

10.0 Environmental Planning and

This element addresses the quality of the environment and the conservation of natural resources. It also addresses the protection of Mesa's historic sites and structures. It combines the provisions of the Environmental Planning Element and the Conservation Element as required by the Arizona Growing Smarter Statute.



In addressing these issues, this element presents policies and strategies that are largely broad-based with community-wide applicability and does not require the production of environmental impact statements or similar analysis beyond that currently required by state and federal law. The discussion and strategies are also intended to complement and support those identified in other elements of the General Plan.

10.1 Background

This section presents brief summaries of the issues for which this element includes policies. Each summary highlights relevant background information and establishes the context for the policies and programs that follow.

10.1.1 Air Quality Management

Air quality continues to be one of the more serious concerns in Maricopa County. The Environmental Protection Agency (EPA) has established health-based standards for many air pollutants and in the Maricopa County region and pollutants of primary concern are carbon monoxide, ozone and particulate pollution.

One of the major sources of carbon monoxide and ozone pollution in this region is the exhaust from gasoline and diesel powered vehicles. To help solve this problem, Mesa has converted over 70% of City vehicles to the alternative fuel, compressed natural gas, and is working on a pilot program to evaluate pollution control equipment for heavy-duty diesel vehicles, which also contribute to particulate pollution.

Earthmoving activities associated with construction and agricultural activities are major sources of particulate pollution. Mesa has developed an innovative program to work with construction companies, County and State regulators and

residents to reduce this source of pollution. Mesa is also implementing a plan to stabilize unpaved roads, shoulders and alleys throughout the City to significantly reduce particulate emissions from these sources.

Air quality problems are exacerbated in the winter in the metropolitan area by layers of cold air above warmer air, trapping the warmer air to creating an inversion layer. Pollutants from vehicle exhaust and other sources are trapped beneath the inversion layer and contribute to the “brown cloud.” To help reduce vehicle emissions, Mesa supports a trip reduction and ride-share program for City employees, and has won several environmental awards for the effectiveness of these efforts. During high pollution advisories the City implements a plan to reduce vehicle trips by employees to the greatest extent possible.

10.1.2 Water Quality and Conservation

The City of Mesa Utilities Department serves more than 435,000 residents in its service area. A description of the City’s water resources and facilities is provided in Section 11.0, Water Resources, of this General Plan.

The City of Mesa Water Quality Services Department is responsible for monitoring the quality of the City’s water and ensuring that it is safe for the City’s residents and businesses. The City maintains an aggressive program to insure compliance with the Drinking Water Standards set by the United States Environmental Protection Agency (EPA) and the Arizona Department of Environmental Quality (ADEQ).

10.1.3 Energy Conservation

The City’s ability to promote energy conservation encompasses a wide range of areas and disciplines. Land use designations incorporate several basic planning concepts relating to energy consumption. There is an attempt to locate higher density residential neighborhoods near employment centers reducing the distance and amount of energy needed to move between the uses during a daily commute. Large industrial users are designated near major transportation corridors eliminating additional trips within the City.

The City also promotes Transportation Demand Management (TDM) and Transportation System Management (TSM) that makes travel more efficient and less energy consumptive.

The City can also address energy conservation through the promotion of recycling efforts, solar-conscious design, and educational campaigns informing residents about the importance and need to be energy conscious.

10.1.4 Archaeological Resources

Mesa is located in an area with a rich settlement history, with occupation dating back to prehistoric times. As a result, there is an abundance of archaeological resources throughout the City. This includes Hohokam village sites and at least 15 mapped Hohokam canals. The alignment of the Western Branch of the Tempe Canal is just to the west of the Apache Boulevard crossing of the Tempe Canal, which remains in use today and is the boundary between Tempe and Mesa. The Nephi Canal and Eureka Ditch both were branches of the Mesa Canal, which were crucial to the survival of the Mormon settlers in the late 1800s.

10.1.5 Historic Preservation

The City of Mesa has made a serious commitment to protecting the City's heritage through the Historic Preservation Program. The purpose of this program is to encourage and facilitate public knowledge, understanding, and appreciation of the City's history, awareness of its architectural and cultural history, and to foster civic and neighborhood pride. The City Council approved a City-wide Historic Preservation Plan on May 6, 2002 in Resolution #7829. The Historic Preservation Plan seeks to provide consistency among the City's policies that affect the community's cultural resources and to improve coordination among City departments in achieving historic preservation goals.

The City has four designated historic districts on the National Register of Historic Places (Evergreen, West Second Street, Temple and Wilbur) and is seeking designation for the Robson Historic District. The City also has numerous individual properties listed on the National Register: Mesa Women's Club (204 S. McDonald); Strauch House/Fuller House (148 N. McDonald); Spangler/Wilbur House (128 N. McDonald); Joel E. Serrine House (160 N. Center); Alhambra Hotel (43 S. McDonald); Mitten House (22 E. First Avenue); Scott Robert House (2230 E. Grandview); the Irving School (155 N. Center); the Angelo-Hostetter House (150 N. Wilbur); the Hohokam-Mormon Irrigation Canal; and Mesa Grande, a partially excavated Hohokam site. In addition, Mesa has three properties that have been declared historic landmarks: the James A. Macdonald House, the Irving School, and Crismon Farm. Although not formally recognized as a landmark, the Arizona Temple is a contributing property to the Temple Historic District and is individually eligible for listing on the National Register.

10.1.6 Natural Habitat Preservation

A diversity of plant and wildlife species plays a critical role in preserving the quality and function of the natural environment. To this end, it is imperative that land that supports diverse wildlife and plant communities be preserved and protected from fragmentation. The impacts from development and other human activities can be significant. An activity that disrupts a segment of the ecosystem may have ripple effects upon the rest of the system. Therefore, responsible

planning principles would promote the protection of significant native plant and wildlife communities.

An objective within this element promotes the preservation and maintenance of connections between wildlife habitats by identifying open space corridors for unimpeded movement. These corridors can also function as trails linking pedestrians, bicyclists, and equestrian users to open spaces. The Salt River and the City's numerous canals are ideal opportunities for these corridors.

10.1.7 Land Utilization and Protection

The natural and manmade features of Mesa's land present relatively few significant obstacles to development. Nonetheless, the City recognizes that there are some important principles to be followed in permitting new development. This is particularly true in the Desert Uplands section of the Planning Area, where natural topographical and geological conditions constrain development. These constraints are recognized in the *Desert Uplands Development Standards*, which the City adopted in 1999 to ensure protection of the natural qualities of the area, as well as to protect new development against naturally hazardous conditions. This element outlines several basic policies for the use of land in the Planning Area, including several derived from the *Desert Upland Development Standards*. These policies, combined with those included in the Open Space/Recreation and Safety Elements, ensure that new development in Mesa is consistent with the natural features of the community.

10.2 Goals, Objectives, and Policies

Goal EPC-1

Promote a high level of environmental quality with a safe, healthy, and enjoyable environment for Mesa residents.

Objective EPC-1.1

Protect and improve air quality in the planning area.

Policy EPC-1.1a

Take a lead position regionally to identify and implement innovative and effective pollution mitigation strategies.

Policy EPC-1.1b

Support the Maricopa Association of Governments, Maricopa County Department of Environmental Services, and the Arizona Department of Environmental Quality in their development of improved ambient air quality monitoring capabilities and the establishment of standards, thresholds, and rules to more adequately address the air quality impacts of new development.

Policy EPC-1.1c

Consider air quality impacts as part of project-level development review. Coordinate with project proponents and other agencies in ensuring the implementation of and monitoring the results of mitigation strategies.

- Policy EPC-1.1d Consider alternatives or amendments that reduce emissions of air pollutants in reviewing project applications with potential for creating air quality impacts.
- Policy EPC-1.1e Encourage the paving of dirt and gravel roads and discourage the creation of new unimproved roads.
- Policy EPC-1.1f Provide information to developers and contractors on methods to reduce construction-related pollution sources.

Objective EPC-1.2 Integrate air quality planning with the land use and transportation planning processes.

- Policy EPC-1.2a Support smooth-flowing traffic conditions for major roadways through planning of traffic signals and traffic signal coordination, parallel roadways, and intra- and inter-neighborhood connections where significant reductions in overall emissions can be achieved.
- Policy EPC-1.2b Continue and, where appropriate, expand the use of synchronized traffic signals to smooth traffic flow and thereby reduce pollutant emissions.
- Policy EPC-1.2c Encourage the use of alternative modes of transportation by incorporating public transit, bicycle, and pedestrian modes in City transportation planning and by encouraging new development to provide adequate pedestrian and bikeway facilities.
- Policy EPC-1.2d Consider including limitations in parking supply in areas where alternative transportation modes are available and other measures identified by the Maricopa Association of Governments.
- Policy EPC-1.2e Encourage land use configurations in all new or revitalized development projects that minimize vehicle trips and trip lengths.
- Policy EPC-1.2f Promote land use patterns that decrease automobile travel between home and the workplace.

Objective EPC-1.3 Ensure the availability of an adequate and safe water supply and the maintenance of high quality water in sources of domestic supply.

- Policy EPC-1.3a Support State and County provisions to assure that water supplies serving new development meet state water quality standards.
- Policy EPC-1.3b Support the County's requirement that new development adjacent to bodies of water used as domestic water sources adequately mitigate potential water quality impacts on these water bodies.
- Policy EPC-1.3c Promote efficient water use and reduced water demand by:
- Requiring water-conserving design and equipment in new construction;
 - Encouraging water-conserving landscaping and other conservation measures;

- Encouraging retrofitting existing development with water-conserving devices; and
 - Encouraging water-conserving agricultural irrigation practices.
- Policy EPC-1.3d Promote the long-term conservation of water resources through the use of renewable water resources.
- Policy EPC-1.3e Promote individual water conservation through the use of low-flow plumbing fixtures and the use of xeriscape landscaping principles, including the installation of low water use plant materials and efficient irrigation systems (drip/low-flow).
- Policy EPC-1.3f Require the use of public wastewater systems for all types of development to minimize the potential for groundwater contamination.
- Policy EPC-1.3g Continue to devote time and resources toward the public education of the needs and benefits of water conservation.
- Policy EPC-1.3h Continue to require the use of feasible and practical Best Management Practices (BMPs) to protect receiving waters from the adverse effects of construction activities and urban runoff.
- Policy EPC-1.3i Encourage the protection of floodplain lands and where appropriate, acquire public easements for purposes of flood protection, public safety, wildlife preservation, groundwater recharge, access, and recreation.
- Objective EPC-1.4** Promote energy conservation within Mesa.
- Policy EPC-1.4a Utilize recycled products where appropriate in City operations and encourage a "buy recycled" campaign to help create markets for recycled materials.
- Policy EPC-1.4b Encourage development plans that will incorporate energy conservation through:
 - Travel Demand Management (TDM) techniques
 - Use of active and passive solar energy systems
 - Appropriate building orientation, site planning and landscape shading
- Policy EPC-1.4c Continue to apply energy conservation techniques in the development and operation of municipal facilities.
- Policy EPC-1.4d Encourage the use of recycled products whenever possible.
- Policy EPC-1.4e Utilize energy conservation techniques and operating procedures at municipal facilities.
- Policy EPC-1.4f Encourage residents, developers, and employers to utilize recycled products and recycle those products that can be reused.
- Policy EPC-1.4g Maintain and enhance programs for recycling, including separate trash and recycle containers for residential residents.
- Policy EPC-1.4h Encourage the use of TDM and TSM strategies which optimize traffic flow.

- Policy EPC-1.4i Encourage architecture that considers solar energy systems, orientation, and site development.
- Policy EPC-1.4j Encourage landscape design and plantings that incorporate energy conservation by providing, shade in summer and solar access in winter months.
- Policy EPC-1.4k Encourage the use of transit and the extension of bus service to reduce the amount of fuel consumption and traffic congestion.

Goal EPC-2

Provide for the protection and enhancement of the archaeological, cultural, and historic resources that are important to the heritage of Mesa.

Objective EPC-2.1

Identify, protect, and enhance Mesa's important archaeological and cultural sites and their contributing environment.

- Policy EPC-2.1a Solicit the cooperation of the owners of cultural resources, encourage those owners to treat these resources as assets rather than liabilities, and encourage the support of the general public for the preservation and enhancement of these resources.
- Policy EPC-2.1b Solicit the views of the local Native American community in cases where development may result in disturbance to sites containing evidence of Native American activity and/or to sites of cultural importance.
- Policy EPC-2.1c Coordinate with Maricopa County to promote the preservation and maintenance of archaeological resources in the Planning Area.
- Policy EPC-2.1d Utilize, where feasible, incentive programs to assist private property owners in preserving and enhancing cultural resources.
- Policy EPC-2.1e Require that discretionary development projects identify and protect from damage, destruction, and abuse, important historical, archaeological, and cultural sites and their contributing environment. Such assessments shall be incorporated into a Citywide cultural resource database.
- Policy EPC-2.1f Require that discretionary development projects are designed to avoid potential impacts to significant cultural resources whenever possible. Unavoidable impacts, whenever possible, shall be reduced to a less than significant level and/or shall be mitigated by extracting maximum recoverable data. Qualified archaeological or historical consultants, depending on the type of resource in question, shall make determinations of impacts, significance, and mitigation.
- Policy EPC-2.1g Maintain confidentiality regarding the locations of archaeological sites in order to preserve and protect these resources from vandalism and the unauthorized removal of artifacts.
- Policy EPC-2.1h Consider acquisition programs as a means of preserving significant cultural resources that are not suitable for private development.

Policy EPC-2.1i Continue research and evaluation of the Mesa Grande Ruins and promote the improvement and preservation of this significant archeological site.

Objective EPC-2.2 Preserve and enhance the historical features of the Mesa area.

Policy EPC-2.2a Continue to implement its Historic Preservation Program to promote the restoration and preservation of existing historic districts and landmarks.

Policy EPC-2.2b Expand survey efforts and designate additional historic districts and landmarks for the restoration and preservation of areas, buildings, and sites in Mesa that are of historic, cultural, and/or architectural significance.

Policy EPC-2.2c Support the registration of cultural resources in appropriate landmark designations (i.e., National Register of Historic Places, Points of Historical Interest, or Local Landmark).

Policy EPC-2.2d Provide restoration priority to those buildings and open space areas identified as having historic, cultural, or architectural significance that are in imminent danger of decay or demolition.

Policy EPC-2.2e Encourage federal and state government agencies as well as financial institutions and private citizens to provide loans for refurbishing historical buildings and restoring artifacts and memorabilia.

Policy EPC-2.2f Support legislation to provide incentives for maintaining and enhancing structural stability and aesthetic value of significant structures.

Policy EPC-2.2g Encourage local citizens to cooperate in a campaign to identify and publicize the significance of historical sites and buildings.

Policy EPC-2.2h Review all building or demolition permits for buildings either designated historic or within historic districts to ensure, where feasible, the preservation of these historic facilities.

Policy EPC-2.2i Protect and enhance the integrity of the historical atmosphere by supporting the restoration, renovation, and adaptive reuse of historic buildings.

Policy EPC-2.2j Promote the reuse of historic buildings for both public and private uses.

Policy EPC-2.2k Develop and support a community awareness program for historic preservation.

Policy EPC-2.2l Provide technical assistance availability through the Historic Preservation Program

Goal EPC-3

Provide for the protection and wise use of the resources of the natural environment in Mesa.

Objective EPC-3.1 Maintain connections between wildlife habitats by identifying and protecting corridors for unimpeded movement.

- Policy EPC-3.1a Establish sufficient trails, wildlife corridors, and other linear linkages between large open space areas.
- Policy EPC-3.1b Require an effective means for the safe and uninterrupted movement of wildlife through open space corridors at all infrastructure and roadway crossings.
- Policy EPC-3.1c Encourage the design of walls and fences to not disrupt natural wildlife movement patterns and design all infrastructure and roadways to minimize the impact on wildlife corridors.
- Policy EPC-3.1d Incorporate design techniques and measures that minimize conflicts between humans and wildlife.
- Policy EPC-3.1e Design public recreational spaces to be wildlife-friendly whenever possible.
- Policy EPC-3.1f Promote enhanced landscaping along washes and wildlife corridors to promote the use of such areas by native wildlife.
- Policy EPC-3.1g Encourage the establishment of open space lands that restrict and/or limit human use to protect significant plant and animal habitats.
- Policy EPC-3.1h Encourage the preservation of a system of linkages, connections, and gateways between significant open spaces and significant animal and plant habitats.

Objective EPC-3.2 Promote the protection, enhancement, and establishment of native vegetation and plant species.

- Policy EPC-3.2a Require new development in the Desert Upland Area of Mesa to comply with the Native Plant Preservation provisions of the Desert Upland Development Standards.
- Policy EPC-3.2b Encourage the use of indigenous or adapted plant materials in new developments, and minimize the use of invasive and non-native plant species in the Planning Area, including those identified in the Native Plant Preservation provisions of the Desert Upland Development Standards.
- Policy EPC-3.2c Promote the restoration and re-vegetation of disturbed areas with native plant species so that the disturbed area, over a reasonable amount of time, matches the plant densities of the undisturbed setting.
- Policy EPC-3.2d Recognize and protect areas of significant natural vegetation (such as areas along washes, natural spring areas, or on slopes) that are advantageous to the increased densities of the native vegetation.

Objective EPC-3.3 Ensure that new development recognizes limitations associated with the natural features of the land, including slope, unstable soils, and floodplains.

- Policy EPC-3.3a Encourage the preservation of slopes of fifteen percent (15%) or greater remain in undeveloped natural open space.

- Policy EPC-3.3b Encourage the provision of an open space or drainage easement for those lot areas with slopes of fifteen percent (15%) or greater or natural area washes that may carry drainage.
- Policy EPC-3.3c Encourage the identification of the open space within the lots, common open space areas with slopes of fifteen percent (15%) or greater, or natural area washes that may carry drainage. Encourage that these open spaces be secured by an open space and/or drainage easement and be maintained by the lot owner or homeowners' association.
- Policy EPC-3.3d Require that ridgelines remain as undeveloped natural open space.
- Policy EPC-3.3e Encourage, where feasible, the maintenance of retained washes and new drainage channels in a "natural" desert character. Solutions may include landscaping with native rock and plant materials, use of integral colored alternative material, contouring, and preservation of existing natural features.
- Policy EPC-3.3f Encourage, where feasible, the utilization of native materials in the construction of headwalls, flow-retardant structures and devices, culverts, and drainage channel bottoms in the Desert Uplands Area.
- Policy EPC-3.3g Provide flexibility to standards to allow local street design to be adjusted to the topography of the area, including significant features such as washes, hillsides, boulders, rock outcroppings, and established stands of native vegetation.
- Policy EPC-3.3h Promote, where applicable, minimum site grading to encourage integration with the natural contours of the land.
- Policy EPC-3.3i Encourage that changes in natural drainage patterns be avoided. Where changes to the natural drainage patterns are necessary, a master drainage plan showing how the altered flows will be handled shall be prepared.
- Policy EPC-3.3j Support the implementation of remediation strategies by the Arizona Department of Environmental Quality for sites included in the State Superfund Program and other sites contaminated by hazardous materials.
- Policy EPC-3.3k Restrict development in floodplains and floodways according to FEMA designations.
- Policy EPC-3.3l Develop a GIS-based inventory of seismic and subsidence areas and other known geological limitations and discourage development in these areas that is incompatible with these conditions unless they can be safely mitigated.
- Policy EPC-3.3m Develop a GIS-based inventory for soils, vegetation, and habitats and utilize this data to direct preservation and development efforts.