a paved public road.

# Arizona State Land Department

1616 West Adams ♦ Phoenix Arizona 85007

DATE: April 16, 2001

TO: Nicholas J. Pela, Senior Airport Planner  
Gannett Fleming Inc.

FAX: 602.553.8816

ORIGINAL & COLOR MAP MAILED 4/16/01

FROM: Gordon S. Taylor, Planning Section Manager  
602.542.3671 / FAX 602.364.0272 / [gtaylor@lnd.state.az.us](mailto:gtaylor@lnd.state.az.us)

RE: *Superior Municipal Airport* - GF Job No. 37776

PAGES: 1

Thank you the opportunity to comment during this preliminary environmental scoping for the Superior Airport Master Plan. The Department understands the factors which constrain an expansion of the existing municipal airfield and the consultant's recommendation for a new airport site.

The State of Arizona is the single largest landowner in northwestern Pinal County. The preferred as well as most of the other alternatives, is wholly on State Trust land. Site #11 is located in Sections 29 & 30, Township 2 South, Range 10 East. Note that Site #10 and Site #11 are depicted on the accompanying land ownership map.

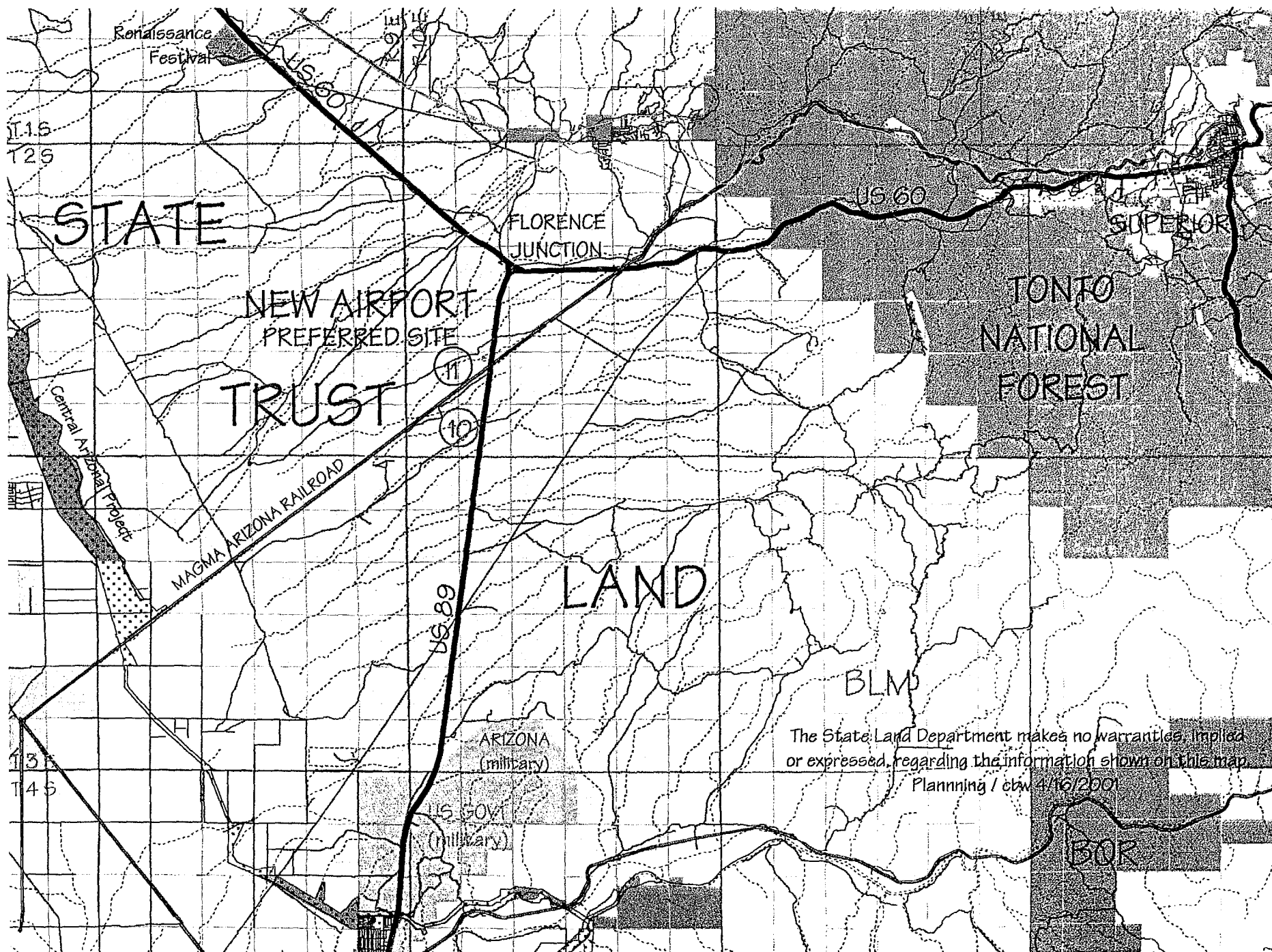
Although there appears to be no obvious constraints for the preferred airport site, it would have been appropriate for the State Land Department to participate in this project early on in the process. The Planning Section objects to the lack of notice prior to completion of the site selection. Please understand that the Department is obligated by statute to determine how land uses impact the development utility and hence the value of all Trust land in the vicinity of a particular project for the long term.\*

The Land Department is committed to smart growth in both the state's urban and rural areas. Future development pressures in an area so close to metropolitan Phoenix amplifies that commitment. On behalf of the State Land Commissioner, the Planning Section encourages an invitation to the Department to take part in this process in order to facilitate the community's future use/acquisition of Trust land for a municipal airport. Contact me by phone or e-mail.

\* In adhering to Trust laws, the Land Department's primary responsibility is to produce revenue from the Trust land over the long term for the 14 Trust beneficiaries. All uses of Trust land must *benefit the Trust*, a fact which distinguishes it from the way public land, such as a national park or national forest, is used. In addition, the revenue generated by each parcel is assigned to a particular beneficiary.

GST/cbw





**Nicholas J. Pela**

---

**From:** "Nicholas J. Pela" <npela@gfnet.com>  
**To:** "Gordon S. Taylor" <gtaylor@lnd.state.az.us>  
**Sent:** Tuesday, April 17, 2001 2:21 PM  
**Subject:** Superior Airport

Mr. Taylor:

Thank you for your response regarding the preliminary planning for the new Superior Airport.

We take note of your expression of concern about not being involved in the project sooner. For your information, the initial phase of this project (which began in July, 2000) was focused on whether the Town of Superior should develop their present airport or seek another site. The decision to look for another site was only made in late November of 2000. The information package you received in February was meant to serve as an initial scoping/notification package for all of the many involved agencies.

The Superior Town Council, acting in session after a project status presentation by the consultants, decided to direct the consultants to proceed with site-specific planning for "Site #11", which we had presented as the most apparently viable site. This decision was made by Council on February 15, 2001. Although the Town Council has directed the study toward site-specific planning for "Site #11", our scoping package did solicit comments on any of the sites.

Our recommendation that "Site #11" is the most viable site is based on objective evaluation of many factors that would affect airport development, one of which is land availability and ownership. We believe that our recommendation represents the best course of action for the Town of Superior (and for the other communities that have been invited to participate).

You may consider this an invitation for the Arizona State Land Department to participate in the planning process for the new airport. We will inform you of the next Planning Advisory Committee (PAC) meeting date, and will be providing you with preliminary layout plans as soon as they are available.

Nicholas J. Pela  
Airport Development Group Manager  
Gannett Fleming, Inc.  
3001 East Camelback Road, Suite 130  
Phoenix, AZ 85016-4498  
Phone: (602) 553-8817 x227  
Fax: (602) 553-8816

4/17/2001



THE STATE OF ARIZONA  
**GAME AND FISH DEPARTMENT**

2221 WEST GREENWAY ROAD, PHOENIX, AZ 85023-4399  
(602) 942-3000 • WWW.AZGFD.COM

GOVERNOR  
JANE DEE HULL  
COMMISSIONERS  
CHAIRMAN, DENNIS D. MANNING, ALPINE  
MICHAEL M. GOLIGHTLY, FLAGSTAFF  
JOE CARTER, SAFFORD  
SUSAN E. CHILTON, ARIVACA  
W. HAYS GILSTRAP, PHOENIX  
DIRECTOR  
DUANE L. SHROUFE  
DEPUTY DIRECTOR  
STEVE K. FERRELL



Tucson Office, 555 N. Greasewood Rd., Tucson, AZ 85745

**EXHIBIT F**

April 25, 2001

Mr. Nicholas Pela  
Gannett Fleming, Inc.  
3001 E. Camelback Road, Ste. 130  
Phoenix, Arizona 85016-4498

Re: Preliminary Environmental Scoping - Superior Municipal Airport Master Plan.

Dear Mr. Pela:

The Arizona Game & Fish Department (Department) reviewed the above-referenced document and offers the following scoping comments for your consideration as the master planning process proceeds. The Master Plan indicates that the planning process will focus on two possible scenarios - improving the existing facility at Superior and relocating the airport to a new location near Florence Junction. The Department limited its review to these two scenarios.

Improving the Existing Facility

At this time, the Department can identify only one significant issue related to improving the existing facility. Picketpost Mountain is an important site for potential bighorn sheep reintroduction and figures prominently in regional efforts to conserve and enhance our desert bighorn sheep populations. Of the two runway and approach zone alignments presented in the Master Plan, Site #2 is more conducive to maintaining the mountain's integrity as quality sheep habitat. However, if the planning process results in the need to identify additional alignments, the Department would appreciate the opportunity to participate in these discussions.

Relocating Near Florence Junction

Issues surrounding the two proposed relocation sites are more related to the direct loss of habitats resulting from the construction of a new facility. Native desert communities on an undisclosed portion of the selected site (Site #10 = 352 acres; Site #11 = 316 acres) would be lost due to the construction of the runway and attendant facilities. Wildlife use and accessibility, especially that of larger species, to the remainder of the site would be limited if the perimeter was fenced. Exclusion to the area may be consequential for those

Mr. Pela  
April 25, 2001  
2

configurations that result in wildlife's inability to access water sources such as Mormon Tank. The Department suggests that since Site #11 has been identified as a preferred location, the perimeter boundaries be established in a manner that allows wildlife continued access to Mormon Tank.

The Department has identified two specific special status species that may require further attention as the planning process continues. The area is suitable habitat for Sonoran desert tortoise. This species which is a **Wildlife Species of Special Concern in Arizona**<sup>1</sup>, has been documented from the general area. The Department recommends implementing the attached tortoise handling guidelines to minimize construction-related impacts.

The area also supports habitat for the cactus ferruginous pygmy owl which is listed as an **Endangered Species** according to the Endangered Species Act. Both Site #10 and #11 are adjacent to designated Critical Habitat and fall within Zone 3 of the Cactus Ferruginous Pygmy-Owl Survey Zones. Apply the Guidance for Private Landowners from the U.S. Fish & Wildlife Service (USFWS) and contact them as appropriate. The Landowner Guidance and accompanying information can be found in the Documents Library section of the USFWS's website: <http://arizonaes.fws.gov/>.

Thank you for soliciting the Department's comments. Please contact me at 520/628-5982 ext. 137 if you have questions or require additional information.

Sincerely,



Sherry A. Rather  
Habitat Specialist

SAR:sr

cc:Bob Broscheid, Project Evaluation Program Supervisor, Habitat Branch, PHX (AGFD  
Log No. 2-26-01/06)  
John Windes, District Wildlife Manager, Region V  
Russ Haughey, Habitat Program Manager, Region VI  
Sherry Barrett, USFWS, Assistant Field Supervisor, Az Ecol. Services Field Ofc, TUC

Attachments

CA\PROJECTS\AIRPORTS\Superior MP.doc

<sup>1</sup> **Wildlife of Special Concern in Arizona.** Species whose occurrence in Arizona is or may be in jeopardy, or with known or perceived threats or population declines, as described by the Department's listing of **Wildlife of Special Concern in Arizona** (WSCA, in prep.). Species included in WSCA are currently the same as those in **Threatened Native Wildlife in Arizona** (1988).

GUIDELINES FOR HANDLING SONORAN DESERT TORTOISES  
ENCOUNTERED ON DEVELOPMENT PROJECTS

Arizona Game and Fish Department

Revised January 17, 1997

The Arizona Game and Fish Department (Department) has developed the following guidelines to reduce potential impacts to desert tortoises, and to promote the continued existence of tortoises throughout the state. These guidelines apply to short-term and/or small-scale projects, depending on the number of affected tortoises and specific type of project.

Desert tortoises of the Sonoran population are those occurring south and east of the Colorado River. Tortoises encountered in the open should be moved out of harm's way to adjacent appropriate habitat. If an occupied burrow is determined to be in jeopardy of destruction, the tortoise should be relocated to the nearest appropriate alternate burrow or other appropriate shelter, as determined by a qualified biologist. Tortoises should be moved less than 48 hours in advance of the habitat disturbance so they do not return to the area in the interim. Tortoises should be moved quickly, kept in an upright position at all times and placed in the shade. Separate disposable gloves should be worn for each tortoise handled to avoid potential transfer of disease between tortoises. Tortoises must not be moved if the ambient air temperature exceeds 105 degrees fahrenheit unless an alternate burrow is available or the tortoise is in imminent danger.

A tortoise may be moved up to two miles, but no further than necessary from its original location. If a release site, or alternate burrow, is unavailable within this distance, and ambient air temperature exceeds 105 degrees fahrenheit, the Department should be contacted to place the tortoise into a Department-regulated desert tortoise adoption program. Tortoises salvaged from projects which result in substantial permanent habitat loss (e.g. housing and highway projects), or those requiring removal during long-term (longer than one week) construction projects, will also be placed in desert tortoise adoption programs. *Managers of projects likely to affect desert tortoises should obtain a scientific collecting permit from the Department to facilitate temporary possession of tortoises.* Likewise, if large numbers of tortoises (> 5) are expected to be displaced by a project, the project manager should contact the Department for guidance and/or assistance.

Please keep in mind the following points:

- These guidelines do not apply to the Mohave population of desert tortoises (north and west of the Colorado River). Mohave desert tortoises are specifically protected under the Endangered Species Act, as administered by the U.S. Fish and Wildlife Service.
- These guidelines are subject to revision at the discretion of the Department. We recommend that the Department be contacted during the planning stages of any project that may affect desert tortoises.
- Take, possession, or harassment of wild desert tortoises is prohibited by state law. Unless specifically authorized by the Department, or as noted above, project personnel should avoid disturbing any tortoise.

RAC:NLO:rc



# THE ARIZONA RENAISSANCE FESTIVAL<sup>TM</sup> & ARTISAN MARKETPLACE

May 3, 2001

Ms. Sandy Smith, Supervisor  
Pinal County  
575 N Idaho Road, Ste #101  
Apache Junction, AZ 85219

Dear Sandy,

With interest I recently read about a proposal to relocate the Town of Superior Municipal Airport to Florence Junction.

This letter is written to request your assistance in passing along the following information during any planning discussions with the Airport Planning Advisory Committee, its consultants, the Town of Superior, the Pinal County Staff, the FAA, and any other relevant parties to this discussion.

The ownership of the Renaissance Festival, held annually on our fairgrounds site west of Florence Junction, has no specific opinion at this time with respect to whether or not an airport should be sited in the proposed Florence Junction location. We believe the greater interest of Pinal County, the towns of Superior, Florence and Apache Junction should first be served. We will look forward to cooperating with the judgment of our community and political leaders.

Our principal concern is not the most obvious. The Renaissance Festival, during its peak performance season on consecutive weekends in February and March, already deals with a significant amount of small aircraft traffic, which is interested in viewing the event facility and activities from the air. This is disruptive to the arts and entertainment program and the historic theme of the event, particularly with those less than courteous pilots who fly very low, perhaps in violation of FAA regulations, and those who determine to put on impromptu stunt shows. However this is not the worst of the potential problem.

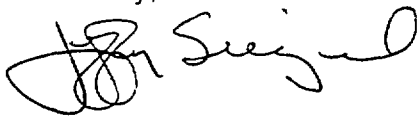
The biggest issue facing us is that we have a number of performing live animal acts and live animal interactions with children and adults. We have stunt riders on horseback performing in the Medieval jousting tournaments several times daily. The performers find themselves at risk with horses spooked during a performance by occasional low flying aircraft. We also have children and adults on elephant, camel and llama, and other potential disruptions during events such

as the Birds of Prey exhibitions and other related activities. This risk may increase with significantly closer proximity to an airport serving small aircraft.

Therefore we are requesting, should an airport come into such close proximity to the Festival site, any considerations that may be determined legal and valid to protect the public and restrict pilots who find the Renaissance Festival activities to be an attraction during their flight activities.

Representing these concerns during airport discussions or any effort you suggest the Festival may take to protect the public and our participants will be appreciated.

Sincerely,

A handwritten signature in black ink, appearing to read "Jeffrey Siegel". The signature is fluid and cursive, with the first name "Jeffrey" written in a more compact, looped style and the last name "Siegel" written in a more extended, flowing style.

Jeffrey Siegel, Producer  
Arizona Renaissance Festival

JLS/lis

cc: Mr. Gilbert Preciado, Mayor – Town of Superior  
Ms. Lisa Garcia, Mayor – City of Florence  
Mr. Douglas Coleman, Mayor – City of Apache Junction  
Mr. Stan Griffis, County Manager – Pinal County  
Mr. Nicolas J. Pela, Airport Planner – Gennett Flemming, Inc.



# United States Department of the Interior

U.S. Fish and Wildlife Service  
2321 West Royal Palm Road, Suite 103  
Phoenix, Arizona 85021-4951  
Telephone: (602) 242-0210 FAX: (602) 242-2513



In Reply Refer To:

AESO/ES  
2-21-01-I-274

May 4, 2001

**EXHIBIT H**

Nicholas J. Pela, Senior Airport Planner  
Gannett Fleming Inc.  
Suite 300  
3001 East Camelback Road  
Phoenix, AZ 85016

Subject: Preliminary Scoping for Superior Municipal Airport

This letter is in response to your February 26, 2001, request for comments on the Airport Master Plan for the Town of Superior, Arizona. The Superior Town Council has selected a site to construct a new airport two miles south of Florence Junction on the west side of Highway 79, and just north of the old Magma Arizona Railroad tracks (located in sections 29 and 30, T. 2 S., R. 10 E). The Superior Town Council has selected this site over the site of the existing Superior Airport to accommodate a longer 5,100 foot runway, serve a larger market, and allow for increased commercial and business activity. The goal of the airport development is to accommodate 27 based aircraft and approximately 27,000 annual operations after initial construction, increasing to 44 based aircraft and approximately 36,000 operations by the year 2025. The project will likely require permits pursuant to the Federal Water Pollution Control Act (33 U.S.C. 1251-1376), as amended, including a section 404 permit from the U.S. Army Corps of Engineers (Corps) and a section 402 permit from the Environmental Protection Agency (EPA), as well as permits pursuant to the Federal Aviation Administration's Federal Aviation Regulations (14 CFR Part 151).

In accordance with section 7 of the Endangered Species Act of 1973 (16 U.S.C. 1531-1544, 87 Stat. 884), as amended (Act), if the proposed project may affect a listed species and a Federal agency funds, authorizes, permits, or carries out any portion of the planning or implementation of the plan, the Federal lead agency has the responsibility to prepare a biological assessment if the project may require an Environmental Impact Statement. If a biological assessment is not required, the Federal lead agency still has the responsibility to review its proposed activities and determine whether any listed species will be affected. If a biological assessment is prepared by a non-Federal representative, the Federal agency is required to provide guidance and supervision in its preparation and must independently review and evaluate the scope of the biological assessment (50 CFR 402.08).



If a listed species or critical habitat may be adversely affected, the Federal lead agency should request, in writing through our office, formal consultation pursuant to Section 7 of the Act. Informal consultation may be used to exchange information and resolve conflicts with respect to listed species prior to a written request for formal consultation. If a Federal agency finds that a listed species or critical habitat may be affected, but is unlikely to be adversely affected, formal consultation is not required if the Federal agency obtains our written concurrence with that finding (50 CFR 402.14[b]).

Section 9 of the Act prohibits the "take" of any listed animal species. The definition of "take" includes to harass, harm, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct. A notable component of this definition is the definition of "harm." "Harm" in the definition of "take" in the Act means an act which actually kills or injures wildlife. Such act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavior patterns, including breeding, feeding, or sheltering" (50 CFR 17.3). Harass is defined in the same regulation as "an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, and sheltering." Section 9(a)(2) of the Act prohibits certain activities in regard to endangered plants species, including removal and reduction to possession of such species from areas under Federal jurisdiction, and removal, cutting, digging up, damaging, or destroying individual endangered plants on any area in knowing violation of any law or regulation of any State or in the course of any violation of a State criminal trespass law. Anyone who engages in a take is subject to prosecution under Section 9 of the Act. Such taking for animal species may occur only under the authority of the Service pursuant to Section 7 (through Federal interagency consultation if there is Federal involvement with a project) or through a Section 10(a)(1)(B) permit for actions without a Federal nexus, as mandated by the Act.

Several federally listed species could potentially be affected by the proposed project. We have enclosed a list of the endangered, threatened, proposed, and candidate species potentially occurring anywhere in the county where your project occurs. Please note that your project area may not necessarily include habitat of all of these species. The information provided includes general descriptions, habitat requirements, and other information for each species on the list. Also on the enclosed list is the Code of Federal Regulations (CFR) citation for each list; the CFRs are available at most public libraries. This information should assist you in determining which species may or may not occur within your project area. Site-specific surveys could also be helpful and may be needed to verify the presence or absence of a species or its habitat as required for the evaluation of proposed project-related impacts.

Candidate species are those for which there is sufficient information to support a proposal to list them as threatened or endangered. Although candidate species have no legal protection under the Act, we recommend that they be considered in the planning process in the event they become listed or proposed for listing prior to project completion.

Of the species and critical habitat on the enclosed list, we believe the endangered cactus ferruginous pygmy-owl (*Glaucidium brasilianum cactorum* owl) and its critical habitat and the endangered lesser long-nosed bat (*Leptonycteris curasoae yerbabuenae*) are most likely to be affected by your project. Critical habitat for the cactus ferruginous pygmy-owl occurs within the project area, which may be adversely affected by project construction as well as operation of the airport. This area has also not been adequately surveyed for the cactus ferruginous pygmy-owl. You should also be aware that the project site may represent foraging habitat for the lesser long-nosed bat. Although we know of no significant lesser long-nosed bat roosts within foraging distance of the site, many caves and mines in this area have yet to be adequately surveyed. The bats forage on nectar of blooming saguaro (*Carnegiea gigantea*) and other succulents. If the proposed action may result in loss of saguaros or saguaro habitat, the lesser long-nosed bat may be adversely affected. We recommend conducting surveys for both the cactus ferruginous pygmy-owl and the lesser long-nosed bat. Information about surveying for the cactus ferruginous pygmy-owl is attached; survey information for the lesser long-nosed-bat is available on request. Information about these species is also available on our website (<http://arizonaes.fws.gov>).

You should also be aware of the requirements of section 404 of the Federal Water Pollution Control Act, which regulates the placement of fill materials into waters of the United States. The Corps, which administers the 404 program, may consider desert washes and riparian areas to be waters of the United States. As part of the Corps' permitting process, the Service and the EPA would provide comments to the Corps regarding the adequacy of the impact analysis and the compliance with the 404(b)(1) guidelines. These guidelines are regulations which require a step-down mitigation process. The first requirement is the avoidance of impacts to special aquatic sites (e.g., wetlands) and waters of the United States. If a 404 permit is required for your project, issuance of a permit by the Corps would trigger the section 7 consultation requirements as described above. For further information regarding the 404 program, please contact:

U.S. Army Corps of Engineers  
Attn: Regulatory Branch  
3636 North Central Avenue, Suite 760  
Phoenix, Arizona 85012-1936  
(602) 640-5385

Nicholas J. Pela

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For further information on 404(b)(1) guidelines, please contact:

Environmental Protection Agency  
75 Hawthorne Street, Wetlands W-7-2  
San Francisco, California 94105  
(415) 744-1976

The EPA issues National Pollutant Discharge Elimination System (NPDES) permits. Section 402 of the Clean Water Act requires that all point sources discharging pollutants into waters of the United States must obtain a NPDES permit. By point sources, EPA means discrete conveyances such as pipes or man-made ditches. Although individual homes that are not connected to a municipal system or do not have a surface discharge do not need permits, facilities must obtain permits if their discharges go directly to surface waters. Generally, construction activities of five acres or more will require a NPDES permit. If a NPDES permit is needed for your project, the EPA would be subject to the section 7 consultation requirements described above. For more information about EPA's NPDES program, contact:

Director, Water Division  
Environmental Protection Agency  
75 Hawthorne Street  
San Francisco, California 94105-3901  
(415) 744-1510

We appreciate the opportunity to provide input on the proposed Superior Municipal Airport. If we can be of any further assistance please contact Glen Knowles (x233) or Sherry Barrett (520) 670-4617.

Sincerely,

A handwritten signature in black ink, appearing to read "David L. Harlow", with a long horizontal flourish extending to the right.

David L. Harlow  
Field Supervisor

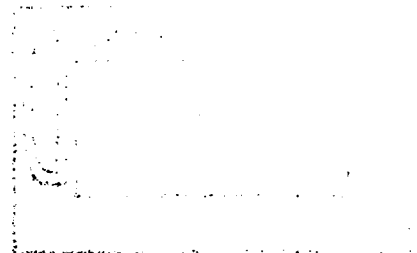
Enclosures

Nicholas J. Pela

5

cc: Regional Director, Fish and Wildlife Service, Albuquerque, NM (ARD-ES)  
Assistant Field Supervisor, Fish and Wildlife Service, Tucson, AZ  
Regional Office Headquarters, Federal Aviation Administration, Lawndale, CA  
Regulatory Branch, U.S. Army Corps of Engineers, Phoenix, AZ  
State Director, Rural Development State Office, U.S. Dept. of Agriculture,  
Phoenix, AZ  
Eugene Bromley, Environmental Protection Agency, San Francisco, CA  
Regional Supervisor, Arizona Game and Fish Department, Mesa, AZ

W:\Glen Knowles\Florence Jct.-Superior Airport.wpd:cgg



## RECOMMENDED GUIDANCE FOR PRIVATE LANDOWNERS CONCERNING THE CACTUS FERRUGINOUS PYGMY-OWL

March 2000

The following recommendations<sup>1</sup> are offered by the U.S. Fish and Wildlife Service (FWS) to assist private landowners in minimizing their risk of inadvertently "taking"<sup>2</sup> the endangered cactus ferruginous pygmy-owl (*Glaucidium brasilianum cactorum*) (pygmy-owl) and violating Section 9 of the Endangered Species Act (ESA).

On August 13, 1998, the FWS published a notice of availability and the opening of a 30-day public comment period for a proposed survey protocol and the accompanying "Private Landowner Take Guidance for the Pygmy-owl"<sup>3</sup>. This comment period was extended on September 15, 1998<sup>4</sup> and again on November 20, 1998<sup>5</sup>, closing on March 14, 1999 to allow interested parties additional time to provide input. During this seven month period, we received many comments from Federal and State agencies, local jurisdictions, independent consultants, and private individuals on both the proposed protocol and take guidance. We reviewed these comments and revised the proposed landowner take guidance and the accompanying survey protocol, incorporating changes we believed were appropriate. We also received technical input from the Arizona Game and Fish Department (AGFD) in developing these recommendations. We thank all of those who commented for their assistance in helping us develop the following landowner guidance recommendations.

These recommendations apply only to those areas that support suitable pygmy-owl habitat in south-central Arizona. Suitable habitat is defined as areas below 4,000 feet in elevation characterized by one or more of the following vegetation communities:

1. **riparian vegetation** (such as cottonwoods, willows, mesquites, ash, or other trees growing along watercourses);

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<sup>1</sup>U.S. Fish and Wildlife Service. 2000. Recommended guidance for private landowners concerning the cactus ferruginous pygmy-owl

<sup>2</sup>defined under Section 9 of the Endangered Species Act as harming, harassing, injuring, or killing a listed species

<sup>3</sup>published in the *Federal Register* (63 FR 43362)

<sup>4</sup>published in the *Federal Register* (63 FR 49539)

<sup>5</sup>published in the *Federal Register* (63 FR 64449)

2. **Sonoran desertscrub**, particularly areas containing saguaro cactus or other columnar cactus [8 feet or taller], or with ironwood, mesquites, palo verde or other trees in association with at least some shrubs (acacia, prickly pear, desert hackberry, greythorn, etc.), and ground cover (triangle leaf bursage, burro weed, grasses, etc.); or
3. **semidesert grassland** with drainages containing mesquite, hackberry, cottonwood, willow, ash, etc.

Any of these three areas with or without saguaros, but which contain the appropriate trees and lower-level cover, are considered suitable if there are individual trees with a trunk diameter of 6 inches or greater measured at 4.5 feet above the ground. Urban areas (see map for excluded areas within the Tucson and Phoenix metropolitan areas) and areas currently devoid of saguaros, other columnar cactus, or trees (such as agricultural fields) are excluded. Furthermore, this guidance only applies to actions on private lands that do not involve Federal funds, actions or permits. Federal agencies have additional responsibilities under the ESA (Section 7) and this may require the private landowner seeking Federal funds or permits for an action on private lands to take additional steps to address possible effects to the pygmy-owl.

We have identified three zones (delineated on attached maps) based on the degree of potential risk for a private or Federal entity to "take" a pygmy-owl. All three zones contain suitable pygmy-owl habitat, and are delineated according to our knowledge of their locations. Zones 1 and 2 include areas that are within the current range of the pygmy-owl and Zone 3 is within the historic range of the species. Clearing or disturbance of vegetation affecting suitable pygmy-owl habitat in Zone 1 would generally have a high risk of taking a pygmy-owl, activities in Zone 2 would be at moderate risk, and activities in Zone 3 would be a lower risk. Maps showing these zones are available from your local planning and zoning department, FWS<sup>6</sup>, or AGFD<sup>7</sup>.

The following recommendations apply to all areas that meet the suitable habitat criteria regardless of whether the activity is occurring within, or outside of, the designated Critical Habitat boundary<sup>8</sup> for the pygmy-owl.

To reflect the most current distribution of the species, the zone boundaries may change over time as new pygmy-owl location information is gathered. Zone boundaries will be adjusted no more than once during the calendar year to add newly documented locations or delete areas no longer suitable as habitat for pygmy-owls. If modification is necessary, the boundaries will be adjusted prior to the beginning of the January through June survey season.

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<sup>6</sup>Arizona Ecological Services Office (Phoenix - 602/640-2720 or Tucson - 520/670-4860)

<sup>7</sup>AGFD, Region 5 - Tucson - 520/628-5376

<sup>8</sup>as published in the *Federal Register* on July 12, 1999 (64 FR 37419)

We recommend conducting surveys when private actions without a Federal nexus<sup>9</sup> removes pygmy-owl habitat in Zones 1 and 2. In Zone 3, no surveys are recommended for strictly private actions. Unlike private landowners, Federal agencies have additional responsibilities under the ESA (Section 7) and we recommend they contact the FWS before undertaking any actions or issuing permits that might affect the pygmy-owl or its habitat in any zone, regardless of whether or not an owl is currently located in the area.

The current pygmy-owl survey protocol<sup>10</sup> will remain in effect until a revised survey protocol<sup>11</sup> is made available by a notice in the *Federal Register*. Surveys conducted prior to the effective date of the revised protocol according to either the Corman (1993 and 1995) protocol or the proposed protocol as published in the August 13, 1998 *Federal Register* (63 FR 43362) may be counted as year one of the two-year survey recommendation, if surveys were conducted in consecutive breeding seasons.

### ZONE 1 AREAS WITHIN THE CURRENT RANGE OF THE PYGMY-OWL WITH A HIGH POTENTIAL FOR OCCUPANCY

Currently, this zone is located within portions of Pima and southern Pinal Counties in southern Arizona, and encompasses all recent<sup>12</sup> pygmy-owl locations (see current maps available from FWS, AGFD, or local planning and zoning departments).

We recommend that all private landowners in this zone that are planning to remove any of the vegetation components of suitable habitat, choose one of the following three options to minimize the risk of taking a pygmy-owl and violating Section 9 of the ESA:

1. Coordinate with the FWS to develop your property in a manner that avoids any negative effects to the pygmy-owl<sup>13</sup>; or
2. Proceed as if pygmy-owls are present and develop a Habitat Conservation Plan (HCP) so your activity can proceed, with any modifications necessary to minimize and mitigate effects or taking of an owl. The FWS is responsible for approving these plans and

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<sup>9</sup>any action or project occurring on Federal lands or other lands that involves Federal funds, actions, or authorizations.

<sup>10</sup>Corman 1993 and revised in 1995

<sup>11</sup>Cactus ferruginous pygmy-owl survey protocol (AGFD and FWS 2000)

<sup>12</sup>since January 1, 1993

<sup>13</sup>such as development that avoids adverse impacts to suitable habitat and occurs outside of the breeding season

issuing an incidental take permit<sup>14</sup> for proposed activities. Please contact the FWS for assistance if you are considering developing an HCP; or

3. Survey your property to determine if an owl is present (see guidance below):

If you choose to survey your property, we recommend three surveys be conducted each year, for two consecutive years before any vegetation suitable for pygmy-owls is disturbed (see revised survey protocol for proper timing and spacing).

Upon the adoption of a revised survey protocol, we recommend that all surveys be conducted between January 1 and June 30 in accordance with the timing and spacing guidelines described in the revised protocol and by a person with the necessary experience and surveyor permits from the FWS. Contact the FWS for a list of persons with these credentials. Survey results from the two consecutive year effort will be valid from the last survey of the second year of surveys through December 31 of that calendar year. This will provide a six to ten month window for vegetation clearing activities. If vegetation clearing is not completed in that time frame and suitable habitat is still present on January 1, we recommend that three additional surveys be completed during the following survey season (January through June) before further land clearing of suitable habitat occurs.

Annual surveys (three survey visits conducted during the breeding season) using the revised survey protocol would be recommended for each additional year beyond the initial two-year recommended protocol until land clearing is completed. If a pygmy-owl is located, contact the FWS immediately for guidance.

## **ZONE 2 AREAS WITHIN THE CURRENT RANGE OF THE PYGMY-OWL WITH A MODERATE POTENTIAL FOR OCCUPANCY**

This zone includes the currently known range of the pygmy-owl within Pima and southern Pinal counties, excluding those areas designated as Zone 1 (see current maps available from FWS, AGFD, or local planning and zoning departments). We expect to have pygmy-owls from Zone 1 dispersing into suitable habitat in Zone 2 and a greater likelihood of documenting new pygmy-owl locations in Zone 2 than in Zone 3. We recommend that all private landowners in this zone that are planning to remove any of the vegetation components of suitable habitat choose one of the following three options to reduce the risk of taking a pygmy-owl and violating Section 9 of the ESA:

1. Coordinate with the FWS to develop your property in a manner that avoids any negative

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<sup>14</sup> an exemption under Section 10(a)(1)(B) of the ESA to take a listed species that is incidental to the action, is legal, and does not result jeopardize the continued existence of the listed species



effects to the pygmy-owl; or

2. Survey your property to determine if an owl is present (see guidance below), or
3. Proceed as if pygmy-owls are present and develop a HCP so your activity can proceed, with any modifications necessary to minimize and mitigate effects or taking of an owl. The FWS is responsible for approving these plans and issuing an incidental take permit for proposed activities. Please contact the FWS for assistance if you are considering developing an HCP.

If you choose to survey your property for pygmy-owls, we recommend one of the two following survey options based upon the type of development proposed. If a pygmy-owl is located, contact the FWS immediately for guidance.

a) A single-family residence:

We recommend landowners building a single-family residence<sup>15</sup> conduct surveys within a one-calendar year period. This recommendation is based on the low likelihood of take of a pygmy-owl in this zone from a small-scale action such as construction of a single-family residence. We recommend a one calendar year survey protocol consisting of three to five surveys, prior to land clearing activities. Three surveys are recommended between January 1 and June 30 and, if land clearing is not completed between the time the third spring survey is completed and September 14, two additional surveys are recommended between September 15 and October 31 (see revised survey protocol for specified timing and spacing). Spring surveys are conducted when breeding birds are thought to be most responsive, and the fall surveys could determine if dispersing birds have moved into the area. Limited AGFD data indicate that dispersing birds tend to establish new territories in the fall and remain there through the winter and into the following breeding season.

If land clearing is not completed between completion of the second fall survey and December 31, we recommend the one-year survey protocol be reinitiated if suitable habitat for pygmy-owls is still present and is proposed for removal or disturbance.

- b) All other developments such as multiple (two or more) residential developments, commercial developments, public works, etc.:

We recommend that the two-year survey protocol identified for Zone 1 be

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<sup>15</sup> a single-family residence can include a guesthouse

completed for activities that remove or disturb suitable habitat. Survey results will be valid from the last survey during the second year of surveys until December 31 of that same calendar year. After January 1, we recommend additional surveys if suitable habitat for pygmy-owls is still present and is proposed for removal or disturbance.

### ZONE 3 AREAS WITHIN THE HISTORIC RANGE OF THE PYGMY-OWL WITH A LOW POTENTIAL OF OCCUPANCY

This zone includes portions of Santa Cruz, Gila, Graham, Maricopa, Cochise, and Pinal counties in Arizona (see current maps available from FWS, AGFD, or local planning and zoning departments). This area is based on the historical distribution of this species and the presence of suitable habitat. We are not recommending pygmy-owl surveys for private actions on private land that have no Federal nexus in Zone 3. This recommendation is based on the low likelihood of take of a pygmy-owl in this zone. We recommend that governmental agencies<sup>16</sup> take the lead in conducting surveys within suitable habitat in this zone to help determine if pygmy-owls are present.

For any land-clearing activities in Zone 3 affecting suitable pygmy-owl habitat, and involving private landowner actions that have a Federal nexus, consultation under Section 7 of the ESA may be required and the FWS may recommend that surveys be conducted.

If other activities<sup>17</sup> with a Federal nexus are proposed in Zones 1, 2, or 3 that could affect the pygmy-owl but do not involve the clearing of land, please contact the FWS for specific survey protocol guidance.

*NOTE: The FWS believes that following the above survey recommendations will greatly reduce the likelihood that your activity would result in take of the endangered cactus ferruginous pygmy-owl. However, no survey protocol is 100 percent effective and some risk remains that a pygmy-owl will be missed or will show up after surveys are completed. If a pygmy-owl is detected on your property at any time, even if you have conducted the surveys as recommended and the results were negative, you will need to contact the FWS immediately for assistance in helping you to comply with the ESA.*

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<sup>16</sup>Federal, State, county, or local municipalities and jurisdictions

<sup>17</sup>such as livestock grazing, blasting, recreation, ORV use, low-level flight, loud noises, etc.

PRIVATE CONTRACTORS WITH PERMITS\* TO CONDUCT SURVEYS  
FOR CACTUS FERRUGINOUS PYGMY-OWLS

*Updated April 2001*

Brian Arnold	Tetra Tech, Inc 591 Camino de la Reina, Suite 640 San Diego, CA 92108	619/718-9698
Angela Barclay	1448 East Hampton Street Tucson, AZ 85719	520/324-0250
Rick Black	Michael Baker J., Inc. 6955 Union Park Center, Suite 370 Midvale, UT 84047	801/352-5968
Ralph Brewer	CJ Surveys 5040 North Camino Arenosa Tucson, AZ 85718	520/615-1753
Charles Burt	Science Applications International Corp. 2109 Air Park Road Rd. SE Albuquerque, NM 87106	505/842-7840
Scott Carroll	1210 E. Prince Rd. Tucson, AZ 85719	520/888-5072
Mary Darling	Stantec Consulting, Inc. 4911 East Broadway Blvd. Tucson, AZ 85711	520/750-7474
David Dechambre	Northland Research, Inc. 528 W. Aspen Flagstaff, AZ 86001	520/774-5057
Karen Dryden	320 Pacifico Circle Litchfield Park, AZ 85340	623/935-0333
Jay Esler	J. K. E. Bio-Consulting 10750 W. Ina Rd. Tucson, AZ 85740	520/682-8456
Aaron Flesch	819 North 10 <sup>th</sup> Ave. Tucson, AZ 85705	520/798-1973

*\* A permit is required to conduct surveys for the pygmy-owl because it is a listed species with full protection under the Endangered Species Act of 1973, as amended. Permits are issued by the Service under section 10(a)(1)(A) of the Act. Only individuals with a valid permit from the Service may conduct surveys for pygmy-owls.*

Barbara Garrison	Logan Simpson Design, Inc. 51 West Third St., Suite 450 Tempe, AZ 85281	480/967-1346
Ryan Gordon	Entranco Engineers, Inc. 7740 N. 16 <sup>th</sup> Street, Suite 200 Phoenix, AZ 85020	602/889-7000
Trevor Hare	2718 East Croyden Tucson, AZ 85716	520/321-1462
Lisa Harris	Harris Consulting 1749 East 10 <sup>th</sup> St. Tucson, AZ 85719	520/ 628-7648
Andrea Helmstetter	HDR Engineering, Inc. 2141 E Highland Ave., Suite 250 Phoenix, AZ 85016-4736	602/508-6600
Douglas Henley	2645 W. Desert Bluffs CT. Tucson, AZ 85742	520/930-2279
Michael Huff	David Evans and Assoc. 345 E. Toole Avenue, Suite 300 Tucson, AZ 85701	520/388-9098
Denis Humphrey	P.O. Box 722 Show Low, AZ 85902	520/532-8267
Cameron Johnson	4154 E. Hayne St. Tucson, AZ 85711	520/323-2303
R. Roy Johnson	Johnson and Haight 3755 S. Hunters Run Tucson, AZ 85730	520/298-8418
Ken Kingsley	SWCA, Inc. Environmental Consultants 343 South Scott Ave. Tucson, AZ 85701	520/325-9194
Charles LeBar	Southern Nevada Environmental Inc 3280 S. Wynn Rd., Suite 6 Las Vegas, NV 89102	702/248-5370
Henry Messing	935 E. Annette Drive Phoenix, AZ 85022	602/867-8856
Marilyn Murov	801 W. Summit Ave. Flagstaff, AZ 86001	520/779-1583

Thomas Olsen	Thomas Olsen and Associates P.O. 1016 Flagstaff, AZ 86002	520/773-0127
Robert Perrill	10650 West Barney, Lane Tucson, AZ 85743	520/682-7441
Joseph Platt	URS Corp. 1790 E. River Road, Suite 300 Tucson, AZ 85718	520/529-1141
George Ruffner	EcoPlan Associates, Inc. 1845 South Dobson Road, Suite 111 Mesa, AZ 85202	602/831-8780
Stephane Smallhouse	HCI 840 Benson, AZ 85602	520/212-2639
Donald Smith	Sverdrup Corporation 637 South 48 <sup>th</sup> Street, Suite 101 Tempe, AZ 85281	602/303-9790
Janine Spencer	132 Park Avenue Prescott, AZ 86303	520/778-6732
Dale Stahlecker	30 Fonda Road Santa Fe, NM 87505	520/466-3453
Thomas Staudt	1511 E. Hampton Tucson, AZ 85719	520/322-6247
Debra Steinberg	8125 N. 89 <sup>th</sup> Dr. Peoria, AZ 85345	623/872-3388
Michael Terrio	P.O. Box 40482 Tucson, AZ 85717-0482	520/319-9127
Jim Tress	WestLand Resources 2343 E. Broadway Blvd., #202 Tucson, AZ 85719	520/206-9585
Ron van Ommeren	Senna Environmental Services 4326 Turney Phoenix, AZ 85018	602/954-4666

Randolph Wilson	Jones and Stokes Assoc., Inc. 340 E. Palm Lane, Suite A275 Phoenix, AZ 85004	602/256-6662
Michael Winn	Ecological Restoration and Mang. & Assoc. 8987 E. Tanque Verde #309-317 Tucson, AZ 85749-9399	520/749-5403
Brian Wooldridge	Engineering and Environmental Consultants 4625 East Fort Lowell Road Tucson, AZ 85712	520/321-4625

02/26/2001

## 1) LISTED

TOTAL= 13

NAME: ARIZONA HEDGEHOG CACTUS

*ECHINOCEREUS TRIGLOCHIDIATUS ARIZONICUS*

STATUS: ENDANGERED

CRITICAL HAB No RECOVERY PLAN: No CFR: 44 FR 61556, 10-15-1979

DESCRIPTION: DARK GREEN CYLINDROID 2.5-12 INCHES TALL, 2-10 INCHES IN  
DIAMETER, SINGLE OR IN CLUSTERS. 1-3 GRAY OR PINKISH CENTRAL  
SPINES LARGEST DEFLEXED AND 5-11 SHORTER RADIAL SPINES.  
FLOWER: BRILLIANT RED, SIDE OF STEM IN APRIL- MAY

ELEVATION

RANGE: 3700-5200 FT.

COUNTIES: MARICOPA, GILA, PINAL

HABITAT: ECOTONE BETWEEN INTERIOR CHAPPARAL AND MADREAN EVERGREEN WOODLAND

OPEN SLOPES, IN NARROW CRACKS BETWEEN BOULDERS, AND IN UNDERSTORY OF SHRUBS. THIS VARIETY IS  
BELIEVED TO INTERGRADE AT THE EDGES OF ITS DISTRIBUTION WITH VARIETIES MELANCANTHUS AND  
NEOMEXICANUS CAUSING SOME CONFUSION IN IDENTIFICATION.

NAME: NICHOL'S TURK'S HEAD CACTUS

*ECHINOCACTUS HORIZONTHALONIUS VAR NICHOLII*

STATUS: ENDANGERED

CRITICAL HAB No RECOVERY PLAN: No CFR: 44 FR 61927, 10-26-1979

DESCRIPTION: BLUE-GREEN TO YELLOWISH-GREEN, COLUMNAR, 18 INCHES TALL, 8  
INCHES IN DIAMETER. SPINE CLUSTERS HAVE 5 RADIAL & 3 CENTRAL  
SPINES; ONE DOWNWARD SHORT; 2 SPINES UPWARD AND RED OR  
BASALLY GRAY. FLOWER: PINK FRUIT: WOOLLY WHITE

ELEVATION

RANGE: 2400-4100 FT.

COUNTIES: PINAL, PIMA

HABITAT: SONORAN DESERTSCRUB

FOUND IN UNSHADED MICROSITES IN SONORAN DESERTSCRUB ON DISSECTED ALLUVIAL FANS AT THE FOOT OF  
LIMESTONE MOUNTAINS AND ON INCLINED TERRACES AND SADDLES ON LIMESTONE MOUNTAINSIDES.

NAME: LESSER LONG-NOSED BAT

*LEPTONYCTERIS CURASOAE YERBABUENAE*

STATUS: ENDANGERED

CRITICAL HAB No RECOVERY PLAN: Yes CFR: 53 FR 38456, 09-30-88

DESCRIPTION: ELONGATED MUZZLE, SMALL LEAF NOSE, AND LONG TONGUE.  
YELLOWISH BROWN OR GRAY ABOVE AND CINNAMON BROWN BELOW.  
TAIL MINUTE AND APPEARS TO BE LACKING. EASILY DISTURBED.

ELEVATION

RANGE: &lt;6000 FT.

COUNTIES: COCHISE, PIMA, SANTA CRUZ, GRAHAM, PINAL, MARICOPA

HABITAT: DESERT SCRUB HABITAT WITH AGAVE AND COLUMNAR CACTI PRESENT AS FOOD PLANTS

DAY ROOSTS IN CAVES AND ABANDONED TUNNELS. FORAGES AT NIGHT ON NECTAR, POLLEN, AND FRUIT OF  
PANICULATE AGAVES AND COLUMNAR CACTI. THIS SPECIES IS MIGRATORY AND IS PRESENT IN ARIZONA,  
USUALLY FROM APRIL TO SEPTEMBER AND SOUTH OF THE BORDER THE REMAINDER OF THE YEAR.

LISTED, PROPOSED, AND CANDIDATE SPECIES FOR THE FOLLOWING COUNTY:

PINAL

02/26/2001

NAME: DESERT PUFFISH

*CYPRINODON MACULARIUS*

STATUS: ENDANGERED

CRITICAL HAB Yes RECOVERY PLAN: Yes CFR: 51 FR 10842, 03-31-1986

DESCRIPTION: SMALL (2 INCHES) SMOOTHLY ROUNDED BODY SHAPE WITH NARROW VERTICAL BARS ON THE SIDES. BREEDING MALES BLUE ON HEAD AND SIDES WITH YELLOW ON TAIL. FEMALES & JUVENILES TAN TO OLIVE COLORED BACK AND SILVERY SIDES.

ELEVATION  
RANGE: <5000 FT.

COUNTIES: LA PAZ, PIMA, GRAHAM, MARICOPA, PINAL, YAVAPAI, SANTA CRUZ

HABITAT: SHALLOW SPRINGS, SMALL STREAMS, AND MARSHES. TOLERATES SALINE & WARM WATER

CRITICAL HABITAT INCLUDES QUITOBAQUITO SPRING, PIMA COUNTY, PORTIONS OF SAN FELIPE CREEK, CARRIZO WASH, AND FISH CREEK WASH, IMPERIAL COUNTY, CALIFORNIA. TWO SUBSPECIES ARE RECOGNIZED: DESERT PUFFISH (*C. m. macularis*) AND QUITOBAQUITO PUFFISH (*C. m. eremus*).

NAME: GILA TOPMINNOW

*POECILIOPSIS OCCIDENTALIS OCCIDENTALIS*

STATUS: ENDANGERED

CRITICAL HAB No RECOVERY PLAN: Yes CFR: 32 FR 4001, 03-11-1967

DESCRIPTION: SMALL (2 INCHES), GUPPY-LIKE, LIVE BEARING, LACKS DARK SPOTS ON ITS FINS. BREEDING MALES ARE JET BLACK WITH YELLOW FINS.

ELEVATION  
RANGE: <4500 FT.

COUNTIES: GILA, PINAL, GRAHAM, YAVAPAI, SANTA CRUZ, PIMA, MARICOPA, LA PAZ

HABITAT: SMALL STREAMS, SPRINGS, AND CIENEGAS VEGETATED SHALLOWS

SPECIES HISTORICALLY OCCURRED IN BACKWATERS OF LARGE RIVERS BUT IS CURRENTLY ISOLATED TO SMALL STREAMS AND SPRINGS

NAME: LOACH MINNOW

*TIAROGA COBITIS*

STATUS: THREATENED

CRITICAL HAB Yes RECOVERY PLAN: Yes CFR: 51 FR 39468, 10-28-1986; 59 FR 10898, 03-08-1994;

DESCRIPTION: SMALL (<3 INCHES LONG) SLENDER, ELONGATED FISH, OLIVE COLORED WITH DIRTY WHITE SPOTS AT THE BASE OF THE DORSAL AND CAUDAL FINS. BREEDING MALES VIVID RED ON MOUTH AND BASE OF FINS

ELEVATION  
RANGE: <8000 FT.

COUNTIES: PINAL, GRAHAM, GREENLEE, GILA, APACHE, NAVAJO, \*YAVAPAI, \*COCHISE, \*PIMA

HABITAT: BENTHIC SPECIES OF SMALL TO LARGE PERENNIAL STREAMS WITH SWIFT SHALLOW WATER OVER COBBLE & GRAVEL. RECURRENT FLOODING AND NATURAL HYDROGRAPH IMPORTANT.

PRESENTLY FOUND IN ARAVAIPA CREEK, BLUE RIVER, CAMPBELL BLUE CREEK, SAN FRANCISCO RIVER, DRY BLUE CREEK, TULAROSA RIVER, EAST-WEST-AND MIDDLE FORKS OF THE GILA RIVER, EAGLE CREEK, EAST FORK, BLACK RIVER, AND THE MAINSTEM UPPER GILA RIVER. CRITICAL HABITAT WAS REMOVED IN MARCH 1998; BUT RE-PROPOSED DEC 1999 AND FINALIZED APRIL 2000. SPECIES ALSO FOUND IN CATRON, GRANT, AND HIDALGO COUNTIES IN NEW MEXICO. \*COUNTIES WITH CRITICAL HABITAT PRESENTLY CONTAIN NO KNOWN EXISTING POPULATIONS OF LOACH MINNOW.



LISTED, PROPOSED, AND CANDIDATE SPECIES FOR THE FOLLOWING COUNTY:

PINAL

02/26/2001

NAME: RAZORBACK SUCKER

*XYRAUCHEN TEXANUS*

STATUS: ENDANGERED

CRITICAL HAB Yes RECOVERY PLAN: Yes CFR: 55 FR 21154, 05-22-1990;

DESCRIPTION: LARGE (UP TO 3 FEET AND UP TO 16 POUNDS) LONG, HIGH SHARP-

59 FR 13374, 03-21-1994

EDGED KEEL-LIKE HUMP BEHIND THE HEAD. HEAD FLATTENED ON TOP.

OLIVE-BROWN ABOVE TO YELLOWISH BELOW.

ELEVATION

RANGE: <6000 FT.

COUNTIES: GREENLEE, MOHAVE, PINAL, YAVAPAI, YUMA, LA PAZ, MARICOPA (REFUGIA), GILA, COCONINO, GRAHAM

HABITAT: RIVERINE & LACUSTRINE AREAS, GENERALLY NOT IN FAST MOVING WATER AND MAY USE BACKWATERS

SPECIES IS ALSO FOUND IN HORSESHOE RESERVOIR (MARICOPA COUNTY). CRITICAL HABITAT INCLUDES THE 100-YEAR FLOODPLAIN OF THE RIVER THROUGH GRAND CANYON FROM CONFLUENCE WITH PARIA RIVER TO HOOVER DAM; HOOVER DAM TO DAVIS DAM; PARKER DAM TO IMPERIAL DAM. ALSO GILA RIVER FROM AZ/NM BORDER TO COOLIDGE DAM; AND SALT RIVER FROM HWY 60/SR 77 BRIDGE TO ROOSEVELT DAM; VERDE RIVER FROM FS BOUNDARY TO HORSESHOE LAKE.

NAME: SPIKEDACE

*MEDA FULGIDA*

STATUS: THREATENED

CRITICAL HAB Yes RECOVERY PLAN: Yes CFR: 51 FR 23769, 07-01-1986;

DESCRIPTION: SMALL (<3 INCHES) SLIM WITH SILVERY SIDES & "SPINE" ON DORSAL

59 FR 10906, 03-08-1994;

FIN. BREEDING MALES BRASSY GOLDEN COLOR

ELEVATION

RANGE: <6000 FT.

COUNTIES: GRAHAM, PINAL, GREENLEE, YAVAPAI, APACHE\*, COCHISE\*, GILA\*, NAVAJO\*, PIMA\*

HABITAT: MODERATE TO LARGE PERENNIAL STREAMS WITH GRAVEL COBBLE SUBSTRATES AND MODERATE TO SWIFT VELOCITIES OVER SAND AND GRAVEL SUBSTRATES. RECURRENT FLOODING AND NATURAL

PRESENTLY FOUND IN ARAVAIPA CREEK, EAGLE CREEK, VERDE RIVER, EAST-WEST- MAIN AND MIDDLE FORKS OF THE GILA RIVER IN NEW MEXICO, AND GILA RIVER FROM SAN PEDRO RIVER TO ASHURST HAYDEN DAM. CRITICAL HABITAT WAS REMOVED IN MARCH 1998, BUT RE-PROPOSED DEC 1999 AND FINALIZED IN APRIL 2000. SPECIES ALSO FOUND IN CATRON, GRANT, AND HIDALGO COUNTIES IN NEW MEXICO. \*COUNTIES WITH CRITICAL HABITAT PRESENTLY CONTAIN NO KNOWN EXISTING POPULATIONS OF SPIKEDACE.

NAME: BALD EAGLE

*HALIAEETUS LEUCOCEPHALUS*

STATUS: THREATENED

CRITICAL HAB No RECOVERY PLAN: Yes CFR: 60 FR 35999, 07-12-95

DESCRIPTION: LARGE, ADULTS HAVE WHITE HEAD AND TAIL. HEIGHT 28 - 38";

WINGSPAN 66 - 96". 1-4 YRS DARK WITH VARYING DEGREES OF

MOTTLED BROWN PLUMAGE. FEET BARE OF FEATHERS.

ELEVATION

RANGE: VARIES FT.

COUNTIES: YUMA, LA PAZ, MOHAVE, YAVAPAI, MARICOPA, PINAL, COCONINO, NAVAJO, APACHE, SANTA CRUZ, PIMA, GILA, GRAHAM, COCHISE

HABITAT: LARGE TREES OR CLIFFS NEAR WATER (RESERVOIRS, RIVERS AND STREAMS) WITH ABUNDANT PREY

SOME BIRDS ARE NESTING RESIDENTS WHILE A LARGER NUMBER WINTERS ALONG RIVERS AND RESERVOIRS. AN ESTIMATED 200 TO 300 BIRDS WINTER IN ARIZONA. ONCE ENDANGERED (32 FR 4001, 03-11-1967; 43 FR 6233, 02-14-78) BECAUSE OF REPRODUCTIVE FAILURES FROM PESTICIDE POISONING AND LOSS OF HABITAT, THIS SPECIES WAS DOWN LISTED TO THREATENED ON AUGUST 11, 1995. ILLEGAL SHOOTING, DISTURBANCE, LOSS OF HABITAT CONTINUES TO BE A PROBLEM. SPECIES HAS BEEN PROPOSED FOR DELISTING (64 FR 36454) BUT STILL RECEIVES FULL PROTECTION UNDER ESA.

LISTED, PROPOSED, AND CANDIDATE SPECIES FOR THE FOLLOWING COUNTY:

PINAL

02/26/2001

NAME: CACTUS FERRUGINOUS PYGMY-OWL

*GLAUCIDIUM BRASILIANUM CACTORUM*

STATUS: ENDANGERED

CRITICAL HAB Yes RECOVERY PLAN: No CFR: 62 FR 10730, 3-10-97

DESCRIPTION: SMALL (APPROX. 7"), DIURNAL OWL REDDISH BROWN OVERALL WITH CREAM-COLORED BELLY STREAKED WITH REDDISH BROWN. SOME INDIVIDUALS ARE GRAYISH BROWN

ELEVATION

RANGE: <4000 FT.

COUNTIES: MARICOPA, YUMA, SANTA CRUZ, GRAHAM, GREENLEE, PIMA, PINAL, GILA, COCHISE

HABITAT: MATURE COTTONWOOD/WILLOW, MESQUITE BOSQUES, AND SONORAN DESERT SCRUB

RANGE LIMIT IN ARIZONA IS FROM NEW RIVER (NORTH) TO GILA BOX (EAST) TO CABEZA PRIETA MOUNTAINS (WEST). ONLY A FEW DOCUMENTED SITES WHERE THIS SPECIES PERSISTS ARE KNOWN, ADDITIONAL SURVEYS ARE NEEDED. CRITICAL HABITAT IN PIMA, COCHISE, PINAL, AND MARICOPA COUNTIES (64 FR 37419).

NAME: MEXICAN SPOTTED OWL

*STRIX OCCIDENTALIS LUCIDA*

STATUS: THREATENED

CRITICAL HAB Yes RECOVERY PLAN: Yes CFR: 56 FR 14678, 04-11-91; 66

DESCRIPTION: MEDIUM SIZED WITH DARK EYES AND NO EAR TUFTS. BROWNISH AND HEAVILY SPOTTED WITH WHITE OR BEIGE.

FR 8530, 2/1/01

ELEVATION

RANGE: 4100-9000 FT.

COUNTIES: MOHAVE, COCONINO, NAVAJO, APACHE, YAVAPAI, GRAHAM, GREENLEE, COCHISE, SANTA CRUZ, PIMA, PINAL, GILA, MARICOPA

HABITAT: NESTS IN CANYONS AND DENSE FORESTS WITH MULTI-LAYERED FOLIAGE STRUCTURE

GENERALLY NESTS IN OLDER FORESTS OF MIXED CONIFER OR PONDEROSA PINE/GAMBEL OAK TYPE, IN CANYONS, AND USE VARIETY OF HABITATS FOR FORAGING. SITES WITH COOL MICROCLIMATES APPEAR TO BE OF IMPORTANCE OR ARE PREFERRED. CRITICAL HABITAT WAS REMOVED IN 1998 BUT RE-PROPOSED IN JULY 2000 AND FINALIZED IN FEB 2001 FOR APACHE, COCHISE, COCONINO, GRAHAM, MOHAVE, PIMA COUNTIES; ALSO IN NEW MEXICO, UTAH, AND COLORADO.

NAME: SOUTHWESTERN WILLOW FLYCATCHER

*EMPIDONAX TRAILLII EXTIMUS*

STATUS: ENDANGERED

CRITICAL HAB Yes RECOVERY PLAN: No CFR: 60 FR 10694, 02-27-95

DESCRIPTION: SMALL PASSERINE (ABOUT 6") GRAYISH-GREEN BACK AND WINGS, WHITISH THROAT, LIGHT OLIVE-GRAY BREAST AND PALE YELLOWISH BELLY. TWO WINGBARS VISIBLE. EYE-RING FAINT OR ABSENT.

ELEVATION

RANGE: <8500 FT.

COUNTIES: YAVAPAI, GILA, MARICOPA, MOHAVE, COCONINO, NAVAJO, APACHE, PINAL, LA PAZ, GREENLEE, GRAHAM, YUMA, PIMA, COCHISE, SANTA CRUZ

HABITAT: COTTONWOOD/WILLOW & TAMARISK VEGETATION COMMUNITIES ALONG RIVERS & STREAMS

MIGRATORY RIPARIAN OBLIGATE SPECIES THAT OCCUPIES BREEDING HABITAT FROM LATE APRIL TO SEPTEMBER. DISTRIBUTION WITHIN ITS RANGE IS RESTRICTED TO RIPARIAN CORRIDORS. DIFFICULT TO DISTINGUISH FROM OTHER MEMBERS OF THE EMPIDONAX COMPLEX BY SIGHT ALONE. TRAINING SEMINAR REQUIRED FOR THOSE CONDUCTING FLYCATCHER SURVEYS. CRITICAL HABITAT ON PORTIONS OF THE 100-YEAR FLOODPLAIN ON SAN PEDRO AND VERDE RIVERS; WET BEAVER AND WEST CLEAR CREEKS, INCLUDING TAVASCI MARSH AND ISTER FLAT; THE COLORADO RIVER, THE LITTLE COLORADO RIVER, AND THE WEST, EAST, AND SOUTH FORKS OF THE LITTLE COLORADO RIVER, REFERENCE 60 CFR:62 FR 39129, 7/22/97.

LISTED, PROPOSED, AND CANDIDATE SPECIES FOR THE FOLLOWING COUNTY:

PINAL

02/26/2001

NAME: YUMA CLAPPER RAIL

*RALLUS LONGIROSTRIS YUMANENSIS*

STATUS: ENDANGERED

CRITICAL HAB No RECOVERY PLAN: Yes CFR: 32 FR 4001, 03-11-67; 48

DESCRIPTION: WATER BIRD WITH LONG LEGS AND SHORT TAIL. LONG SLENDER

FR 34182, 07-27-83

DECURVED BILL. MOTTLED BROWN ON GRAY ON ITS RUMP. FLANKS

AND UNDERSIDES ARE DARK GRAY WITH NARROW VERTICAL STRIPES

PRODUCING A BARRING EFFECT.

ELEVATION

RANGE: <4500 FT.

COUNTIES: YUMA, LA PAZ, MARICOPA, PINAL, MOHAVE

HABITAT: FRESH WATER AND BRACKISH MARSHES

SPECIES IS ASSOCIATED WITH DENSE EMERGENT RIPARIAN VEGETATION. REQUIRES WET SUBSTRATE (MUDFLAT, SANDBAR) WITH DENSE HERBACEOUS OR WOODY VEGETATION FOR NESTING AND FORAGING. CHANNELIZATION AND MARSH DEVELOPMENT ARE PRIMARY SOURCES OF HABITAT LOSS.

02/26/2001

## 2) PROPOSED

TOTAL= 1

NAME: MOUNTAIN PLOVER

*CHARADRIUS MONTANUS*

STATUS: PROPOSED THREATENED      CRITICAL HAB No      RECOVERY PLAN: No      CFR: 64 FR 7587; 02-16-1999

DESCRIPTION: IN BREEDING SEASON WITH WHITE FOREHEAD AND LINE OVER THE  
EYE; CONTRASTING WITH DARK CROWN; NONDESCRIPT IN WINTER.  
VOICE IS LOW, VARIABLE WHISTLE.

ELEVATION

RANGE: VARIABLE FT.

COUNTIES: YUMA, PIMA, COCHISE, PINAL, APACHE

HABITAT: OPEN ARID PLAINS, SHORT-GRASS PRAIRIES, AND CULTIVATED FORMS.

SPECIES PRIMARILY FOUND IN ROCKY MOUNTAIN STATES FROM CANADA TO MEXICO. AZ PRIMARILY PROVIDES  
WITNERING HABITAT. BREEDING HAS BEEN DOCUMENTED, BUT IS RARE, AND IS LIKELY RESTRICTED TO TRIBAL  
AND STATE LANDS IN APACHE COUNTY.

02/26/2001

### 3) CANDIDATE

TOTAL= 1

NAME: ACUNA CACTUS

*ECHINOMASTUS ERECTOCENTRUS ACUNENSIS*

STATUS: CANDIDATE

CRITICAL HAB No RECOVERY PLAN: No CFR:

DESCRIPTION: <12 INCHES HIGH SPINE CLUSTERS BORNE ON TUBERCLES, EACH WITH  
A GROOVE ON THE UPPER SURFACE. 2-3 CENTRAL SPINES AND 12  
RADIAL SPINES. FLOWERS PINK TO PURPLE

ELEVATION

RANGE: 1300-2000 FT.

COUNTIES: PINAL, PIMA

HABITAT: WELL DRAINED KNOLLS AND GRAVEL RIDGES IN SONORAN DESERT SCRUB

IMMATURE PLANTS DISTINCTLY DIFFERENT FROM MATURE PLANTS. THEY ARE DISC-SHAPED OR SPHERICAL AND HAVE NO CENTRAL SPINES UNTIL THEY ARE ABOUT 1.5 INCHES . RADIAL SPINES ARE DIRTY WHITE WITH MAROON TIPS.



JANE DEE HULL  
GOVERNOR

STATE OF ARIZONA  
*Division of Emergency Management*  
5636 EAST McDOWELL ROAD  
PHOENIX, ARIZONA 85008-3495  
(602) 244-0504 1-800-411-2336

EXHIBIT I



MICHAEL P. AUSTIN  
DIRECTOR

May 16, 2001

Mr. Nicholas J. Pela  
Senior Airport Planner  
Gannett Fleming, Inc.  
3001 E. Camelback Rd., Suite 130  
Phoenix, AZ 85016-4498

Re: Superior Municipal Airport, GF Job No. 37776  
Preliminary Environmental Scoping

Dear Mr. Pela:

Your letter regarding the master planning for the captioned airport was forwarded to me rather late and I apologize for my late reply to your inquiry. The duties of state coordinator for the National Flood Insurance Program (NFIP) were transferred to this agency effective October 1, 2000.

The site chosen for the airport by the Superior Town Council, Site #11, in Sections 29 and 30, T.2.S, R.10.E., does appear to be most convenient to ground transportation. There are numerous small washes in the area and there is an indication on our Flood Insurance Rate Map (FIRM) that there is an undelineated wash running through both sections. At the time of actual development, a floodplain delineation will be required to assure that there will be no flood damage to runways and buildings on the site.

If we can be of further assistance, please don't hesitate to contact our office at (602) 392-7539.

Sincerely,

Terri Miller  
Executive Consultant  
National Flood Insurance Program

